



THE AUSTRALIAN NATIONAL UNIVERSITY

# ANNUAL REPORT 2003

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8 April 2004

The Hon Dr Brendan Nelson MP  
Minister for Education, Science and Training  
Parliament House  
CANBERRA ACT 2600

Dear Minister

**Report of the Council for the period 1 January 2003 to 31 December 2003**

We have the honour to transmit the report of the Council of The Australian National University for the period 1 January 2003 to 31 December 2003 furnished in compliance with Section 9 of the *Commonwealth Authorities and Companies Act 1997*.



**Emeritus Professor P E Baume  
Chancellor**



**Professor I W Chubb  
Vice-Chancellor**

# Contents

Council and University Officers	7
Review of 2003	10
Council and Council Committee Meetings	20
University Statistics	22
Cooperation with Government and other Public Institutions	30
Joint Research Projects undertaken with Universities, CSIRO and other Institutions	76
Principal Grants and Donations	147
University Public Lectures	168
Freedom of Information Act 1982 Statement	172
Auditor-General's Report	175
Financial Statements	179
University Organisational Structure	222
Academic Structure	223
ANU Acronyms	224
Index	225

## Further information about ANU

Detailed information about the achievements of ANU in 2003, especially research and teaching outcomes, is contained in the annual reports of the University's Research Schools, Faculties, Centres and Administrative Divisions.

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# The Council and University Officers

## The Council

2003

### *Chancellor*

The Hon Emeritus Professor P E Baume, AO, MB BS MD Syd, HonDLitt USQ, FRACP, FAFPHM, FRACGP (Hon)

### *Pro-Chancellor*

The Hon Justice A C Bennett, BSc (Hons) PhD Syd, LLB NSW

### *Vice-Chancellor*

Professor I W Chubb, AO MSc DPhil Oxon, Hon DSc Flinders

### *Deputy Vice-Chancellor (Research)*

Professor J Hearn, BSc MSc Dub, PhD ANU

### *Deputy Vice-Chancellor (Education)*

Professor M Gillies, BA ANU, MA Camb, MMus PhD Lond, DipEd Qld, LMusA, LTCL, FLCM, FAHA

### *President, ANU Students' Association*

Mr S Michelson (01/12/2002 to 30/11/2003)

Mr M Jeganathan (01/12/2003 to 30/11/2004)

### *President, Postgraduate and Research Students' Assoc. Inc.*

Mr M K Alexander

### *Four persons appointed by the Governor-General*

Ms G Carnegie, BEc Monash, MPA Harv, MAIIA, FAICD

Mr I F Grigg, AM BA ANU

Dr M S Keating, AC AO BCom (Hons) Melb, PhD ANU, FRAIPA, FASSA

(1 position vacant)

### *One Member of Parliament appointed by the Governor-General on the nomination of the Prime Minister*

Senator B Mason, BA LLB(Hons) ANU, MPhil Cantab

### *One Member of Parliament appointed by the Governor-General on the nomination of the Leader of the Opposition*

Senator K Carr, BA (Hons) DipEd MA Melb (to 12/10/2003)

### *Two persons appointed by the Chief Minister of the ACT*

Mr M Delaney, BA LaTrobe

Ms T Kyprianou, BA LLB ANU

### *One person who is either a Dean or the Head of a Research School and is elected, in either case, by the Deans and the Heads of the Research Schools voting together*

Professor D Evans, BSc Syd, PhD ANU, FRACI, FAA

### *One member of the academic staff of the Institute of Advanced Studies elected by the members of that staff*

Dr I Morgan, BSc Melb, PhD Monash

### *One member of the academic staff of The Faculties elected by the members of that staff*

Dr A Hyslop, BA Adel/LaT, PhD LaT

### *Two persons elected by Convocation*

Ms B M Arndt, BSc ANU, MPsych NSW

Dr P McCullagh, MD Melb, DPhil Oxon

### *One member of the general staff of the University elected by members of that staff*

Ms K Hill

### *A co-opted member*

Mr J F Muir, AO

## University Officers

As at December 2003

### *Chancellor*

The Hon Emeritus Professor Peter Erne Baume, AO, MB BS MD Syd, HonDLitt USQ, FRACP, FAFPHM, FRACGP (Hon)

### *Pro-Chancellor*

The Hon Justice Annabelle Claire Bennett, BSc (Hons), PhD Syd, LLB NSW

### *Vice-Chancellor*

Professor Ian William Chubb, AO MSc DPhil Oxon, Hon DSc Flinders

### *Deputy Vice-Chancellor*

Professor John Alan Richards, BE PhD NSW, FIREE, FIEAust, FIEEE, FTSE, CPEng (to 3/10/03)

### *Deputy Vice-Chancellor (Research)*

Professor John Hearn, BSc MSc Dub, PhD ANU

### *Deputy Vice-Chancellor (Education)*

Professor Malcolm Gillies, BA ANU, MA Camb, MMus PhD Lond, DipEd Qld, LMusA,

LTCL, FLCM, FAHA

### *Pro Vice-Chancellor*

Professor Robin Barrington Stanton, BE PhD NSW

### *Executive Director (Administration)*

Dr David Rosalky, BSc Syd PhD BEc ANU FAIM

### *Chair, Board of the Institute of Advanced Studies*

Professor Graham Farquhar, BSc ANU, BSc Hons Qld, PhD ANU, FAA, FRS

### *Chair, Board of The Faculties*

Dr Ann L Kumar, BA (Oriental Studies), PhD ANU, FAHA

*Dean, Faculty of Arts*

Professor Adam Shoemaker, BA (Hons) *Queen's*, PhD *ANU*

*Director, School of Art*

Professor David Williams, TACTC *Melb*, TC DipArt *RMIT*,  
Fellow *RMIT*, MEd *LaTrobe*

*Director, School of Music*

Professor Simone Raymond de Haan, MMus *WA*, GradDipPerf  
*CSM*, AMusA

*Dean, Faculty of Asian Studies*

Professor Anthony C Milner, BA *Monash*, MA PhD *Cornell*,  
FASSA

*Dean, Faculty of Economics and Commerce*

Professor Keith A Houghton, BCom *Melb*, MSc (Econ) *Lond*,  
PhD *WAust*, FCPA

*Dean, Faculty of Engineering and Information Technology*

Professor John Baird, BSc PhD *ANU*

*Dean, Faculty of Law*

Professor Michael Coper, BA LLB *Syd*, PhD *NSW*, Barrister  
*NSW*, Barrister & Solicitor *ACT*

*Dean, Faculty of Science*

Professor Timothy Carlisle Brown, BSc *Monash*, PhD *Camb*

*Director, ANU Medical School*

Professor Paul A Gatenby, MBBS *Tas*, PhD *Syd*, FRACP, FRCPA,  
MRACMA

*Director, The John Curtin School of Medical Research*

Professor Judith Whitworth, AC, DSc MD PhD BS *Melb* FRACP

*Director, Research School of Astronomy and Astrophysics*

Professor Penny D Sackett, BS *UNO*, MS PhD *UPIT*

*Director, Research School of Biological Sciences*

Professor Jonathan Stone, BSc(Med) (Hons) PhD DSc *Syd*,  
FAAS, FAIB

*Dean, Research School of Chemistry*

Professor Denis Evans, BSc *Syd*, PhD *ANU*, FRACI, FAA

*Director, Research School of Earth Sciences*

Professor T Mark Harrison, BSc *Univ of Brit.Col*, PhD *ANU*

*Director, Research School of Information Sciences and Engineering*

Professor John Richards, BE PhD *NSW*, FIREE, FIEAust, FIEEE,  
FTSE, CPEng

*Director, Research School of Pacific and Asian Studies*

Professor James Fox, AB *Harv*, BLitt DPhil *Oxon*, KNAW,  
FASSA

*Director, Research School of Physical Sciences and Engineering*

Professor Jim Williams, BSc PhD, *NSW*, FAIP, FIEAust, FTSE

*Director, Research School of Social Sciences*

Professor Ian McAllister, BA CNAAC, MSc PhD *Strath*, FASSA

*Director, Centre for Resource and Environmental Studies*

Professor Robert Wasson, BA (Hons) *Syd*, PhD *Macq*

*Dean, Mathematical Sciences Institute*

Professor Alan Carey, BSc *Syd*, MSc *Adel*, DPhil *Oxf*

*Director, Asia Pacific College of Diplomacy*

Professor William Maley, AM, BEc LLB MA *ANU* PhD *UNSW*

*Director, Asia Pacific School of Economics and Government*

Professor Andrew MacIntyre, BA (Hons) MA, PhD *ANU*

*Director, Australian Primary Health Care Research Institute*

Professor Nicholas Glasgow, MBChB MD *Auckland*, FRNZGP,  
FRACGP, FACHPM

*Director, Centre for Aboriginal Economic Policy Research*

Professor Jon Altman, BA MA (Hons) *Auck*, PhD *ANU*

*Director, Centre for Cross Cultural Research*

Professor Howard Morphy, BSc MPhil *Lond*, PhD *ANU*

*Director, Humanities Research Centre*

Professor Adam Shoemaker, BA (Hons) *Queen's*, PhD *ANU*

*Director, National Centre for Epidemiology and Population Health*

Dr Anthony McMichael, MB BS PhD, FAFPHM

*Executive Director, National Graduate School of Management*

Professor Chong-Ju Choi, BA *Seoul*, MPA *Harv*, MBA *INSEAD*,  
MPhil, PhD *Oxon*

*Director, Centre for Mental Health Research*

Professor Anthony Jorm, BA *Qld*, GDipComp *Deakin*,  
MPsychol PhD *NSW*, DSc *ANU*, FASSA

*Director, Policy and Projects Unit*

Mr Michael Gallagher, BA (Hons) DipEd *Macq*

*Director, Research Office*

Dr Ian McMahan, BSc PhD *ANU*

*Director, Office of Quality Enhancement & Statistical Services*

Professor Marie Carroll, BA (Hons) PhD *Otago*, MAPS

*Director, Student and Academic Services*

Dr Patricia Miller, BSc (Hons) PhD *Manc*

*Dean of Students*

Mr Selwyn Harcourt Cornish, BEc *WAust*

*Director, Student Recruitment and International Education*

Mr Timothy Beckett, MA *Dub*

*Dean, The Graduate School*

Dr John Hooper, BA (Hons) *Syd*, PhD *Oxon*

*Director, Scholarly Information Services*

Mr Vic Elliot, MA *Victoria University of Wellington*, MLitt  
*Oxon*, DipNZLS AALIA FNZLIA

*Director, Corporate Information Services*

Mrs Fay Gibbons, BSc *Syd*, GradDipCompStud *CCA*

*Director, Scholarly Technology Services*

Dr Brian Molinari, BE *WAust*, PhD *Camb*

*Head, Supercomputer Facility, Information Infrastructure Services*

Dr Bob Gingold, BSc *Monash*, PhD *ANU*

*Manager, University Records*

Ms Diana Murrell, BSc *UWA*, LittB MPP *ANU*, Grad Dip Legal  
Studies *UniCanb*

*Director, Human Resources*

Mr Mark Clisby, BA (Hons) *Adel*, Grad Dip (Adult & Further)  
Ed *SACAE*, MEd (Human Resources Studies) *UniSA*

*Director, Facilities and Services*

Mr Warwick Raymond Williams, BSc *NSW*

*Director, University Accommodation*

Ms Marie Wensing

*Head, Council and Boards Secretariat*

Ms Jan O'Connor, BA *James Cook*

*Acting Director, Finance and Business Services*

Mr Peter Shipp, BBus (Accounting) *Tas*, CPA

*Director, University Investment Office*

Mr Neil French, BA (Accounting) *UCA*, CPA

*Director, Marketing and Communications Division*

Ms Lee-ann Norris, BA (Comm) *CSU*, MBA *RMIT*, BBus  
(Marketing) *Monash*

*Legal Officer*

Mr Kenneth Grime, Barrister & Solicitor

*Master, University House and Graduate House*

Professor John Alan Richards, BE PhD *NSW*, FIREE, FIEAust,  
FIEEE, FTSE, CPEng

## Officers for Ceremonial Occasions

*Marshal*

Mr Selwyn Harcourt Cornish, BEc *WAust*

*Esquire Bedell*

Dr Kristina Murphy, BSc (Hons) PhD *ANU*

# Review of 2003

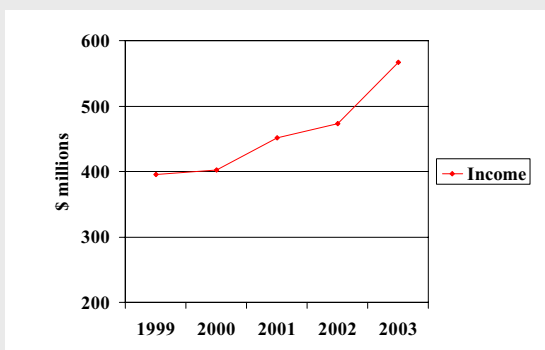
## Highlights

### No. 49 among world universities

In 2003, the ANU was ranked equal 49th among world universities – the only university in the Southern Hemisphere to make the top 50, and one of only two Australian universities to make the top 100. This was a significant accolade for the University and the nation.

### Growth

The University experienced another year of steady growth, with revenues from all sources of just over \$567 million in 2003, up from \$473 million in the previous year. This represents an increase over 2002 of almost 20 per cent.



## National icons at risk

### Mt Stromlo Observatory

The devastating fires of January 2003 swept through Mt Stromlo, destroying or damaging beyond repair all observing facilities on the mountain, the heritage-listed administration building, most of the housing, and technical buildings. The University returned the staff of the Research School of Astronomy and Astrophysics to Mt Stromlo within weeks, and the Federal Government was quick to commit a measure of financial support. However, restoration of the academic and community facilities at Mt Stromlo have been delayed by slow insurance payouts.

### The John Curtin School of Medical Research

Of the five Nobel Prize winners associated with the University, JCSMR was home to three – Eccles (1963), and Doherty and Zinkernagel (1996). JCSMR plays a leadership role for medical research in Australia and is a national resource. In 2003 it began to bring important research findings in the fight against diabetes, the control of hypertension, and work that may provide alternative strategies for attacking certain viral infections into application. But the poor state of its current building remains a serious challenge for the University, and for JCSMR staff and students.

## Significant events in 2003

- Standard & Poor's gave the University an AA+ rating, commenting on its pre-eminence among universities in Australia and Asia.
- The ANU was chosen to host two new externally-funded academic entities – the Asia-Pacific College of Diplomacy, and the Australian Primary Health Care Research Institute.
- The new Faculty of Medicine was formally accredited by the Australian Medical Council.
- For the second year running, the University topped all other universities in ARC Discovery funding, with a total of 115 grants worth close to \$35 million. Three prestigious Federation Fellowships were awarded, taking the University's total to 11 out of the 49 awarded nationally thus far.



## The Year in Brief

The year began with disaster – the destruction of five telescopes, seven houses, a heritage-listed administration building and extensive workshops at Mt Stromlo Observatory, and the University's research facilities at Weston Creek in the Canberra fires of January 2003. The fires were a significant setback, devastating research capacity at Mt Stromlo, ending several research projects being undertaken at the Tidbinbilla Nature Reserve, and destroying the homes of a number of staff and students. The University acted quickly to safeguard the Mt Stromlo site and to provide housing and income support for staff and students most affected by the fires. One of the outstanding achievements of 2003 was the coordinated effort of University staff and outside agencies to enable most Research School of Astronomy and Astrophysics staff to return to work on the mountain just three weeks after the fire.

Considerable effort will be required to restore the research and education capacity of the Research School in coming years. The Federal Government gave the University \$7.3million in additional funds to assist in the rebuilding of Mt Stromlo, and the astronomical, academic and ACT communities have all been generous with their donations of time and money.

As a counterbalance, the year closed with the news that the University had been ranked equal 49th in the Shanghai Jiaotong University's Institute of Higher Education ranking of world universities, the only university in the southern hemisphere to make the top 50, and one of only two Australian universities in the top 100. This was a significant accolade for the University and for Australia.

In 2003, two new externally-funded entities were established – the Asia-Pacific College of Diplomacy which will provide high quality research and teaching in the field of international diplomacy, and the Australian Primary Health Care Research Institute, whose mission is to provide national leadership in improving the quality and effectiveness of primary health care through the conduct of high quality priority-driven research and the support and promotion of best practice.

The University completed formal negotiations for a new closed and comprehensive Enterprise Agreement (EA) in August 2003, and by the end of the year had drafted the new EA 2004-2006 and put it to a staff vote, which was overwhelmingly in support. The Agreement provides salary increases of 5 per cent effective November 2003, with two others of 5.5 per cent and 6 per cent to follow in November 2005 and 2006 respectively.

In December 2003 the most significant amalgamation in recent ANU history occurred when the National Institute of the Arts was merged with the Faculty of Arts. This amalgamation created the largest Faculty (and organisational entity) in the University, with almost one-third of the total undergraduate student population. The Faculty of Arts now comprises the Schools of Archaeology & Anthropology, Art, Humanities, Languages, Music and Social Sciences as well as the Centres for Arab and Islamic Studies and New Media Arts. The Faculty

will be offering, from 2005, a new multi-disciplinary degree, the Bachelor of Arts (New Media Arts), which will offer majors in New Media Arts, New Media Performance, Cinemedia and Digital Humanities.

### Other initiatives and successes include:

The Faculty of Economics and Commerce, in cooperation with RegNet, the Faculty of Law, the Asia-Pacific School of Economics and Government and the National Graduate School of Management, won its bid to host the Australian Centre of Regulatory Economics (ACORE). While ACORE is to be housed in the national capital, it will have nationwide reach. The bid, valued at \$3.25 million, will have substantial and ongoing benefits to the University and will play an important role in Australia's economic future.

The University was also invited to bid for the International Centre of Excellence in Asia-Pacific Studies, and was awarded \$10m over four years to establish the Centre.

The ANU Medical School was accredited by the Australian Medical Council for its Bachelor of Medicine and Bachelor of Surgery, and recruited its first cohort of students in 2003, to commence in 2004.

The ANU Branch of the Centre for Applied Philosophy & Public Ethics – one of the largest such centres in the world, and a collaboration between the University of Melbourne, Charles Sturt University and ANU – was formally established.

The Research School of Biological Sciences together with the Law Faculty and with funding from the Grains Research Development Corporation, founded the Australian Centre for Intellectual Property in Agriculture, aimed at forming synergies between scientists and lawyers in this important strategic area.

The Faculty of Asian Studies was a partner in a Track II regional security conference, in the development of the Gantner-Myer, Australia/ASEAN dialogue and in the Muslim Exchange Project between Indonesian and Australian Muslim communities. It was also co-organiser of the 4th General Meeting of the Conference of the Council for Security Cooperation in the Asia-Pacific in Jakarta, in December 2003.

In August, in association with the National Institute of the Humanities and Creative Arts, the Faculty of Arts hosted an *Arts Meets Parliament Showcase*. The National Arts Research Showcase took a number of University research projects from the Arts, Creative Arts, Humanities and Social Sciences to Parliament to highlight research achievements that were of direct national interest and benefit. Among these projects was the 'Dialect Magician', a CD-based multimedia application, developed by the Faculty of Arts and ANUTECH, which provides a unique method of voice training for actors; and a Forensic Phonetics project entitled *Catching Criminals by their Voice*.

The University entered into an agreement under which it joined as a partner in the Australia and New Zealand School of Government consortium, becoming the node of a research

network coordinated during the year by Professor Rod Rhodes of the Research School of Social Sciences (RSSS).

The University also began a long-term process of renewal of its ageing building stock. In April 2003, the new Graduate House extension was officially launched, providing additional rooms for graduate student accommodation. On 17 April, the first sod was turned for the new Faculty of Medicine building. The long-awaited Coombs Extension building work began, together with work on the new Phenomics Facility, the Bruce Hall extension, and extensions to the buildings of the National Centre for Epidemiology and Population Health (NCEPH) and the Centre for Mental Health Research (CMHR). The \$800,000 Postgraduate Researchers Centre on the lower ground floor of the AD Hope building was opened. Chifley Library refurbishments were also completed, together with Stage 1 of the Research School of Physical Sciences and Engineering (RSPHysSE) building works. The University also erected a new multi-story carparking facility.

ANU staff and students were acknowledged in many different fora.

The London School of Economics and Political Science ranking of political science departments placed Political Science at ANU at number 19 in the world, equal with the University of Oxford. The ANU Philosophy Program has for some years been ranked in the top 15 in the world.

Staff, students and alumni of NCEPH's Master of Applied Epidemiology program were called upon to spearhead Australia's response to the Severe Acute Respiratory Syndrome (SARS) outbreak in Asia.

*The China Factor*, published by the Research School of Pacific and Asian Studies (RSPAS), was ranked by *The Journal Citation Reports* as number three area studies journal in the world for 'impact' and number two for 'immediacy' – how quickly articles get cited in other journals.

The Centre for Aboriginal Economic Policy Research director Professor Jon Altman's consultancy for the Northern Territory Government led to the launch of the Territory's first ever Indigenous Arts Strategy, launched in August 2003.

The University began implementation of a new marketing strategy in 2003. The 2003 brand awareness campaign was designed to increase national awareness of the ANU as a university of eminence, and market research completed at the end of the year has demonstrated pleasing results, with recognition of the ANU rising substantially in Sydney, Melbourne as well as Canberra.

More Australians read about, heard from and watched ANU in the media than ever before in 2003. Independent analysis by media monitoring company Reham found that ANU received more coverage than any other Group of Eight (GO8) university. More importantly, that coverage was for the right reasons: ANU was the only GO8 university not to have a negative issue in its top 10 issues for the year.

## Research performance

In 2003, the quality and importance of the University's research was demonstrated by a raft of successful grant applications. The Research Office accepted 598 successful grants and consultancies worth a total of \$148,225,337.

For the second year running, the ANU topped all other universities in ARC Discovery funding with a total of 115 ARC Discovery Grants, worth \$34.7 million. This result, in the second year of the Institute of Advanced Studies (IAS) entry in national competitive grant schemes, was clear evidence of the University's pre-eminence in research in Australia.

Three prestigious Federation Fellowships were awarded, taking the ANU total to 11 out of the 49 awarded so far.

Thirty-five applications valued at \$8.8 million for ARC Linkage Projects were successful, representing a success rate of 76 per cent.

A total of 24 ARC Special Research Initiative Seed Funding scheme, were awarded to ANU staff in 2003, with a value of \$400,000.

ANU is the lead institution in three ARC Centres of Excellence commencing in 2003, and a participant in a further seven Centres.

In 2003, ANU made ten successful applications for NHMRC Project Grants totalling \$3,385,825.

Two prestigious NHMRC Wellcome Trust International Collaborative Grants were awarded to Professor N. Buckley of the ANU Medical School and Dr Adrian Sleight of NCEPH.

University staff were also successful in winning grant funds from sources other than the ARC and NHMRC, and some highlights follow.

The RSSS project Intergenerational Transmission of Dependence on Income Support: Patterns, Causation and Implications for Australian Social Policy Research, won \$500,000 from the ARC and \$1,054,000 from the Commonwealth Department of Family and Community Services. Dr Jochen Glaser was awarded €190,000 from the German Bundesministerium für Bildung und Forschung for his project Impact of Evaluation-based funding in universities on the content of scientific research – this is the first time RSSS has engaged in the competitive grants programs of other countries.

NCEPH is a partner in the Health for Life! study, an innovative collaboration among epidemiologists, sociologists, psychologists and immunologists, which uses a range of research methods to collect information designed to elucidate the impact of parental working conditions on family well-being. In total in 2003 the Centre was awarded 19 grants, consultancies and externally funded scholarships, totaling \$3,690,976, including \$950,333 from the National Multiple Sclerosis Society (USA) for a case control study of past sun exposure and first demyelinating events.

RSPAS, on behalf of the ANU, received \$3.25 million from DEST under the Major National Research Facilities program for the establishment of the Arafura Timor Research Facility at the North Australia Research Unit in Darwin. In this program, ANU is a joint partner with the Australian Institute of Marine Science.

RSPHYSSE was awarded \$2.7 million from AusIndustry for the establishment of the Australian Materials Technology Network (AMTN), in which the ANU is the lead institution.

Grants to JCSMR from sources other than the ARC and NHMRC included: \$235,000 from the Juvenile Diabetes Research Foundation to Dr Robyn Slattery; \$975,000 from Pharmaxis Pharmaceuticals to Drs William Cowden and Brett Charlton; \$795,798 from the US National Institutes of Health to Professor Chris Goodnow; \$563,199 from the Wellcome Trust to Professor Goodnow; \$165,000 from the Viertel Senior Medical Research Fellowship to Dr Mark Hulett; \$106,000 from the Howard Hughes Medical Institute, USA, to Dr Gunasegaran Karupiah; \$300,000 from the NSW Cancer Council to Professor Chris Parish, Dr Joe Altin (School of Biochemistry and Molecular Biology); \$173,399 from the Human Frontiers Science Program to Professor Trevor Lamb; \$850,000 from the Alexander von Humboldt Foundation, Sofja Kovalevskaja Award, to Dr Greg Stuart.

The Faculty of Science grant successes included Professor Richard Arculus who was awarded two cruises, worth \$1 million each, on the National Marine Facility RV Southern Surveyor for June and November 2004. Dr Carolyn Behm in collaboration with Murdoch University received \$450,000 for three years from Meat and Livestock Australia. Professor Don Byrne with Associate Professor Robin Stuart-Harris (Canberra Hospital/ANU Medical School) received a three-year grant from the Cancer Council of the ACT. Professor Patrick De Deckker was awarded one cruise, worth \$640,000, on the National Marine Facility RV Southern Surveyor for August 2004, ship time on the RV Marion Dufresne in February-March 2003 and a \$123,000 grant for post-cruise work by the National Oceans Office through Geoscience Australia, as well as \$100,000 each for 2003 and 2004 from Conservation and Land Management, Western Australia.

The Centre for Mental Health Research won grants from a number of sources. These included \$366,750 from beyondblue, \$150,000 from the Australia-Japan Partnership and \$150,000 from the ACT Department of Health.

## Students

The University experienced an increase of 10.2 per cent in 2003 over its 2002 student load.

Summary Total Annual Load, 1997- 2003

Year	1997	1998	1999	2000	2001	2002	2003
Total Load	8175	8319	8373	8205	8426	9216	10,152

The proportion of students in the commencing UAC undergraduate intake who achieved a UAI of 95 or above was 17 per cent.

As at 31 March, 62 per cent of enrolments were from the ACT/Queanbeyan region, while 19 per cent were from overseas. At the postgraduate level, 33 per cent of the 31 March enrolments were from overseas.

As at 31 March, 84 per cent of undergraduate enrolments were under the age of 25, while 50 per cent of postgraduate enrolments were over 30 years old.

Of the total ANU load, 61 per cent paid HECS, 10 per cent RTS and 29 per cent Domestic Tuition Fees or International Student Fees.

83 per cent of students studied full-time.

In 2003 postgraduate load represented 27 per cent of the total student load. Of the total student load, 51 per cent were female – 46 per cent of postgraduate load and 52 per cent of undergraduate load.

## Our education programs

ANU offers a variety of combined degrees - in 2003 combined degrees represented 41 per cent of the total bachelor degree enrolment as at 31 March.

A total of 15 new undergraduate programs were offered in 2003:

Bachelor of Philosophy (Honours) Arts; Bachelor of Arts/ Bachelor of Music; Bachelor of Archaeological Practice; Bachelor of Asian Studies (Specialist)/ Bachelor of Arts (Visual); Bachelor of Security Analysis (Asia-Pacific); Bachelor of Translation (Asian Region); Bachelor of Religions (Asian Societies); Bachelor of Commerce (Honours)(IBL); Bachelor of Commerce/ Bachelor of Music; Bachelor of International Business (Asia); Bachelor of Economics (Honours)(IBL); Bachelor of Music/ Bachelor of Laws; Bachelor of Music/ Bachelor of Science; Bachelor of Music/ Bachelor of Science (Psychology); Bachelor of Arts (Visual)/ Bachelor of Music.

## Staff

The total number of Full-Time Equivalent (FTE) staff at the ANU was 3482, comprising 1247 academic staff, 1933 general staff and 302 casual and part-time teaching staff.

Forty-eight per cent of staff FTEs were located in the Research Schools and Centres with 26 per cent in the National Institute of the Arts and the Faculties. Twenty-six per cent were located in other university areas. Research-only staff made up 57 per cent of the total academic FTEs.

Sixty-nine per cent of all staff were on continuing appointments, and the majority of both academic and general staff work full time.

Females represented 56 per cent of general staff and 30 per cent of academic staff.

The University's new Enterprise Agreement 2003-2006 provides for salary increases that will lift ANU salaries into the top quartile of Australian Higher Education Institutions; streamlined processes for staffing matters; renewed emphasis on career and staff development, particularly as a result of a sensible review of the Planning and Performance Review (PPR) scheme; improved parental (maternity) leave provisions to attract and retain women; new personal leave provisions to improve the balance between work and personal life; and a commitment to Aboriginal and Torres Strait Islander employment.

## Awards and achievements

Many ANU staff and students were recognised in 2003 with national and international awards.

The list of achievements and awards detailed below is not exhaustive, but serves to exemplify the tremendous accomplishments of ANU staff and the University's culture of achieving excellence.

## Membership of Learned Societies

### Australian Academy of Science

- Professor Bruce Wild (Research School of Chemistry)
- Professor Jim Williams (Research School of Physical Sciences and Engineering)

### Australian Academy of Humanities

- Professor Tim Bonyhady (Humanities Research Centre / Centre for Cross-Cultural Research)
- Ms Betty Churcher (Centre for Cross-Cultural Research)
- Professor Ann Curthoys (Faculty of Arts)
- Professor Martin Davies (Research School of Social Sciences)
- Dr John Docker (Humanities Research Centre)
- Professor Virginia Hooker (Faculty of Asian Studies)
- Professor Kam Louie (Faculty of Asian Studies)
- Professor Howard Morphy (Centre for Cross-Cultural Research)
- Professor Jonathan Unger (Research School of Pacific and Asian Societies)

### Academy for the Social Sciences in Australia

- Professor Jon Altman (Centre for Aboriginal Economic Policy Research)
- Professor Premachandra Athukorala (Research School of Pacific and Asian Studies)
- Emeritus Professor Allan Barton (Faculty of Economics and Commerce)
- Professor Tim Bonyhady (Humanities Research Centre / Centre for Cross-Cultural Research)
- Professor Hilary Charlesworth (Faculty of Law)
- Professor Peter Grabosky (Research School of Social Sciences)
- Professor Christopher Heyde (Mathematical Sciences Institute)
- Professor Jindy Pettman (Faculty of Arts)
- Dr Peter Read (Centre for Cross-Cultural Research)

### American Geophysical Union

- Professor Ian Jackson (Research School of Earth Sciences)

### American Physical Society

- Dr Mukunda Das (Research School of Physical Sciences and Engineering)
- Professor Chennupati Jagadish (Research School of Physical Sciences and Engineering)

### British Institute of International and Comparative Law

- Professor Jane Stapleton (Research School of Social Sciences)

### Comité Internationale d'histoire de l'art

- Professor Howard Morphy (Centre for Cross-Cultural Research)

### European Academy of Sciences

- Dr Susan Scott (Faculty of Science)

### International Statistical Institute – Distinguished Service Award

- Professor Chris Heyde (Mathematical Sciences Institute)

### Royal Astronomical Society - Associate

- Professor Penny Sackett (Research School of Astronomy and Astrophysics)

### Australian Research Council Federation Fellowships

- Professor Hans Bachor (Faculty of Science)
- Professor Barry Luther-Davies (Research School of Physical Sciences and Engineering)
- Professor Iain McCalman (Humanities Research Centre)

### National Awards

- Professor Mick Dodson was awarded a Member of the Order of Australia (AM)
- Professor Chris Heyde was awarded a Member of the Order of Australia (AM)
- Professor Kenneth Inglis was awarded an Officer of the Order of Australia (AO)
- Emeritus Professor Dennis Pearce awarded made an Officer of the Order of Australia (AO)
- More than 100 current and former ANU staff and members of Council received Centenary Medals

### Other awards and achievements

- Bonnie Allen and Carmen Miragaya won the UNHCR Prize for International Law of Human Rights.
- Professor John Braithwaite and Professor Peter Drahos were awarded the Grawemeyer Award For Ideas Improving World Order for their book *Global Business Regulation*.
- Jacqueline Birt won the 2003 Pearson Education Accounting/Finance Lecturer of the Year Award
- Professor Don Byrne received a distinguished Service Award from the International College of Psychosomatic Medicine.
- Professor M.A. Collins was awarded the 2002-3 medal of the Physical Chemistry Division, Royal Australian Chemical Institute.
- Professor George Dracoulis was awarded the 2003 Australian Academy of Science Lyle Medal.
- Dr Alastair Greig and Dr Richard Baker won the National Award for University Teaching (Institutional Award for Innovative Team Teaching in First Year Classes). Dr Greig is the only Australian academic to have won a National Award for University Teaching twice.
- Dr Andrew Hassel and Dr Ben Andrews were jointly awarded the 2003 Australian Mathematical Society Medal for distinguished research for a researcher under the age of 40.
- Professor Kieran Kirk was awarded the Roche Medal by the Australian Society of Biochemistry and Molecular Biology.
- Dr Ping Koy Lam and Warwick Bowen (a PhD student) received the Eureka Prize for Inspirational Science in recognition of their outstanding work in teleportation of a laser beam.
- Professor Brendan McKay was awarded the Eureka Prize for Critical Thinking from the Australian National Museum.
- Dr Hugh O'Neill was awarded the Schlumberger Medal from the Mineralogical Society of London.
- Dr Ruth Parslow from the Centre for Mental Health Research won the Australian Society for Psychiatric Research's Consumer Researcher award.
- Professor Mervyn Patterson was awarded the Walter Butcher Medal from the American Geophysical Union.
- Dr Libby Robin won the Victorian Premier's Literary Awards Science Writing Prize 2003.
- Professor Judith Whitworth was chosen as the ACT Australian of the Year.
- Mr P Wu, with Professor Gottfried Otting and Dr Russel Barrow, won the 2003 Masson Memorial Scholarship Prize from the Royal Australian Chemical Institute.

## Indigenous initiatives

In November 2003, the University's Aboriginal and Torres Strait Islander Employment Strategy was launched by Senator Aden Ridgeway. The strategy is enshrined in ANU Enterprise Agreements and the University has appointed a dedicated Coordinator for Aboriginal and Torres Strait Islander Employer Employment.

In 2003, Indigenous students at ANU held cadetships with the Department of Foreign Affairs and Trade, AMP, Calvary Hospital and a variety of other organisations.

ANU played host to the Indigenous Researchers Forum 2003. Attended by Indigenous researchers from across Australia, the Forum consisted of formal and informal workshops, presentations and debates over three days in October 2003 at University House.

The Australian Centre for Indigenous History was established in 2003, led by inaugural Chair Professor Ann McGrath, to research, communicate and encourage the study of indigenous history.

Professor Mick Dodson was appointed as the first Indigenous Professor of Law.

## Diversity

Online cross-cultural training courses were introduced for staff, including programs for those who may be managing Indigenous employees.

The 'ANU Diversity' initiative was developed with an aim of filling all entry level positions, in the first instance, with candidates from one of three equity target groups: those with a disability, those from an Indigenous background, or those whose background is from a Culturally And Linguistically Diverse group. A collaboration between the Equity and Diversity Unit and the Research School of Physical Sciences and Engineering (RSPHysSE), which aims to create a pool of trades people with a disability who will firstly be trained under a work experience program and will circulate through the various areas of RSPHysSE before moving on to paid employment, was also launched in 2003. It is anticipated that this model could be transferred to a range of areas across campus.

## Events and outreach

ANU staff play a pivotal role in shaping national debate and make an enormous collective contribution to the intellectual culture of the nation.

Each year, thousands of people come to lectures hosted by ANU. Prominent speakers featured in 2003 include acclaimed author Ms Annie Proulx, actress Ms Judy Davis, First Deputy Managing Director of the International Monetary Fund, Professor Anne Krueger, and Nobel Laureate Professor William Phillips. The University's own experts have presented talks on subjects as diverse as the weather, national parks and physics.

More than 2,500 budding astronomers converged on the University's Union Court in August to witness a momentous event on the planetary calendar — Mars coming within 55,760,000 kilometres of Earth, the closest in human history.

The Faculty of Arts also trialled a successful Tailored Talks program, with senior ANU staff presenting 27 talks to students in five ACT schools in 2003. Following on from the program's initial success, the University hopes to expand it to more schools in 2004.

Staff, students and alumni of the ANU Master of Applied Epidemiology program were called upon to spearhead the global battle against Severe Acute Respiratory Syndrome (SARS). Within days of the World Health Organization global alert, graduates and staff of the National Centre for Epidemiology and Population Health program were deployed in Manila, Hong Kong and Hanoi to investigate the disease's spread.

The University has established the only Australian node of the World Bank Global Development Learning Network on its campus, and in 2003, staff from the ANU Asia Pacific School of Economics and Government used it to train more than 100 senior civil servants from the world's newest nation.

Staff of the Centre for the Public Awareness of Science initiated a travelling science road show which toured South Africa for three months, training 185 science teachers, visiting 69 schools and seen by 20,000 students.

Renowned international and Australian documentary makers came to ANU to participate in a conference and film festival, AD - The Art of the Documentary in December 2003. The event, hosted by the ANU National Institute of the Humanities and Creative Arts enabled the community to attend free, open air screenings of high-quality, diverse documentaries in the surrounds of the National Museum of Australia, and provided a forum for a close analysis of film-making practice.

Staff from across campus are involved in national and international outreach, serving on boards, committees and expert panels helping shape the future of the nation. For example, the responsibility for drafting a document set to become Australia's first Bill of Rights recently fell to Professor Hilary Charlesworth, the Director of the ANU Centre for International and Public Law, who chaired an inquiry into the merits of a Bill of Rights for the ACT.

In September 2003, many of the nation's leading political figures from the 1980s, including former Treasurer Ralph Willis, former Defence Minister and Opposition Leader Kim Beazley, assembled for a conference to analyse the 20th Anniversary of the election of the Hawke Labor Government, organised by the ANU National Institute of Social Sciences and Law.

The Asia-Pacific College of Diplomacy at ANU is the first school of its kind in the Southern Hemisphere. Launched by the University and the Federal Government in January 2003, it will play a significant role in the education and training of career diplomats from across the region.

During the Iraq war, ANU experts played a vital role providing up-to-the-minute analysis to the nation. Led by researchers of the world-renowned Strategic and Defence Studies Centre, including Professors Ross Babbage, Paul Dibb and Desmond Ball, briefings were conducted throughout the war in Iraq, often attracting dozens of journalists — and heard by millions of Australians each week.

## Sustainability programs

ANU strives to safeguard the environment for future generations through its research and also by practical measures on campus.

Some of these were recognised in November 2003, when ANU was awarded the Silver Greenhouse Challenge Award at the annual Australian Engineering Excellence Awards — placing it in the top two of Australia's 800 signatories to the Greenhouse Challenge.

In August 2003, the University's Sullivan's Creek project was highly commended in the research category of the ACT Landcare Awards.

The awards were for improved sustainability of ANU operations, including the reduction in electricity consumption per person by 7.5 per cent in 2002 compared with 2001 and a cut in gas consumption of 10 per cent in the same period. Water consumption is also being reduced — for example, water-saving features on a new equipment chiller at the Research School of Earth Sciences are expected to save 15 million litres a year.

The University has expanded the extent of recycling services, with specially-designed recycling stations installed across campus.

## Budget decisions

Since 2001, the University's budget strategy has focused on four main objectives:

To prepare the path for the University through the changes brought about by external influences and recognising the need to be flexible to accommodate future changes in funding models:

To increase higher degree by research student numbers;

To position the University for performance-based distribution, and redistribution, of internal funds against specified criteria; and

To provide incentives to encourage units to take the actions that will enhance their capacity.

The operating grant allocated in the budget has two components: a base grant and 3 per cent distributed competitively between the units on criteria that include:

- The achievement of educational, research, grant and budget targets — for example:
  - (i) both undergraduate enrolments and undergraduate and postgraduate completions,
  - (ii) research publications, citations, awards and participation in professional bodies and learned societies,
  - (iii) success at winning contested funding, and
  - (iv) gains in external income.
- The extent of cross-University activity — for example:
  - (i) joint appointment and staff development initiatives,
  - (ii) cross-University supervision of students,
  - (iii) contributions to National Institutes, and
  - (iv) new academic developments that draw from more than one academic unit.
- The scope of relations and collaborations with external groupings — for example:
  - (i) contributing and linking to education and research activities and national academies/institutes, broadly interpreted,
  - (ii) cooperation with Government and other public institutions, and
  - (iii) cooperation with industry and the professions (as appropriate).

The University also distributes 70 per cent of Research Infrastructure Block Grants and Institutional Grants Scheme funding and close to 100 per cent of Research Training Scheme income back to academic areas.

The University maintains a Capital Management Plan (CMP), a rolling ten year program designed to (i) provide funding for basic and ongoing commitments, especially for ongoing backlog maintenance, and to meet emerging statutory requirements, (ii) to achieve a balance between those requirements and demands for new major capital works, and (iii) to reflect long-term campus development priorities.

CMP applications are received as part of the budget process.

In 2003, the University continued its strong financial position with a cash surplus at year end significantly higher than its 2002 result. Cash and investments is matched in value by the University's holding of land, building, plant and equipment. The University holds no debt.

## University Executive

Professor Ian Chubb continued to serve as Vice-Chancellor and President of ANU throughout 2003.

The year saw the resignation of the Deputy Vice-Chancellor (Research) John Hearn, who took up a position at the University of Sydney. Professor Lawrence Cram, formerly of the University of Sydney and the Australian Research Council, was appointed Deputy Vice-Chancellor (Research) to commence in 2004.

The Deputy Vice-Chancellor, Professor John Richards, took up the position of Director, Research School of Information Sciences and Engineering in October, at the end of his term as DVC.

Dr David Rosalky began his appointment as Executive Director (Administration) in October. Mr Michael Gallagher, formerly with the Department of Education, Science and Training, also took up an appointment as Director, Policy and Planning in October.

## Conclusion

In 2003, the prominence of ANU in research and distinctive research-led education programs has increasingly been recognised – through independent academic rankings and through the award of research grants and academic honours made to its staff, and by academically gifted students who increasingly make the ANU their university of choice. The ANU leads Australian universities in the number of subjects topped in the ISI top 100, and has more non-medical citations than any other Australian university. It boasts far more highly-cited researchers and Fellows of the Royal Society than any other Australian university.

Its financial position is enviable, so much so that Standard & Poor's gave the University an AA+ rating in January, commenting, "The ANU has developed a reputation as one of Asia's most prestigious universities in terms of teaching, student quality and research".

In spite of the setbacks of the January 2003 bushfires, the University made many significant advances in research, education, in its facilities, in the public awareness and recognition of its distinctive strengths, in its arrangements for its staff, and in the offerings available to its undergraduate and postgraduate students. The end of year ranking as equal 49th among world universities confirms the eminence of ANU and the appropriateness of its strategic goal:

Through the relentless pursuit of excellence, the ANU will be one of the world's top universities.



## A unique university

The Australian National University was established by an Act of Federal Parliament in 1946 to help drive Australia's social, cultural and economic prosperity through research of the highest quality.

The Minister directly responsible for the establishment of ANU, The Hon. John Dedman, said that he expected ANU to, "bring credit to Australia, advance the cause of learning and research in general and take its rightful place among the great universities of the world".

Fourteen years after the University's establishment, in 1960, undergraduate courses were introduced, following amalgamation with Canberra University College and in 1992, the University amalgamated with what was then the Canberra Institute of the Arts.

In 2001, National Institutes were created to expose the diverse research conducted in the University's centres, faculties and research schools, offering new opportunities to build on the University's remarkable reputation as the nation's premier research university.

The Act of Federal Parliament that governs ANU sets out a unique University structure. In 2003 ANU was governed by a 22-member Council comprising the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Chairs of the Education and Research Committees, the presidents of the two student associations, four nominees of the Governor-General, one nominee of the Prime Minister, one nominee of the Leader of the Opposition, and two nominees of the Chief Minister of the ACT; a member elected by Heads of Research Schools and Deans of Faculties; a member elected by the academic staff of the Institute of Advanced Studies; a member elected by the academic staff of The Faculties; a member elected by the general staff; two members elected by convocation; and a member appointed by Council.

Council receives advice on matters relating to education and research from the Academic Board and its sub-committees (Education Committee; Research Committee; Information Strategy Committee) and from the Board of the Institute of Advanced Studies and the Board of the Faculties. There is strong student representation on all University governance bodies.

In December, the Higher Education Support Act 2003 was passed by Parliament. One significant consequence for the University's governance was the creation of a new and smaller Council. The new Council will, as before, include representatives of the academic and general staff of the University, together with student body members, and six members external to the ANU, selected on the basis of particular expertise, to be appointed by the Minister on the recommendation of a Nominations Committee chaired by the Chancellor.

The University's research and teaching are funded from three principal sources: Commonwealth Government operating grants; income generated competitively from public and private sources for research and teaching; and from full-fee paying students.

The University's Commonwealth Government operating grant is provided to support the teaching and research responsibilities of The Faculties; as block funding to support the special national and international roles of the Institute of Advanced Studies; and for capital works and equipment.

The Vice-Chancellor and President is the Chief Executive Officer of the University and is responsible for University leadership and management of resources.

For most of 2003, the University Executive included the Vice-Chancellor, the Deputy Vice-Chancellor and Vice-President, the Deputy Vice-Chancellor (Research), the Deputy Vice-Chancellor (Education) and the Pro Vice-Chancellor (Academic Development and Information Strategy). In October, at the end of the term of the incumbent, the position of Deputy Vice-Chancellor was disestablished, and the position of Executive Director (Administration) was created.

Looking to the future, ANU will position itself as one of the world's top universities in its selected research fields. It will equip its graduates with the attributes and skills to enable them to take their place among their peers from the world's top universities.

In a period of substantial change, the ANU will continue to provide leadership in the higher education sector, demonstrating the importance of excellence and setting a benchmark for research and education.

## Council and Council Committees

As at 31 December 2003

Number of meetings and Members' attendance for the period  
01/1/02 to 31/12/02

### Council

Number of Meetings: 5

<i>Name of Member</i>	<i>Number of Attendances</i>
The Hon Emeritus Professor P Baume (Chair)	5
The Hon Justice A Bennett	5
Professor I Chubb	5
Professor J Hearn	5
Professor M Gillies	5
Mr S Michelson (to 30/11/2003)	4
Mr M Jeganathan (from 1/12/2003)	1
Mr M Alexander	5
Ms G Carnegie	4
Mr I Grigg	4
Dr M Keating	4
Senator B Mason	2
Senator K Carr	3
Ms T Kyprianou	5
Mr M Delaney	5
Ms B Arndt	5
Dr P McCullagh	5
Professor D Evans	4
Dr I Morgan	4
Dr A Hyslop	5
Ms K Hill	5
Mr J F Muir	5

### Executive Committee of Council

No of meetings: 2

<i>Name of Member</i>	<i>Number of Attendances</i>
The Hon Emeritus Professor P Baume (Chair)	2
The Hon Justice A C Bennett	2
Professor I Chubb	2
Mr M Delaney	2
Dr I Morgan	2
Dr P McCullagh	2
Mr M Alexander	1
Mr J F Muir	2

### Academic Board

Number of Meetings: 6

<i>Name of Member</i>	<i>Number of Attendances</i>
Professor I Chubb (Chair)	6
Professor J Altman	3
Mr M Alexander	5
Professor J Baird	6
Professor T Brown	6
Professor A Carey	4
Professor C Choi	4
Professor M Coper	5
Dr A Edwards	6
Professor D Evans	6
Professor G Farquhar	4
Professor J Fox	4
Professor P Gatenby	5
Professor N Glasgow	3
Professor M Harrison	4
Ms K Hill (from July 2003)	2
Professor K Houghton	6
Mr M Jeganathan (from December 2003)	1
Professor A Jorm	4
Dr A Kumar	4
Dr A Lowe (from July 2003)	3
Professor W Maley	0
Mr G Mayo	5
Professor A MacIntyre	4
Professor A McIntosh	4
Professor I McAllister	2
Professor T McMichael	3
Professor A Milner	4
Professor H Morphy	3
Professor J Richards	6
Professor P Sackett	4
Dr S Scott	5
Professor A Shoemaker	5
Professor J Stapleton (from July 2003)	0
Professor J Stone (from April 2003)	3
Professor R Wasson	6
Professor J Whitworth	4
Professor J Williams	5

**... Academic Board***Representatives for Academic Board Members*

Professor J Bennett (for Professor A MacIntyre)	1
Professor S Buckman (for Professor J Williams)	1
Dr P.Cheng (for Professor Chong-ju Choi)	1
Professor Corbett (for Professor A MacIntyre)	1
Professor M Dopita (for Professor P Sackett)	1
Professor J Gibson (for Professor J Stone)	2
Professor R Griffiths (for Professor M Harrison)	2
Professor F Jackson (for Professor I McAllister)	1
Professor K Louie (for Professor A Milner)	2
Professor A McIntosh (for Professor A Carey)	1
Professor R Redman (for Professor J Whitworth)	2
Dr J Schwab (for Professor Altman)	2
Dr B Sibthorpe (for Professor T McMichael)	1
Mr J Swansson (for Mr M Alexander)	1
Dr D Tryon (for Professor J Fox)	2
Dr C Turner (for Professor I McCalman)	2
Professor P Weeks (for Professor M Coper)	3

**Finance Committee**

Number of Meetings: 4

<i>Name of Member</i>	<i>Number of Attendances</i>
Mr J F Muir (Chair)	4
Professor I Chubb	4
Mr L Spencer	4
The Hon Justice A Bennett	3
Ms A Terry	3
Dr M Keating	2
Mr I Grigg	2
Senator K Carr	1
Dr M Green	2

**Audit Committee**

Number of Meetings: 3

<i>Name of Member</i>	<i>Number of Attendances</i>
Mr L Spencer (Chair)	3
Mr D Lawler (Deputy Chair)	3
Mr J F Muir	3
Mr D Lennie	3

**Honorary Degrees Committee**

Number of Meetings: 2

<i>Name of Member</i>	<i>Number of Attendances</i>
The Hon Em Professor P Baume (Chair)	2
The Hon Justice A Bennett	2
Professor I Chubb	1
Professor M Gillies	2
Professor J Hearn	1
Dr M Keating	1
Dr J Hooper	2
Dr S von Caemmerer	2
Dr N Peterson	2
Ms T Kyprianou	2
Mr M Delaney	2

**Committee on Conditions of Appointment of the Vice-Chancellor and Deputy Vice-Chancellor**

Number of Meetings: Committee Members conferred as required throughout 2003 regarding conditions of appointment of the Vice-Chancellor

Name of Member

The Hon Em Professor P Baume (Chair)

The Hon Justice A Bennett

Mr J F Muir

**Emergency Appointment (Vice-Chancellor) Committee**

Number of Meetings: 0

# University Statistics

## Annual Student Load 2003

	FULL-TIME			PART-TIME			ALL		
	F	M	Total	F	M	Total	F	M	Total
<b>UNDERGRADUATE</b>									
<b>INSTITUTE OF ADVANCED STUDIES</b>									
Bachelor	8.8	3.9	12.6	1.0	0.3	1.3	9.8	4.1	13.9
Cross-Institution	4.9	1.9	6.8	1.4	1.0	2.4	6.3	2.9	9.1
<b>INSTITUTE OF ADVANCED STUDIES TOTAL</b>	<b>13.6</b>	<b>5.8</b>	<b>19.4</b>	<b>2.4</b>	<b>1.3</b>	<b>3.6</b>	<b>16.0</b>	<b>7.0</b>	<b>23.0</b>
<b>FACULTIES</b>									
Bachelor	3445.5	3166.6	6612.1	286.6	234.1	520.7	3732.1	3400.7	7132.9
Diploma	8.5	10.6	19.1	14.0	6.9	20.9	22.5	17.5	40.0
Cross-Institution	5.5	5.0	10.5	22.6	11.7	34.3	28.1	16.7	44.8
<b>FACULTIES TOTAL</b>	<b>3459.5</b>	<b>3182.3</b>	<b>6641.8</b>	<b>323.2</b>	<b>252.7</b>	<b>575.9</b>	<b>3782.7</b>	<b>3435.0</b>	<b>7217.7</b>
<b>ALL AREAS</b>									
Bachelor	3454.3	3170.5	6624.8	287.6	234.3	522.0	3741.9	3404.8	7146.7
Diploma	8.5	10.6	19.1	14.0	6.9	20.9	22.5	17.5	40.0
Cross-Institution	10.4	6.9	17.3	23.9	12.7	36.7	34.3	19.6	53.9
<b>UNDERGRADUATE TOTAL</b>	<b>3473.1</b>	<b>3188.0</b>	<b>6661.1</b>	<b>325.6</b>	<b>253.9</b>	<b>579.5</b>	<b>3798.7</b>	<b>3442.0</b>	<b>7240.7</b>

Continued ...

## Annual Student Load 2003

	FULL-TIME			PART-TIME			ALL		
	F	M	Total	F	M	Total	F	M	Total
<b>POSTGRADUATE</b>									
<b>INSTITUTE OF ADVANCED STUDIES</b>									
Doctorate by Research	246.4	310.4	556.9	17.1	20.4	37.5	263.6	330.9	594.4
Master's by Research	2.0	13.0	15.0	0.6	2.7	3.3	2.6	15.7	18.4
HD Coursework	25.2	22.7	48.0	43.4	45.0	88.4	68.6	67.7	136.4
Graduate Diploma	10.3	4.5	14.8	15.5	13.6	29.1	25.8	18.1	43.9
Graduate Certificate	.	.	.	1.8	1.1	2.9	1.8	1.1	2.9
Cross-Institution	0.4	.	0.4	0.6	0.5	1.1	1.0	0.5	1.5
<b>INSTITUTE OF ADVANCED STUDIES TOTAL</b>	<b>284.3</b>	<b>350.7</b>	<b>635.0</b>	<b>79.0</b>	<b>83.4</b>	<b>162.4</b>	<b>363.3</b>	<b>434.1</b>	<b>797.4</b>
<b>UNIVERSITY SCHOOLS &amp; CENTRES</b>									
Doctorate by Research	41.3	45.6	86.9	9.1	11.0	20.1	50.3	56.7	107.0
Master's by Research	.	1.5	1.5	0.5	0.9	1.4	0.5	2.4	2.9
HD Coursework	29.3	30.0	59.3	97.5	235.3	332.9	126.9	265.3	392.2
Graduate Diploma	23.4	28.4	51.8	5.6	4.2	9.8	28.9	32.6	61.6
Graduate Certificate	2.0	0.9	2.9	4.0	13.9	17.9	6.0	14.7	20.7
Cross-Institution	.	.	.	0.1	.	0.1	0.1	.	0.1
<b>UNIVERSITY SCHOOLS &amp; CENTRES TOTAL</b>	<b>96.0</b>	<b>106.4</b>	<b>202.4</b>	<b>116.8</b>	<b>265.3</b>	<b>382.1</b>	<b>212.8</b>	<b>371.7</b>	<b>584.5</b>
<b>FACULTIES</b>									
Doctorate by Research	204.1	269.0	473.1	43.1	47.6	90.8	247.2	316.6	563.9
Master's by Research	12.1	18.2	30.4	8.2	7.7	15.9	20.4	25.9	46.3
HD Coursework	77.9	74.9	152.8	78.4	69.6	147.9	156.3	144.4	300.7
Graduate Diploma	51.4	50.5	102.0	209.7	142.0	351.8	261.2	192.6	453.8
Graduate Certificate	3.0	0.9	3.9	6.8	10.7	17.5	9.8	11.6	21.4
Postgrad Qualifying	.	0.4	0.4	.	.	.	.	0.4	0.4
Cross-Institution	.	.	.	1.1	1.3	2.5	1.1	1.3	2.5
<b>FACULTIES TOTAL</b>	<b>348.6</b>	<b>413.9</b>	<b>762.5</b>	<b>347.4</b>	<b>279.0</b>	<b>626.3</b>	<b>696.0</b>	<b>692.8</b>	<b>1388.8</b>
<b>OTHER</b>									
Doctorate by Research	2.5	9.0	11.5	0.7	1.4	2.1	3.2	10.4	13.6
Master's by Research	.	.	.	0.6	.	0.6	0.6	.	0.6
<b>OTHER TOTAL</b>	<b>2.5</b>	<b>9.0</b>	<b>11.5</b>	<b>1.3</b>	<b>1.4</b>	<b>2.7</b>	<b>3.8</b>	<b>10.4</b>	<b>14.2</b>
<b>ALL AREAS</b>									
Doctorate by Research	494.3	634.1	1128.4	70.1	80.5	150.5	564.4	714.5	1278.9
Master's by Research	14.1	32.7	46.9	10.0	11.2	21.2	24.1	43.9	68.0
HD Coursework	132.5	127.6	260.1	219.3	349.9	569.2	351.8	477.5	829.3
Graduate Diploma	85.1	83.4	168.5	230.8	159.9	390.7	315.9	243.3	559.2
Graduate Certificate	5.0	1.8	6.8	12.5	25.7	38.2	17.5	27.5	45.0
Postgrad Qualifying	.	0.4	0.4	.	.	.	.	0.4	0.4
Cross-Institution	0.4	.	0.4	1.9	1.8	3.7	2.3	1.8	4.1
<b>POSTGRADUATE TOTAL</b>	<b>731.4</b>	<b>880.0</b>	<b>1611.3</b>	<b>544.5</b>	<b>629.1</b>	<b>1173.5</b>	<b>1275.9</b>	<b>1509.0</b>	<b>2784.9</b>
Non-Award Total	51.4	52.6	103.9	11.3	11.6	22.9	62.7	64.2	126.9
<b>GRAND TOTAL</b>	<b>4255.9</b>	<b>4120.5</b>	<b>8376.4</b>	<b>881.3</b>	<b>894.7</b>	<b>1776.0</b>	<b>5137.2</b>	<b>5015.2</b>	<b>10152.4</b>

Source: DEST Submissions

## Enrolments 2003

	as at	as at
	31 Mar	31 Aug
<b>POSTGRADUATE</b>		
<b>INSTITUTE OF ADVANCED STUDIES</b>		
Doctorate by Research	621	655
Master's by Research	22	19
HD Coursework	187	188
Graduate Diploma	85	80
Graduate Certificate	12	11
<b>INSTITUTE OF ADVANCED STUDIES TOTAL</b>	<b>927</b>	<b>953</b>
<b>UNIVERSITY SCHOOLS &amp; CENTRES</b>		
Doctorate by Research	116	140
Master's by Research	2	4
HD Coursework	653	613
Graduate Diploma	97	100
Graduate Certificate	43	59
<b>UNIVERSITY SCHOOLS &amp; CENTRES TOTAL</b>	<b>911</b>	<b>916</b>
<b>FACULTIES</b>		
Doctorate by Research	612	644
Master's by Research	62	63
HD Coursework	511	493
Graduate Diploma	594	599
Graduate Certificate	47	39
Postgrad Qualifying	1	.
Cross-Institution	9	17
<b>FACULTIES TOTAL</b>	<b>1836</b>	<b>1855</b>
<b>OTHER</b>		
Doctorate by Research	17	18
Master's by Research	1	2
<b>OTHER TOTAL</b>	<b>18</b>	<b>20</b>
<b>ALL AREAS</b>		
Doctorate by Research	1366	1457
Master's by Research	87	88
HD Coursework	1351	1294
Graduate Diploma	776	779
Graduate Certificate	102	109
Postgrad Qualifying	1	.
Cross-Institution	9	17
<b>POSTGRADUATE TOTAL</b>	<b>3692</b>	<b>3744</b>

	as at	as at
	31 Mar	31 Aug
<b>UNDERGRADUATE</b>		
<b>INSTITUTE OF ADVANCED STUDIES</b>		
Cross-Institution	13	17
<b>INSTITUTE OF ADVANCED STUDIES TOTAL</b>	<b>13</b>	<b>17</b>
<b>FACULTIES</b>		
Bachelor	8081	7692
Diploma	83	68
Cross-Institution	115	104
<b>FACULTIES TOTAL</b>	<b>8279</b>	<b>7864</b>
<b>ALL AREAS</b>		
Bachelor	8081	7692
Diploma	83	68
Cross-Institution	128	121
<b>UNDERGRADUATE TOTAL</b>	<b>8292</b>	<b>7881</b>
Non-Award	172	109
<b>GRAND TOTAL</b>	<b>12156</b>	<b>11734</b>

Source: DEST Submissions

# Completions 2002

	POSTGRADUATE						UNDERGRADUATE			ALL
	PhD	M(Res)	HD C/W	Grad Dip	Other	Total	Bachelor	Other	Total	Total
<b>INSTITUTE OF ADVANCED STUDIES</b>										
Astronomy & Astrophysics	2	.	.	.	.	2	.	.	.	2
Biological Sciences	12	.	.	.	.	12	.	.	.	12
Chemistry	17	1	.	.	.	18	.	.	.	18
Earth Sciences	9	.	.	.	.	9	.	.	.	9
Info Sci & Engineering	4	.	.	.	.	4	.	.	.	4
Medical Research (JCSMR)	13	.	.	.	.	13	.	.	.	13
Pacific & Asian Studies	21	1	21	.	.	43	.	.	.	43
Physical Sc & Engineering	9	1	.	.	.	10	.	.	.	10
Resource & Env Studies	7	1	.	.	.	8	.	.	.	8
Social Sciences	13	.	29	2	.	44	.	.	.	44
<b>IAS TOTAL</b>	<b>107</b>	<b>4</b>	<b>50</b>	<b>2</b>	<b>.</b>	<b>163</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>163</b>
<b>UNIVERSITY SCHOOLS &amp; CENTRES</b>										
Asia Pac Sch of Econ & Govt	7	.	89	40	22	158	.	.	.	158
Epidemiology & Pop Health	6	.	10	6	.	22	.	.	.	22
Nat'l Grad Sch Management	.	.	149	.	7	156	.	.	.	156
<b>CENTRES TOTAL</b>	<b>13</b>	<b>.</b>	<b>248</b>	<b>46</b>	<b>29</b>	<b>336</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>336</b>
<b>FACULTIES</b>										
Arts	29	7	24	19	.	79	547	1	548	627
Asian Studies	5	.	10	4	.	19	149	1	150	169
Economics & Commerce	10	3	39	10	4	66	495	.	495	561
Engineering & IT	11	3	.	2	.	16	164	.	164	180
Law	4	1	59	157	1	222	300	.	300	522
National Inst of the Arts	3	4	14	23	.	44	5	13	18	62
Science	27	2	32	23	1	85	628	.	628	713
<b>FACULTIES TOTAL</b>	<b>89</b>	<b>20</b>	<b>178</b>	<b>238</b>	<b>6</b>	<b>531</b>	<b>1607</b>	<b>15</b>	<b>1622</b>	<b>2153</b>
<b>OTHER</b>										
Mathematical Sciences	3	.	.	.	.	.	.	.	.	.
<b>OTHER TOTAL</b>	<b>3</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>3</b>	<b>.</b>	<b>.</b>	<b>.</b>	<b>3</b>
<b>ANU TOTAL</b>	<b>212</b>	<b>24</b>	<b>476</b>	<b>286</b>	<b>35</b>	<b>1033</b>	<b>1607</b>	<b>15</b>	<b>1622</b>	<b>2655</b>

Source: DEST Submission

Note: The Faculties Undergraduate Subtotal is not the sum of the constituents because combined degrees have been counted against both faculties.

Abbreviations: PhD = Doctorate, M(Res) = Masters by research, HD C/W = Higher degree by coursework, Grad Dip = Graduate Diploma.

## Home Region of Overseas Students 2003

Full year head count

	POSTGRADUATE						UNDERGRADUATE			NON AWARD	ALL O/S
	PhD	M(Res)	HD C/W	GradDip	Other	Total	Bachelor	Other	Total		
<b>AMERICAS</b>											
Argentina	1	.	.	.	.	1	.	.	.	.	1
Bolivia	.	.	1	.	.	1	.	.	.	.	1
Brazil	3	.	.	.	.	3	1	.	1	.	4
Canada	9	2	10	1	.	22	3	.	3	.	25
Chile	.	.	1	.	.	1	1	.	1	.	2
Colombia	4	.	3	.	.	7	1	.	1	.	8
Costa Rica	.	.	.	.	.	.	1	.	1	.	1
Dominican Republic	.	.	1	.	.	1	.	.	.	.	1
Ecuador	.	.	.	.	.	.	1	.	1	.	1
Jamaica	.	.	.	.	.	.	1	.	1	.	1
Mexico	3	.	.	1	1	5	1	.	1	1	7
United States of America	18	3	18	6	.	45	16	.	16	52	113
<b>AMERICAS TOTAL</b>	<b>38</b>	<b>5</b>	<b>34</b>	<b>8</b>	<b>1</b>	<b>86</b>	<b>26</b>	<b>.</b>	<b>26</b>	<b>53</b>	<b>165</b>
<b>NORTH AFRICA &amp; THE MIDDLE EAST</b>											
Bahrain	.	.	.	.	.	.	1	.	1	.	1
Egypt	3	.	1	.	.	4	.	.	.	.	4
Iran	13	.	1	1	1	16	5	.	5	.	21
Israel	2	.	3	.	.	5	1	.	1	.	6
Kuwait	.	.	.	.	.	.	1	.	1	.	1
Lebanon	.	.	1	.	.	1	.	.	.	.	1
Saudi Arabia	1	.	.	1	.	2	.	.	.	.	2
Turkey	2	.	.	.	.	2	1	.	1	.	3
United Arab Emirates	2	.	.	.	.	2	5	.	5	1	8
<b>NORTH AFRICA/MIDDLE EAST TOTAL</b>	<b>23</b>	<b>.</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>32</b>	<b>14</b>	<b>.</b>	<b>14</b>	<b>1</b>	<b>47</b>
<b>NORTH-EAST ASIA</b>											
China (excl SARs & Taiwan)	25	2	275	12	.	314	283	.	283	4	601
Hong Kong (SAR of China)	.	.	7	1	2	10	135	.	135	2	147
Japan	34	.	26	8	.	68	24	1	25	2	95
Korea, Republic of (South)	12	.	5	.	.	17	26	.	26	6	49
Macau (SAR of China)	.	.	2	.	.	2	4	.	4	.	6
Mongolia	1	.	1	4	.	6	1	.	1	1	8
Taiwan	7	2	55	3	2	69	22	.	22	5	96
<b>NORTH-EAST ASIA TOTAL</b>	<b>79</b>	<b>4</b>	<b>371</b>	<b>28</b>	<b>4</b>	<b>486</b>	<b>495</b>	<b>1</b>	<b>496</b>	<b>20</b>	<b>1002</b>
<b>NORTH-WEST EUROPE</b>											
Austria	1	.	.	.	.	1	1	.	1	.	2
Belgium	1	1	.	.	.	2	.	.	.	.	2
England	1	.	1	.	.	2	.	.	.	.	2
Finland	3	.	.	.	.	3	1	.	1	.	4
France	3	.	1	1	.	5	2	.	2	.	7
Germany	30	.	4	1	.	35	.	.	.	1	36
Ireland	.	.	.	.	.	.	2	.	2	.	2
Netherlands	6	.	.	1	.	7	.	.	.	.	7
Norway	1	.	2	.	.	3	6	.	6	.	9
Sweden	1	.	.	.	.	1	1	.	1	.	2
Switzerland	3	.	1	.	.	4	1	1	2	.	6
United Kingdom, nfd*	17	.	3	1	.	21	3	.	3	.	24
<b>NORTH-WEST EUROPE TOTAL</b>	<b>67</b>	<b>1</b>	<b>12</b>	<b>4</b>	<b>.</b>	<b>84</b>	<b>17</b>	<b>1</b>	<b>18</b>	<b>1</b>	<b>103</b>

\*not further defined

Continued ...



## Home Region of Overseas Students 2003 (cont.)

	POSTGRADUATE						UNDERGRADUATE			NON AWARD	ALL O/S
	PhD	M(Res)	HD C/W	GradDip	Other	Total	Bachelor	Other	Total		
<b>OCEANIA &amp; ANTARCTICA</b>											
Fiji	4	.	3	3	.	10	7	.	7	2	19
Marshall Islands	.	.	1	.	.	1	.	.	.	.	1
Micronesia, Federated States of	.	.	.	.	.	.	.	.	.	1	1
New Caledonia	.	.	.	.	.	.	1	.	1	.	1
Papua New Guinea	6	1	9	9	.	25	11	.	11	3	39
Samoa	.	.	1	.	.	1	.	.	.	.	1
Solomon Islands	.	.	.	1	.	1	.	.	.	.	1
Tonga	.	1	1	.	.	2	2	.	2	1	5
Vanuatu	.	.	2	1	.	3	.	.	.	.	3
<b>OCEANIA &amp; ANTARCTICA TOTAL</b>	<b>10</b>	<b>2</b>	<b>17</b>	<b>14</b>	<b>.</b>	<b>43</b>	<b>21</b>	<b>.</b>	<b>21</b>	<b>7</b>	<b>71</b>
<b>SOUTH-EAST ASIA</b>											
Brunei Darussalam	1	.	1	.	.	2	2	.	2	.	4
Burma (Myanmar)	.	.	5	2	.	7	5	.	5	.	12
Cambodia	2	.	17	6	.	25	3	.	3	3	31
East Timor	.	.	1	1	.	2	2	.	2	1	5
Indonesia	44	4	43	18	1	110	28	.	28	14	152
Laos	1	.	2	5	.	8	3	.	3	1	12
Malaysia	15	.	11	6	.	32	149	.	149	2	183
Philippines	7	.	31	8	1	47	3	.	3	4	54
Singapore	9	.	251	5	1	266	225	.	225	1	492
Thailand	24	2	18	3	.	47	29	.	29	3	79
Vietnam	13	.	11	14	.	38	19	.	19	11	68
<b>SOUTH-EAST ASIA TOTAL</b>	<b>116</b>	<b>6</b>	<b>391</b>	<b>68</b>	<b>3</b>	<b>584</b>	<b>468</b>	<b>.</b>	<b>468</b>	<b>40</b>	<b>1092</b>
<b>SOUTHERN &amp; CENTRAL ASIA</b>											
Afghanistan	.	.	.	.	.	.	1	.	1	.	1
Armenia	1	.	.	.	.	1	.	.	.	.	1
Bangladesh	10	.	16	15	.	41	9	.	9	3	53
Bhutan	.	.	10	6	2	18	.	.	.	2	20
India	12	2	26	2	1	43	22	.	22	1	66
Kazakhstan	.	.	1	.	.	1	.	.	.	.	1
Kyrgyz Republic	1	.	.	1	.	2	1	.	1	.	3
Maldives	1	.	3	.	.	4	7	.	7	.	11
Nepal	2	1	5	3	.	11	2	.	2	2	15
Pakistan	3	.	8	3	.	14	3	.	3	.	17
Sri Lanka	3	1	8	.	.	12	6	.	6	.	18
Tajikistan	2	.	.	.	.	2	.	.	.	.	2
Turkmenistan	1	.	.	.	.	1	.	.	.	.	1
Uzbekistan	.	.	2	.	.	2	.	.	.	.	2
<b>SOUTHERN &amp; CENTRAL ASIA TOTAL</b>	<b>36</b>	<b>4</b>	<b>79</b>	<b>30</b>	<b>3</b>	<b>152</b>	<b>51</b>	<b>.</b>	<b>51</b>	<b>8</b>	<b>211</b>

Continued ...

## Home Region of Overseas Students 2003 (cont.)

	POSTGRADUATE						UNDERGRADUATE			NON AWARD	ALL O/S
	PhD	M(Res)	HD C/W	GradDip	Other	Total	Bachelor	Other	Total		
<b>SOUTHERN &amp; EASTERN EUROPE</b>											
Bosnia & Herzegovina	.	.	.	.	.	.	1	.	1	.	1
Croatia	1	.	1	.	.	2	.	.	.	1	3
Cyprus	1	.	.	.	.	1	.	.	.	.	1
Czech Republic	.	.	.	.	.	.	1	.	1	.	1
Former Yugoslav Rep. of Macedonia	1	.	.	.	.	1	.	.	.	.	1
Greece	1	.	1	.	.	2	1	.	1	.	3
Hungary	1	.	.	.	.	1	.	.	.	1	2
Italy	6	.	1	1	.	8	1	.	1	.	9
Lithuania	1	.	.	.	.	1	.	.	.	.	1
Poland	3	.	.	.	.	3	1	.	1	.	4
Portugal	1	.	.	.	.	1	.	.	.	.	1
Romania	6	.	1	.	.	7	.	.	.	.	7
Russian Federation	6	.	1	.	.	7	1	.	1	.	8
Slovakia	.	.	1	.	.	1	2	.	2	.	3
Spain	3	.	1	.	.	4	.	.	.	.	4
Ukraine	1	.	.	.	.	1	.	.	.	.	1
Yugoslavia, Federal Republic of	2	.	.	.	.	2	.	.	.	.	2
<b>SOUTH &amp; EASTERN EUROPE TOTAL</b>	<b>34</b>	<b>.</b>	<b>7</b>	<b>1</b>	<b>.</b>	<b>42</b>	<b>8</b>	<b>.</b>	<b>8</b>	<b>2</b>	<b>52</b>
<b>SUB-SAHARAN AFRICA</b>											
Botswana	4	.	2	.	.	6	10	.	10	.	16
Ghana	1	.	.	.	.	1	.	.	.	.	1
Kenya	.	.	.	.	1	1	9	.	9	.	10
Lesotho	.	.	1	1	.	2	.	.	.	.	2
Malawi	.	.	1	.	.	1	.	.	.	.	1
Mauritius	1	.	.	.	.	1	6	.	6	.	7
Mozambique	.	.	.	2	1	3	.	.	.	2	5
Namibia	.	.	1	.	.	1	.	.	.	.	1
Nigeria	.	.	.	.	.	.	1	.	1	.	1
Sierra Leone	.	.	.	.	.	.	1	.	1	.	1
South Africa	4	.	.	.	.	4	2	.	2	.	6
Tanzania	1	.	1	.	.	2	.	.	.	.	2
Zimbabwe	.	.	3	1	.	4	1	.	1	1	6
<b>SUB-SAHARAN AFRICA TOTAL</b>	<b>11</b>	<b>.</b>	<b>9</b>	<b>4</b>	<b>2</b>	<b>26</b>	<b>30</b>	<b>.</b>	<b>30</b>	<b>3</b>	<b>59</b>
<b>Other &amp; Unknown</b>	<b>7</b>	<b>.</b>	<b>2</b>	<b>.</b>	<b>.</b>	<b>9</b>	<b>2</b>	<b>.</b>	<b>2</b>	<b>1</b>	<b>12</b>
<b>ALL OVERSEAS</b>	<b>421</b>	<b>22</b>	<b>928</b>	<b>159</b>	<b>14</b>	<b>1544</b>	<b>1132</b>	<b>2</b>	<b>1134</b>	<b>136</b>	<b>2814</b>

Source: Derived from DEST Submissions, on the basis of a full- year Head Count.

## Staff (Academic, General and Casual) (FTE)

as at 31 March 2003

	ACADEMIC		GENERAL		TOTAL
	Research only	Teaching & Research	Research only	Other	
<b>INSTITUTE OF ADVANCED STUDIES</b>					
Astronomy & Astrophysics	21	1	47	16	85
Biological Sciences	78	.	88	19	185
Chemistry	51	.	42	26	119
Earth Sciences	45	.	61	14	119
Info Sci & Engineering	22	.	13	6	40
Medical Research (JCSMR)	82	.	166	31	279
Pacific & Asian Studies	86	5	74	26	191
Physical Sc & Engineering	96	1	77	20	194
Resource & Env Studies	15	1	7	9	33
Social Sciences	86	6	62	20	173
<b>ALL</b>	<b>581</b>	<b>13</b>	<b>636</b>	<b>187</b>	<b>1417</b>
<b>UNIVERSITY SCHOOLS AND CENTRES</b>					
Asia Pac Sch of Econ & Govt	9	16	2	31	58
Aboriginal Econ Pol Res	11	.	3	2	16
Cross-Cultural Research	20	.	5	3	28
Epidemiology & Pop Health	24	4	11	13	52
Humanities Research	5	2	4	7	17
Mental Health Research	7	.	14	7	27
Nat'l Grad Sch Management	2	9	1	16	28
<b>ALL</b>	<b>77</b>	<b>30</b>	<b>40</b>	<b>78</b>	<b>226</b>
<b>FACULTIES</b>					
Arts	8	97	11	29	145
Asian Studies	.	37	2	8	47
Economics & Commerce	2	74	2	20	98
Engineering & IT	6	39	28	26	99
Law	2	45	2	30	79
Medical School	1	5	.	6	12
Nat'l Inst of the Arts	.	93	2	64	158
Science	40	119	34	82	275
<b>ALL</b>	<b>59</b>	<b>509</b>	<b>80</b>	<b>265</b>	<b>913</b>
<b>OTHER</b>					
Mathematical Sciences	25	2	3	3	32
Other	1	16	.	877	894
<b>ALL</b>	<b>26</b>	<b>18</b>	<b>3</b>	<b>880</b>	<b>926</b>
<b>TOTAL</b>	<b>743</b>	<b>570</b>	<b>759</b>	<b>1410</b>	<b>3482</b>

Source: Derived from DEST staff data collection 31 March 2003  
 Uses positions current (including higher duties, secondments etc.) at that date  
 Estimates casuals and part-time teachers from 2002 data

# Cooperation with Government and other Public Institutions

## Institute of Advanced Studies

### Centre for Resource and Environmental Studies

CROKE, Dr B.F.W., work with Royal Project Foundation Thailand, including several government institutions (Land Development Dept, Royal Irrigation Dept, Royal Forestry Dept) funded by ACIAR.

CROKE, Dr B, Impact of changing agroforestry landscape mosaics on catchment water yield and quality in Southeast Asia with Dr D Post (CSIRO) and Dr M. van Noordwijk (International Centre for Research in Agroforestry)

CROKE, Dr B, Sediment, particulate and dissolved carbon, iron and manganese input to Corin Reservoir with Prof R.J. Wasson and Prof I. White (CRES, ANU), Prof. M.M. McCulloch, (RSES, ANU), N. Mueller and T. Whiteway (ECOWISE Environmental), Dr J. Olley (CSIRO Land and Water), Mr. B. Starr (consultant) and Dr A. Wade (ActewAGL)

CROKE Dr B, Pathogen Budget – For Prioritisation of Land Uses and Rectification Actions to Reduce Public Health Risks from Pathogens with Prof N. Ashbolt (UNSW) and C. Ferguson (UNSW/Sydney Catchment Authority)

CROKE Dr B, Development of a Regional Integrated Management Information System with Mr G Walker (CSIRO) and Mr L Lynch (NSW DIPNR)

DOVERS, Dr S., appointed as Adviser, Integration Initiative, Land & Water Australia (Commonwealth).

DOVERS, Dr S., appointed to Expert Advisory Panel, Integrated Natural Resource Management, Victorian Dept of Sustainability and Environment.

GRAFTON, Dr. R.Q. continuing appointment to the Socioeconomic Working Group, National Ocean's Office.

GRAFTON, Dr. R.Q. external referee for Social Sciences and Humanities Research Council of Canada

GRAFTON, Dr. R.Q. reviewer for Royal Commission on Renewing Newfoundland's Place in Canada

HAZELL, Dr D. Appointed as consultant for project: Development of guidelines for delivery of conservation incentives by regional organisations, Environment Australia

HAZELL, Dr D., Appointed to steering committees for two federally funded projects entitled: Integration of Biodiversity into Regional NRM Planning Projects, Land and Water Australia

HAZELL, Dr D., Review panel member (invited) for the Natural Heritage Trust funded Cane Toad Biological Control project, Environment Australia.

HUTCHINSON, Prof M.F., member of synthesis group for Biospheric Aspects of the Hydrological Cycle of the International Geosphere-Biosphere Program (IGBP).

HUTCHINSON, Prof M.F., joint author for the the Australian Soils and Land Survery Handbook Series, Volume 2, by CSIRO Division of Land and Water

JELLETT, Mr D.R. A catchment scale streamflow and groundwater model with applications with Prof. Ian White (ANU), Prof. Michael Hutchinson (ANU), Dr. Mirko Stauffacher (CSIRO), Dr. Lu Zhang (CSIRO) and Dr. Alan Wade (ActewAGL).

LETCHER, R., JAKEMAN, A.J., NEWHAM, L., work with Environmental Trust Management of Diffuse Source Pollution in the Ben Chifley Catchment, NSW, funded by Environmental Trust

LETCHER, R, Development of a Decision Support System for Water Allocation in the Gwydir and Namoi Valleys with NSW Dept Agriculture and the Cotton Research and Development Corporation

JAKEMAN, Prof A.J., and Dr R.A. LETCHER and MS. S.M. CUDDY, Improved Water Management Incorporating Risk and Climate Awareness with Dr F Chiew (Uni Melb) and Ms B. Nancarrow (CSIRO)

JAKEMAN, Prof A.J., with Royal Project Foundation of Thailand, Institutional Strengthening for Integrated Water Resource Management in Thailand, funded by ACIAR

JAKEMAN, Prof A. J., Tools to achieve landscape redesign giving environmental/economic targets project with Dr B Watson (WAREC) and Mr L Lynch (NSW DIPNR)

LINDENMAYER, Dr D.B. Leadbeater's Possum Recovery Team. Department of Sustainability and Environment (Victoria)

LINDENMAYER, Dr D.B. Observer to Wreck Bay Community Advisory Board (Jervis Bay) and Environment Australia – re: ecological burning studies at Booderee National Park

NEWHAM Dr L, Development of a catchment contaminant cycle model for stakeholder use with Dr K Rutherford (CSIRO)

ROBIN, Dr L. Land and Water Australia (2 PhD students Main ANU33 (completing 2004), Connell ANU38 (completing 2005)).

ROBIN, Dr L. Land and Water Australia R&D Grant: Co-understanding of place, people and water in Central Australia ANU42 - 2003-4.

ROBIN, Dr L. National Museum of Australia (Advisory group on environmental history) Museums Australia (public lecture).

WASSON, Prof. R.J., appointed chair of the ACT Sustainability Expert Reference Group (SERG)

WASSON, Prof. R.J. Kalgan case study (WA): Agriculture WA, UWA

WASSON, Prof. R.J. Ord case study (WA): Agriculture WA, Rivers and Waters Commission, CSIRO, Aarhus University

WASSON, Prof. R.J. Herbert Case Study (Qld): CSIRO, DNR, AIMS

WASSON, Prof. R.J. Murrumbidgee case study (NSW): CSIRO, Starr Consulting

WHITE, Prof I. Chair Oyster Research Advisory Committee (Ministerial Appointment)

WHITE, Prof I. Member Scientific Advisory Council NSW Minister for Agriculture and Fisheries (Ministerial Appointment)

WHITE, Prof I. Member Technical Advisory Board UNESCO International Hydrological Programme

WHITE, Prof I. Member National Committee on Acid Sulfate Soils – Agriculture, Fisheries and Forestry Australia

WILD RIVER, Dr. S. Environmental risk analysis for Community and Economic Development Aspects Register. Brisbane City Council.

WILD RIVER, Dr. S. Land and Water Australia General Call project extending Audit outcomes to enhance rural local government environmental capacity. Land and Water Australia; National Land and Water Resources Audit; Agriculture, Forestry and Fisheries Australia, Department of Environment and Heritage; all state-based Local Government Associations in Australia and others.

WILD RIVER, Dr. S. Supervisor for Australian National Internships Program. Office of Senator Meg Lees.

WILD RIVER, Dr. S., provided training in Comparative Environmental Risk Assessment: CSIRO; Tasmanian Department of Primary Industries, Water and Environment; University of Sydney.

## Research School of Astronomy and Astrophysics

ASPLUND, Dr M., Member, Organizing Committee, International Astronomy Union, Commission 12, Solar radiation and structure; Member, Organizing Committee, International Astronomy Union, Commission 36, Stellar atmospheres; Member, Scientific Organizing Committee, Cool Stars, Stellar Systems and the Sun 13 conference

BESSELL, Prof M., Member SOC IAU Commission 26 Photometry.

BICKNELL, Dr G., Convenor, Australian National Institute for Theoretical Astrophysics

BRIGGS, Prof F., Member of ATNF Steering Committee; Member of International SKA Science Advisory Committee; Chair of Early Universe and Large-Scale Structure Subcommittee; Australian LOFAR Project Scientist (through ATNF/CSIRO); Member of ISAC's sub-committee of SKA Level-0 Science.

COLLESS, Dr M., Member, National Committee for Astronomy of the Australian Academy of Science; Chair, 6dF Science Advisory Group; Chair, Science Organizing Committee, 6dF Galaxy Survey Workshop; Chair, National Committee for Astronomy ELT Working Group

DA COSTA, Dr G., Immediate-Past President and Member Organizing Committee, IAU Commission 37 (Star Clusters and Associations); Member, Organizing Committee, IAU Division VII (Galactic System); Member, Scientific Organising Committees, IAU General Assembly Joint Discussion Sessions

JD4 "Astrophysical Impact of Abundances in Globular Cluster Stars", and JD6 "Extragalactic Globular Clusters and their Host Galaxies"; Chair, Australian Gemini Steering Committee and Member, Board of the International Gemini Project (ARC appointment); Member, Australian Gemini Science Advisory Committee; Chair, Anglo-Australian Observatory Users Committee; Vice-President, Astronomical Society of Australia

DOPITA, Prof M., Chair: Australian National Institute of Theoretical Astrophysics (ANITA) Steering Committee (until October 2003); Member, Program Committee for SPIE Meeting AS21: Future EUV-UV Visible Space Astrophysics Missions & Instrumentation; Member: Australian Academy of Sciences Sectional Committee 2, Physics & Astronomy; Member: Special Nominating Committee, International Astronomical Union; Member, NASA Science Oversight Committee for the Wide Field Camera 3, Hubble Space Telescope; Member, Advisory Board of the Centre for Stellar and Planetary Astrophysics, Monash University; Member, Board of Editors, Astrophysics and Space Science; Member, Editorial Advisory Board, Publications of the Astronomical Society of Australia.

FRANCIS, Dr P., Member, Australian Telescope Allocation Committee (ATAC); Member, Education Sub-Committee of the Astronomical Society of Australia; Member, Australia Telescope Time Assignment Committee (AT TAC).

FREEMAN, Prof K., Member, Parkes Multibeam Working Group, Australia Telescope National Facility; Past President, International Astronomical Union (IAU) Division VII and IAU Commission 33 (Structure and Dynamics of the Galactic System); Member, Anglo Australian Telescope Board; Member, NOVA (Netherlands Research School for Astronomy) International Advisory Board: Co-Chair, SOC for IAU Symposium 220 "Dark Matter"; Member, RAVE Executive Board (RAVE is a very large international stellar radial velocity program); Member, KAOS Working Group (KAOS is a wide field multifiber spectrometer to be proposed for GEMINI) .

JACKSON, Dr C., Member of the International Science Advisory Group for the SKA; Member of the Australian Science Working Group for the SKA; Chair of the Australia Telescope Users Committee.

JERJEN, Dr H., Member, Australia Telescope Users Committee

JONES, Dr H., Member, Australia Telescope Assignment Committee (RSAA substitute for Nov 2003 meeting).

NORRIS, Dr J., Member, International Advisory Committee, Eighth Symposium on Nuclei in the Cosmos

SACKETT, Prof. P.D., 2004-present Member, Prime Minister's Science, Engineering and Innovation Council Working Group 'Future Opportunities for Australian Astronomy'; 2003-present Elected Member, University Research Committee, Australian National University, Canberra, AU; 2003-present Member, NCA Task Force on Extremely Large Telescopes (ELT); 2002-present Member Representative for Australian National University of Association of Universities for Research in Astronomy (AURA); 2002-present Member, National Committee for Astronomy (NCA) Subcommittee of the Australian Academy of Science; 2002-present Member, Australian Gemini Steering Committee; 2002-present Member, Board of Management for the Australian Astronomy; Major National Research Facility

Award; 2002-present Member, Academic Board, Australian National University, Canberra, AU

SCHMIDT, Dr B., Chair, Anglo-Australian Telescope Time Assignment Committee.; Chair, Australia Telescope Time Assignment Committee; Chair, National Committee for Astronomy LOFAR Options Committee; Vice-Chair, International Astronomical Union's Supernova Working Group; Member, Square Kilometer Array Steering Committee; Councilor, Astronomical Society of Australia; Representative, International Time Allocation Committee, Gemini.

WOOD, Dr P., Member, SOC, IAU Colloquium 193, "Variable Stars in the Local Group"; Member, Australian Gemini Science Advisory Committee.

## Research School of Biological Sciences

### Comparative Genomics

GRAVES J with Dr S Forrest, AGRF Melbourne. Partner Investigator of the ARC Centre for Kangaroo Genomics.

### Ecosystem Dynamics

BARNES B with Dr H Bi, NSW State Forests. Application of theoretical self thinning model.

DAVIES I with Dr M Hill, Bureau of Rural Sciences. AG ACCESS, a tool for assessing carbon stocks in agricultural lands.

DEAN C with Dr Adrian Goodwin, Forestry Tasmania, modelling of landscape level carbon sequestration and fluxes.

GREEN PT served on the Crazy Ant Steering Committee, advising Environment Australia on the strategic control and management of invasive ants on Christmas Island

MITCHELL CD gave a talk entitled CRC for Greenhouse Accounting: Activities and Outcomes, to staff of the Queensland Departments of Natural Resources and Mines, and Primary Industries, Brisbane, July.

MITCHELL CD gave a talk entitled The Carbon Cycle, the Greenhouse Effect and Vegetation Management to the Queensland Branch of Clean Air Society Australia and New Zealand, July

ROXBURGH SH with Dr M Hill, Bureau of Rural Sciences. Range ASSESS—a spatial framework for analysis of potential for carbon sequestration in rangelands.

ROXBURGH SH with Drs A Lee, M Barson and L Randall. Bureau of Rural Sciences. Landscape-scale carbon budget modelling of the Injune region.

SLATYER RO advised Environment Australia on several aspects of the development and function of the World Heritage Committee.

### Environmental Biology

EVANS JR, Deputy CEO, Member of Management Team, Cooperative Research Centre for Greenhouse Accounting and leader of Program B. Member.

FARQUHAR GD, Member, Minister's Mapping Australian Science and Innovation group.

FARQUHAR GD, Board Alternate and Member, Management

Team, Cooperative Research Centre for Greenhouse Accounting.

### Molecular Genetics & Evolution

CAMPBELL H. Deputy Chair of the ANU Recombinant DNA Monitoring Committee in 2003. This Committee operates under the aegis of the Office of the Gene Technology Regulator, set up under Commonwealth law to regulate all dealings with genetically manipulated organisms.

CAMPBELL H. Set up a joint project with commercial partner TGR BioSciences, Adelaide, to investigate novel mammalian genes.

### Molecular Plant Physiology

ANDREWS TJ. Discussions with CSIRO Telecommunications and Industrial Physics on the topic of artificial photosynthesis.

### Plant Cell Biology

HARDHAM AR. Leader of joint research project with Bayer CropScience.

JOHN PCL. Member, Scientific Advisory board of the Ag-biotech company CropDesign. Participant in joint research with the Ag-biotech companies Groupe Limagrain, Dupont/Pioneer and Syngenta and with the public-good multinational CIMMYT Pacific.

WASTENEYS GO. Participant in joint research with the Ag-biotech companies Group Limagrain, Dupont/Pioneer and Syngenta and with the public-good multi-national CIMMYT Pacific.

WILLIAMSON RE. Leader of joint research projects with Bayer Cropscience and Biogemma.

### Visual Sciences

MADDESS T. Member Business ACT Bioscience Committee. Chair Biotech Australia Honours Prize Committee. Member Steering Committee of the Australian Biosciences Consortium (BIOZ)

ZEIL J. Consultant for BBC Natural History Unit, Bristol, England.

### Electron Microscopy Unit

The ANUEMU Facilities were used by a number of Government organisations—CSIRO Plant Industry and Entomology Divisions, GeoScience Australia, The Australian Federal Police, and the National Gallery of Australia. Commercial users included ProSciTech, Robson Laboratories, AOFR and Sustainable Technologies International.

### Research School of Chemistry

BANWELL, Prof. M.G., Chair, Editorial Advisory Committee, *Australian Journal of Chemistry*; Consultant, Genencor International Inc, Palo Alto; Consultant, Biota Holdings Ltd, Melbourne; Member, Editorial Boards, *Indian Journal of Chemistry (Section B)*, *Synlett*; Member, Board of Consulting Editors, *TetraheDRon*, *TetraheDRon Letters*; Asia-Pacific Representative, Advisory Committee to the International Society for Heterocyclic Chemistry; Member, Advisory Board, Special Centre for Green Chemistry, Monash University; Reader, ARC grant applications.

COLLINS, Prof. M.A., Committee Member, Physical Chemistry Division, Royal Australian Chemical Institute (RACI).

DIXON, Dr N.E., Visiting Lecturer, *Molecular Biology and Genetics*, School of Chemistry, University of Sydney; Assessor, NH&MRC grant applications.

EASTON, Prof. C.J., Board Member, Federation of Australian Scientific and Technological Societies (FASTS); Chair, Organic Chemistry Division, RACI; President, ACT Branch, RACI; Chair, RACI Fellowships Committee (ACT Branch); Member, External Academic Advisory Board (Chemistry), Deakin University; Specialist Advisor, Tertiary Education Commission, New Zealand; Specialist Advisor (Chemistry), Faculty of Science, University of Adelaide; Member, Editorial Board, *ARKIVOC*; Member, Referee Panel, *Chemical Communications*; Member, Editorial Advisory Board, *Current Organic Synthesis*; Member, Editorial Advisory Board, *Mini Reviews in Organic Chemistry*; Member, Editorial Advisory Board, *Letters in Organic Chemistry*; Member, Board, Asian and Oceanian Cyclodextrin League; Member, Scientific Committee, Ninth International Society for Free Radical Research Conference, 2004; Chair, Organising Committee, 20th Royal Australian Chemical Institute Organic Conference; Chair, Organising Committee, Symposium on Free Radicals in Chemistry and Biology, Pacificchem 2005; Member, Management Committee, UniChe Program.

EVANS, Prof. D.J., Member, Information and Communications Technology Sub-Committee, Australian Academy of Science; Member, Australian Academy of Science Merit Allocation Committee, Australian Partnership in Advanced Computing (APAC); Member, Organising Committee, Liblice Conferences on Statistical mechanics of liquids; Member, Editorial Advisory Board, *Chemical Physics*; Member, Editorial Boards, *Molecular Simulation* and *Molecular Physics*; Assessor/Reader, ARC grant applications; Member, Advisory Committee, 2nd Sardinian International Conference on News and Expectations in Thermostatistics.

GOOSSENS, Dr D.J., Member, Instrument Advisory Teams, the Powder Diffraction Instrument, the Three Axis Spectrometer and the Polarisation Analysis Spectrometer, Australian Nuclear Science and Technology Organisation.

HEATH, Dr G.A., Member, Raman Microscope Steering Committee, University of Canberra; Member, International Editorial Advisory Board, *Dalton Transactions*; Member, IR Beamline Advisory Panel, Australian Synchrotron Research Program. Advisor, Australian Transport Safety Bureau, Canberra; Chemical Criminalistics Section, Australian Federal Police, Weston; Conservation Department, National Gallery of Australia; Cary Spectrometer Division, Varian Analytical Instruments, Melbourne; the National Museum of Australia.

HILL, Prof. A.F., Reader, Member, Referee Panel, *Chemical Communications*; Editor, *Advances in Organometallic Chemistry* (Academic Press); Member, Editorial Advisory Board, *Organometallics*; Member, International Editorial Advisory Board, *Dalton Transactions*; Assessor/Reader, ARC grant applications. Host, National Youth Science Forum students with Mr H. Neumann, Dr E. Humphrey, Dr M. Schultz, Mr R. Dewhurst, Mr N. Tshabang, Ms H. Kitto and Ms R. Warr.

KRAUSZ, Prof. E.R., Committee Member, RACI Physical

Chemistry; Assessor, NSF & ARC grant applications; Contributor, 5th National Teacher's Summer School.

MAHON, Dr P.J., Raman Microscopy and Allied Facilities Officer, University of Canberra.

MANDER, Prof. L.N., Council Member and Member of Finance Committee, Australian Academy of Science; Member, Government Legislation Sub-committee of the Policy Committee, RACI; Member, Editorial Advisory Boards, *Current Organic Chemistry*; *Dictionary of Organic Compounds*; *Heterocycles*; *Natural Product Reports*; *Synthesis*; *Synlett*; Member, Board of Consulting Editors, *TetraheDRon*, *TetraheDRon Letters*; Assessor, ARC grant applications. Selection Committees for Academy of Science awards: Selby Fellowship (Chair), Craig Medal (Chair), Flinders Medal, and Scientific visits to the United States of America awards for young Australian researchers 2004. Visiting Lecturer, Department of Chemistry, University of Colorado June 28–July 27.

OLLIS, Dr D.L., Seminar Presenter, *Organophosphate degrading enzyme: probing mechanism and evolution using X-ray crystallography and directed evolution*, Natural Product Discovery Institute, Griffith University, Queensland. Assessor, ARC and NH&MRC grant applications.

OTTING, Prof. G., Member, Editorial Board, *Journal of Biomolecular NMR*; Assessor, ARC and NH&MRC grant applications.

RADOM, Prof. L., Vice-president and President-elect, World Association of Theoretically Oriented Chemists; Co-organiser, Computational Chemistry in the 21st Century, Melbourne, Australia, June 2003; Member, Editorial Advisory Boards, *Advances in Quantum Chemistry*; *European Journal of Mass Spectrometry*; *International Journal of Quantum Chemistry*; *Journal of Computational Chemistry*; *Journal of Molecular Structure: Theochem*; *Journal of Physical Organic Chemistry*.

RICKARDS, EMERITUS PROF. R., Panel Member, Fifth National Science Teachers' Summer School. Speaker and Contributor, National Youth Science Forum.

RICKARDS, EMERITUS PROF. R., WILD, PROF. S.B. and SEVICK, DR E.M., Contributors, Fifth National Science Teachers' Summer School on *Australian Science: The Cutting Edge*.

SEVICK, DR E.M., Seminar Presenter: *A Story of a Recent Research Adventure*, to Women in Engineering (WIE), Australian Federal Police College.

SHERBURN, Dr M.S., Secretary, ACT Branch, Royal Australian Chemical Institute; Treasurer, 2004 ISMC/RACIOC Chemistry Conference.

SCHULTZ, DR M., Symposium Coordinator, Organometallic Chemistry, incorporating the research groups of Professors Anthony Hill (RSC), Les Field (University of Sydney) and Barbara Messerle (University of New South Wales). Co-host, National Youth Science Forum students.

WELBERRY, Prof. T.R., Past President and Member of Council, Society of Crystallographers in Australia and New Zealand (SCANZ), Member, National Committee for Crystallography of the Australian Academy of Science; Co-editor, *Journal of Applied Crystallography*; Member, Single Crystal Instrument Advisory Team, Australian Nuclear Science and Technology Organisation.

WILD, Prof. S.B., Consulting Editor, *TetraheDRon: Asymmetry*; Member, Editorial Advisory Board, *Main Group Chemistry*; Member, Selection Committee, Australian–German Research Cooperation Scheme; Guest Prof., PhD Program, University of Leipzig.

WITHERS, Prof. R.L., Member, Aperiodic Commission of the International Union of Crystallography; Member, Editorial Board, *Journal of Solid State Chemistry*; Member, International Advisory Board, Aperiodic.

WHITE, Prof. J.W., Immediate Past President, Royal Australian Chemical Institute; Chair, National Committee for Crystallography (Australian Academy of Science); Chair, Advisory Committee on Replacement Research Reactor (Australian Academy of Science); Chair, Steering Committee, Evaluation Report to the Antarctic Science Advisory Committee on Australia's Antarctic Science Program; Chair, Scholarships Committee, Oxford Australia Fund; Vice-President, Australian Institute of Nuclear Science and Engineering; Chair, Management Committee of University-Industry Linkages in Chemistry (UniChe); Member, Australian Synchrotron Research Program Policy and Review Board; Member, International Advisory Board, Centre of Excellence for Nanotechnology, University of Queensland; Member, Council of the Asian Crystallographic Association; Member, Board of Governors, Consortium for Advanced Radiation Sources, CARS, University of Chicago; Member, Science Advisory Committee, Central Laboratory of the Research Councils, UK; Member, ISIS Scheduling Panel, Rutherford Appleton Laboratory, UK; Member, Beam Instruments Advisory Group, Australian Nuclear Science and Technology Organisation; Member, Council, Australian Academy of Science; Member, Council, Australian Institute of Nuclear Science and Engineering; Member, Neutron Scattering Specialist Committee, Australian Institute of Nuclear Science and Engineering; Member, Advisory Committee, School of Chemistry, University of Sydney; Member, Australian Academy of Science/Royal Society Exchange Program Committee; Chair, International Advisory Committee for Japanese Atomic Energy Research Institute/KEK J-PARC Project; Member, International Advisory Panel, Faculty of Science, National University of Singapore; Chair, Canberra Fellows Group, Australian Academy of Science; Member, Governing Board, Centre for Australian Cultural Studies; Member, Editorial Boards, *Advances in Physics*, *Current Opinion in Solid State and Materials Science*, *Journal of Materials Chemistry*, *Physical Chemistry Chemical Physics*; Assessor/Reader, ARC grant applications; Member, Institute for the Study of Christianity in an Age of Science and Technology; Founding Member, International Society for Science and Religion; Speaker, National Youth Science Forum; Spokesperson, on stem cell research and Contributor, national debate on the potential scientific value of embryonic stem cell research, Australia Australian Academy of Science.

## Research School of Earth Sciences

### Earth Chemistry

ALLEN, Dr C., member, editorial board, Australian Journal of Earth Sciences.

BENNETT, Dr V.C., associate editor, Journal of Geophysical Research; guest editor, Special Volume of Chemical Geology (vol. 196, May 2003) on 'Highly Siderophile Elements in the Earth and Meteorites'.

HARRISON, Prof. T.M., member, National Committee for Earth Sciences; member, Board of the Australian National Seismic Imaging Resource (ANSIR), a Major National Research Facility operated as a joint venture of Geosciences Australia and RSES.

IRELAND, Dr T.R., convenor, inaugural SHRIMP Workshop, March 2003; continued close cooperation with Geoscience Australia and Australian Scientific Instruments (a subsidiary of ANUTech Pty Ltd) on SHRIMP instrument developments and issues.

McLAREN, Dr. S., presented the research seminar 'Some speculations on the nature of Proterozoic tectonics in Australia' at Geoscience Australia, August 2003.

NUTMAN, Dr A.P., member, editorial board, Precambrian Research; co-operates with the Geological Survey of Denmark and Greenland on ARC Discovery funded research and fieldwork in Greenland.

PAGE, Dr R., co-operates with: the Predictive Minerals Discovery Cooperative Research Centre (pmdCRC); Geological Survey of NSW; Department of Mineral Resources, Broken Hill, NSW; Geological Survey SA (PIRSA); and Geoscience Australia.

WILLIAMS, Dr I.S. with Australian Scientific Instruments Pty. Ltd. (a subsidiary of ANUTech Pty Ltd), promotes, assists installation, and provides operational training for SHRIMP ion-microprobes to government agencies and universities; and with the Ion Microprobe subgroup, co-operates with Geoscience Australia (GA) geochronologists, sharing expertise, standards, time, costs and maintenance responsibilities for the SHRIMP I and II ion microprobes.

WILLIAMS, Dr I.S., presented an invited lecture at Geoscience Australia on 'The accuracy of granite geochronology'; lectured a 3-day short course on 'Granite petrogenesis' at Seoul National University; established a co-operative research agreement with the Polish Geological Institute to study the buried East European Craton; and with GREEN, Prof. D.H., hosted seven science teachers from Narrabundah College on a visit to RSES to learn about isotope geochronology and experimental petrology.

### Earth Environment

ABRAM, Ms. N., selected as one of sixteen early career scientists to present her research to the media and general public at the Melbourne Museum during 'Fresh Science', National Science Week, 2003.

BURGESS, Ms S.N., South Australian Research and Development Institute - Aquatic Sciences, co-operates with Dr T. Ward (Program Leader) and others on the project 'Great Australian Bight and Shelf Seas'.



CHAPPELL, Prof. J., member, National Committee for Earth Sciences, participated in the development of a National Strategic Plan for the Geosciences; presented the field class 'Rivers in time: geomorphology and the ancient past of the Lachlan River' at Environment Workshop, Institute of the Arts ANU (19-20 March); organised and supervised two student projects within the CSIRO-ANU Student Research Scheme, 'Monte-carlo simulation of soil creep' (Alison Sham, Merici College), and 'Floodwater signals in coral growth bands' (Ben Huntley, Canberra Grammar).

FABEL, Dr D., established a cooperative agreement (AMS-02-14) with the Australian Nuclear Science and Technology Organisation (ANSTO) to measure in situ produced  $^{10}\text{Be}$  and  $^{26}\text{Al}$  in quartz samples.

FRASER, Ms R., visited St Thomas the Apostle primary school, Kambah, to present material about Australian megafauna fossils to three junior classes.

GRÜN, Prof. R., Editor, Quaternary Geochronology (Quaternary Science Reviews); associate editor, Journal of human Evolution; member, Editorial Board of Quaternary International; member, Editorial Board of Radiation Measurements; member, reviewers' panel of Ancient TL; standing member, scientific committee member, and editor of the proceedings, of International Conferences on Luminescence and Electron Spin Resonance Dating (next conference, Cologne, July 2005).

MÜLLER, Dr W., co-Editor, Special Publication of the Geological Society of London, 'Geochronology: linking the isotopic record with petrology and textures'; co-operates with Dr. M. Westaway, National Museum of Australia, on establishing the provenance of Aboriginal human skeletal remains from Victoria using stable and radiogenic isotope analysis.

MÜLLER, Dr W., was interviewed by ABC radio and TV, and more than 30 articles were published in Australian and overseas several newspapers following publication of Müller et al. (2003) 'Origin and Migration of the Alpine Iceman' in Science; made the following presentations of his Iceman research results: 'Origin and Migration of the Neolithic Alpine Iceman, Ötzi', Australian Academy of Science, Dinner Club, 27 Feb 2003; 'Aus dem Zahnschmelz des Eismannes seine Herkunft ablesen...', South Tyrol Museum of Archaeology ('Iceman Museum'), 1 July 2003; 'Origin and Migration of the Alpine Iceman', Swiss Federal Institute of Technology (ETH) Zürich, 3 July 2003, and the University of Vienna, 8 July 2003; 'Origin and Migration of the Alpine Iceman Ötzi', Goethe Society, Canberra, 23 October 2003; and 'A paradigm shift in using teeth as archives of chronology, diet, and place of origin', Royal Holloway University of London, 13 November 2003.

PILLANS, Dr B., member, Subcommission on Quaternary Stratigraphy (SQS) and the Working Group on the Lower-Middle Pleistocene Boundary, International Commission on Stratigraphy (ICS); president, Stratigraphy and Chronology Commission of the International Union for Quaternary Research (INQUA); member, Editorial Board of Catena; member, editorial board of Quaternary Science Reviews; and member, Editorial Board of Geology; cop-operates with Dr T. Naish, Dr A. Beu and Dr B. Alloway (New Zealand Institute of Geological and Nuclear Sciences, IGNS), on studies of Quaternary sedimentary sequences in the North Island, New Zealand, as part of a

continuing appointment as a Research Associate of IGNS.

RHODES, Dr E., member, Editorial Board of Quaternary Science Reviews; member, CRC LEME; co-operates on the CRC LEME research project 'History of Aridity'; made TV appearances in UK featuring 'OSL dating of Wilmington Long Man, Sussex, UK'; and 'dating of a large standing stone, The Cove, Avebury, UK'.

SMITH, Mr M., member, CRC LEME

## Earth Materials

BERRY, Dr A.J., member, Instrument Advisory Team for the powder neutron diffraction beamlines (HRPD and HIPD) at the new Replacement Research Reactor at Lucas Heights; Coordinator, special interest group 'GEOSYNC', set up to educate, inform and represent Australian geoscientists on all matters relating to synchrotron science; and member, organising committee, Photons@Work, Australian Synchrotron Summer School, to be held at ANU from 27 January to 5 February 2004.

COX, Prof. S.F., member, Editorial Advisory Board, Geofluids; and member, Editorial Advisory Board, Journal of Structural Geology.

FITZ GERALD, Dr J., member, Editorial Advisory Board, Physics and Chemistry of Minerals; and member, Board, CSEM.

GREEN, Prof. D.H., member, Board of the National Research Facility: Australian National Scientific Imaging Resource (ANSIR); Director, Ringwood Superabrasives P/L, representing the ANU's interests in the company formed to commercialise patented ultra-hard ceramics based on diamond and cubic boron nitride composites; presented a short course on Magma Genesis in the "Earth's Mantle" at L.-M. University of Munich, Germany, to graduate students attending from Germany, Italy, Denmark, Slovakia, Czech Republic and Austria; presented a similar seminar series to graduate students and post-docs in the joint geochemistry program run by Massachusetts Institute of Technology, and Woods Hole Oceanographic Institution, Massachusetts.

JACKSON, Prof. I., Associate Editor, Journal of Geophysical Research; member, Editorial Board, Physics and Chemistry of Minerals; member, Editorial Board, Physics of Earth and Planetary Interiors

LISTER, Prof. G., member, Editorial Board, Journal of Structural Geology; Director, Journal of the Virtual Explorer.

MAVROGENES, Dr J., Associate Editor, Economic Geology.

MICKLETHWAITE, Dr S., committee member, Geological Society of Australia (ACT division); contributed general scientific information and interviewed twice for the Sunday science program "Fuzzy Logic" broadcast on 2XX, a local community radio station (98.3FM).

O'NEILL, Dr H., member, Advisory Editorial Board, Earth and Planetary Science Letters; and member, Editorial Board, Chemical Geology.

TENTHOREY, Dr. E., supervised two year 11 students undertaking laboratory-based projects in the CSIRO Student Research Scheme.

## Earth Physics

BRAUN, Dr. J., Associate Editor, *Journal of Geophysical Research*; assoc. member, Canadian Institute for Advanced Research, Earth System Evolution Program; and coordinated a High school student visit to RSES in November 2003.

KENNETT, Prof. B.L.N., Chair of the Academy Committee for Postdoctoral Opportunities in Japan; Chair of the Academy Committee for exchange arrangements with N.E. Asia (China, Japan, Korea, Taiwan); Chair of the Committee, Frederick White Conference Series; completed his term as President, International Association for Seismology and the Physics of the Earth's Interior (IASPEI) in July; continues on the IASPEI Executive as Past-President; Associate Editor, *Earth and Planetary Science Letters*; Associate Editor, *Journal of Geophysical Research (Solid Earth)*; commenced (in November) as Editor-in-Chief, *Physics of the Earth and Planetary Interiors*, having previously been Associate Editor.

KENNETT, Prof. B.L.N., continues support to the Comprehensive Nuclear-Test-Ban Treaty (CTBT) Organisation in Vienna through the operation of and continuous transmission of data from the Warramunga Seismic and Infrasound Research Station near Tennant Creek in the Northern Territory.

LAMBECK, Prof. K., Foreign Secretary, Australian Academy of Science; member of the Council, Australian Academy of Science; and member, Finance Committee, Australian Academy of Science; member, Executive Committee, International Inter-Academy Panel; Chair of the Antarctic Science Advisory Committee; member of an AUSAID Technical Advisory Group; member, Antarctic Climate and Ecosystems Cooperative Research Centre (ACE-CRC); member, Editorial Advisory Board, *Quaternary Science Reviews*; and member, Editorial Advisory Board, *Earth and Planetary Science Letters*.

McQUEEN, Dr H., co-operated with Geoscience Australia to re-establish local gravity ties around the Mt Stromlo Gravity Station following fire damage in January 2003.

McQUEEN, Dr H., TREGONING, Dr P., and STANAWAY, Mr R., co-operated with Geoscience Australia, the Department of Administration and Information Services, South Australia (DAIS), the Department of Primary Industry and Resources, South Australia (PIRSA), and the New Zealand Institute of Geological and Nuclear Sciences Ltd (IGNS), on a high precision GPS survey network in the Flinders and Mt Lofty Ranges, SA, to monitor crustal deformation associated with seismicity in the area.

SAMBRIDGE, Dr. M., Pacific Region Editor and Office Manager, *Geophysical Journal International*.

Mr R. STANAWAY provided GPS technical support to Geoscience Australia's seismic hazard monitoring network in South Australia.

## Australian National Seismic Imaging Resource

KENNETT, Prof. B.L.N., Director, Australian National Seismic Imaging Resource (ANSIR), a major National Research Facility to which RSES has responsibility for the reflection equipment and vibrator sources, as well as the portable instrumentation.

## PRISE

ARMSTRONG, Dr. R., collaborates with scientists from the Geological Surveys of Brazil, Botswana, Namibia, South Africa, South Korea and Swaziland.

FANNING, Mr C.M., collaborates with the Geological Surveys of South Australia and Queensland.

YAXLEY, Dr G., undertook several consultative projects for Australian state geological surveys.

## Research School of Information Sciences and Engineering

### Computer Sciences Laboratory

GORÉ, Dr R, member, Program Committee, International Conference on Theorem Proving with Analytic Tableaux and Related Methods; member, Editorial Board, *The Annals of Mathematics, Computing and Teleinformatics*; member, Judging Panel, Australian Computer Science Society's Distinguished Dissertation Award.

KOWALSKI, Dr T, co-editor, two special issues of *Studia Logica*.

LLOYD, Prof. J, member, Editorial Board, *Journal of Functional and Logic Programming*; member, Editorial Board, *The Computer Journal*; member, Editorial Board, *Journal of Artificial Intelligence Research*; scientific area editor for logic and learning, *Journal of Applied Logic*; member, Advisory Board, *Cognitive Technologies*; editorial advisor, *Theory and Practice of Logic Programming*; member, Editorial Board, *New Generation Computing*; member, EPSRC Peer Review College; member, Mathematical and Information Science and Technology Panel, Performance-based Research Funding, Tertiary Education Committee, New Zealand; member, Program Committee, Thirteenth International Conference on Inductive Logic Programming.

MENDELSON, Dr S, member, COLT Steering Committee; co-organiser, *Asymptotic Geometric Analysis and Machine Learning*; member, Scientific Committee, *Mathematical Aspects of Machine Learning*.

MILLAR, Dr JB, member, Editorial Board, *Speech Communication*; member, Advisory Council, International Speech Communication Association; member, Permanent Council, International Congress of Phonetic Sciences; member, Permanent Council, International Conference on Spoken Language Processing; public officer, Australian Speech Science and Technology Association Inc; chair, ASSTA Spoken Language Database Committee; member, Coordinating Committee for Speech Databases and Assessment; rapporteur for Oceania region, Coordinating Committee for Speech Databases and Assessment; member, Board of Summer Institute of Linguistics Australia; chair, School Committee of the Board of SILA; member, Scientific Committee, International Language Resources and Evaluation Conference; member, Technical Programme Committee, Audio-Video Biometric Person Authentication; member, Scientific Committee, International Congress of Phonetic Sciences; member, Scientific Committee, European Conference on Speech Communication and Technology.

SMOLA, Dr A, editorial board, Journal of Machine Learning Research; member, Governing Board, Kernel-Machines.Org; member, Program Committee, Neural Information Processing Systems.

SLANEY, Dr J, member, Program Committee, Conference on Automated Deduction; member, Program Committee, Conference on First Order Theorem Proving; member, Advisory Board, International Joint Conference on Artificial Intelligence; member, Australasian Committee, Association for Symbolic Logic; member, Program Committee, Australian Joint Conference on Artificial Intelligence; member, Program Committee, International Joint Conference on Artificial Intelligence (poster track).

THIÉBAUX, Dr S, member, Technical Program Committee, International Conference on Automated Planning and Scheduling; member, Editorial Board, Electronic Transactions on Artificial Intelligence, Planning and Scheduling Section; co-chair, ICAPS-03 Workshop on PDDL; member, Technical Program Committee, ECAI-03 Workshop on Model-Checking in Artificial Intelligence.

### Department of Systems Engineering

ANDERSON, Prof. B.O., CEO and President National ICT Australia, until May; Chief Scientist, National ICT Australia, from May; Director, Cochlear Ltd; Lifetime Advisor, International Federation of Automatic Control; member, Advisory Committee, Centre for Integrated Dynamics and Systems, University of Newcastle; member, Advisory Board, Institute of Telecommunications Research, university of South Australia; member, editorial board: Applied and Computational Control, Signals, and Circuits; member, editorial board: Communications in Information and Systems; member, editorial board: Journal of Multidimensional Systems and Signal Processing; member, editorial board: International Journal of Adaptive Control and Signal Processing; member, IEEE Education Medal Committee; Board Member, Australian Research Council, until July; Distinguished Lecturer, IEEE Control Systems Society.

HARTLEY, Prof. R, Adjunct Professor, Department of Computer Science, University of Western Australia; bid member, Centre for Imaging and Technology in Medicine, University of Western Australia; Program Leader, NICTA Program Leader for Autonomous Systems and Sensor Technologies; area chair, International Conference on Computer Vision 2003; area chair, European Conference on Computer Vision 2003, member, editorial board, International Journal of Computer Vision.

MOORE, Prof. J.B., member, Sectional Committee 11 for the Australian Academy of Science; director Go-CDMA Ltd, Hong Kong; Program Leader, NICTA Program Leader for Systems Engineering and Complex Systems.

ZELINSKY, Prof. Alexander, chief executive officer, Seeing machines Pty Ltd; reader and reviewer, Australian Research Council, Robotics Program; member, editorial board, International Journal of Robotics Research; chair, International Committee on Field and Service Robotics; member, editorial board IEEE Robotics and Automation Magazine.

ZIMMER, Dr U, council member, NAISO International Academic Advisory Council (IAAC); reviewing board member, Robotics

and Autonomous Systems; program committee member, Information Technologies in Environmental Engineering (ITEE 2003).

## Research School of Pacific and Asian Studies

### Department of Anthropology

JAMES, Dr H, adviser, World Bank and US State Department on developments in Myanmar.

McWILLIAM, Dr A, consultant, Northern Land Council, Gregory National Park native title research; collaboration with AusAID on ARC linkage project 'Diverse Economies in Philippines and Indonesia'; participation in the Arafura Timor Seas Experts Forum (ATSEF), coordinated trips to Dili in December 2002 and April 2003; ATSEF discussions with Minister of Agriculture, Forestry and Fisheries (East Timor), field visits with Fisheries staff; and participation in the ATSEF regional coordination meeting, Bali 18-19 October.

RUMSEY, Dr A, advisor, AusAID, Kimberley Land Council.

TAYLOR, Dr P, external assessor, grant applications, The Netherlands Foundation for the Advancement of Tropical Research (NWO-WOTRO).

### Department of Archaeology and Natural History

HABERLE, Dr S, Australasian Quaternary Association (AQUA) representative at the annual Science Meets Parliament meeting 14-15 October.

HOPE, Prof. G, member: Environment ACT Fire Recovery Advisory Panel — Natural Systems; Advisory Committee on Wingecarribee Reserve, Sydney Catchment Authority; Lemberg Award advisory committee, Australian Academy of Science; assessor: ARC Awards, DETYA; Foundation for Research, Science and Technology, New Zealand Government; reviewer, National Research.

O'CONNOR, Dr S, consultant, Environment ACT.

SPRIGGS, Prof. M, reviewer: Arts and Humanities Research Board (AHRB) UK; National Science Foundation, USA.

SUMMERHAYES, Dr G, *collaborative teaching of cultural heritage management, National Government of Papua New Guinea.*

### Department of Human Geography

ALLEN, Dr B, adviser, Department of Foreign Affairs and Trade, and the Australian International Development Assistance Bureau; invited participant, meeting hosted by AusAID on pro-poor growth policies for Papua New Guinea; reviewer, Papua New Guinea's 'Key Roads for Growth Maintenance Project'; as part of the Information for Rural Development Project (AusAID), installed bibliographic management software and conducted training on the PNG Agricultural Bibliography database (PNGAgBib) at the Papua New Guinea National Agricultural Research Institute, the University of Technology, the Coffee Research Institute, Aiyura; the University of Goroka, the Coffee Industry Corporation, Goroka; the Department of Agriculture and Livestock library, the Forest Authority, and the National Research Institute.

BOURKE, Dr R M, business partner, URS Ltd, Adelaide, for project on the Australian Contribution to the (PNG) National Agricultural Research System (ACNARS); member, PNG Rural Development Reference Group, Australian Agency for International Development; adviser, Bougainville Agricultural Production Support Study, AusAID, Canberra; support given to Papua New Guinea universities, Adventist University, University of Papua New Guinea, Vudal University.

GIBSON, Prof. K, provided workshops with Divisional Managers of the Oil Palm Industry Corporation to finalise the field manual for extension officers, and as part of an ACIAR smallholder project; provided a workshop with representatives from AusAID's Indonesia and Philippines desks as part of the AusAID-ANU ARC Linkage Grant Project on 'Negotiating alternative economic strategies for regional development in Indonesia and the Philippines'; organised undergraduate students to conduct a survey of visitors to Braidwood for the Tallaganda Shire's Economic Working Group.

### Department of International Relations

FRY, Mr G, organiser and chair, World Politics Short Course for the Department of Foreign Affairs and Trade; presenter, South Pacific Security, to the Australian Command and Staff College; lecturer, 'Theories of International Relations' and 'Contending Images of World Politics after September 11' to the Department of Foreign Affairs and Trade short course on World Politics; presenter, to the New Zealand Staff College on Australian and New Zealand relations with the South Pacific, Canberra.

HARRIS, Prof. S, member, Trilateral Commission; Council for Asia-Europe Cooperation; advisor, Japan Centre for International Exchange; lecturer, Australian Defence College.

KEAL, Dr P, contributed to short course conducted by the Department of International Relations for recent recruits to the Department of Foreign Affairs and Trade.

KERR, Dr P, examiner, strategic studies section of the Masters program at Australian Staff Command College.

MORTON, Dr K, consultant, AusAID, to provide expert input into the draft design document for the new China-Australia Governance Program.

REUS-SMIT, Dr C, member, Commonwealth Foreign Affairs Council; contributor, short course conducted by the Department of International Relations for recent recruits to the Department of Foreign Affairs and Trade.

### Department of Linguistics

BOWDEN, Dr J, member, selection panel advising DEST on award of Australia Europe Scholarships.

PAWLEY, Prof. A, referee, Marsden Fund (New Zealand Government), and Australian Research Council.

### Department of Political and Social Change

BARLOW, Dr C, member, Programme Advisory Committee, Malaysian Palm Oil Board; reviewer of the Board's research activities which employs 150 research workers.

CROUCH, Prof. H, appeared before the Joint Standing Committee on Foreign Affairs, Defence and Trade: Foreign Affairs Subcommittee (Parliament of Australia) enquiry on

'Building Australia's Relations with Indonesia'; provided lecture on 'Domestic Challenges in Indonesia', Centre for Defence and Strategic Studies (Department of Defence), Canberra.

FEALY, Dr G, presenter, to US Center of Naval Analysis, Alexandria, on 'Islamization and Radicalism in Southeast Asia'; presented lecture to US Foreign Service Institute, on Indonesian history and contemporary politics; speaker, US State Department Indonesia analysts; addressed US National Security Agency forum on political Islam in Southeast Asia; presented paper on Indonesian political developments to INR, State Department; participated in US government counter-terrorism conference at National Defense University; presentation on Indonesian terrorism to Attorney-General's Department.

MAY, Dr R, briefings and discussions on Papua New Guinea, Solomon Islands, Philippines; with DFAT and AusAID, visited Papua New Guinea delegations, World Bank, and various foreign embassies; co-author of commissioned paper for DFAT on Solomon Islands; presenter, Australian Defence College courses.

O'COLLINS, Emeritus Prof. M, presented oral and written submissions to the Commonwealth Parliament Joint Standing Committee on the National Capital and External Territories 'Inquiry into governance on Norfolk Island' later published on the committee's website; contributed to ongoing discussions with AusAID and other government and non-government agencies on Australian aid in the Pacific.

PEDERSEN, Mr M, short-term consultancies: the World Bank, updates on the 'Political and Economic Situation in Myanmar'; the United Nations Country Team/Myanmar, development of a 'Strategic Framework for the UN agencies in Myanmar'; the EU Commission, evaluation of 'EU Policy Options in Burma'.

SHAND, Dr R, consultant to the Department of Foreign Affairs and Trade on Tariff Barriers in the Indian Ocean Region; collaboration with the Department of Foreign Affairs and Trade on a study of Australia-India bilateral relations from 1944 to date.

### Division of Economics

ATHUKORALA, Prof. P, participated as a lead economist in World Bank Missions to Ethiopia, Vietnam and Sri Lanka; prepared two policy reports for the Asian Development Bank.

DUNGEY, Dr M, consultant economist, Commonwealth Treasury.

FANE, Prof. C G, provided a two-week training session on the economics of financial crises for senior and mid-level officials at the Central Bank of Sri Lanka (CBSL); presented a paper on Trade Liberalisation in Lao PDR to a workshop on WTO Accession for Lao and Cambodian senior officials in Phnom Penh, Cambodia, organised by the World Bank Institute; consultant for trade policy study for World Bank in Lao PDR; appointed team leader and coordinator for the 2004 Integrated Framework Study in preparation for the Lao PDR application to join the WTO. This major study is being conducted on behalf of the World Bank, IMF, UNCTAD, WTO, ITC and UNDP.

FRY, Dr R, consultant, Australia Post.

GARNAUT, Prof. R, chairman, Pacific Economic Outlook

Forecasting Group (Pacific Economic Cooperation Council), Immigration and Income Distribution Project, Department Project, Department of Immigration and Multicultural and Indigenous Affairs; board member, Lowy Institute for International Policy and Asialink; presented paper "Australian Security and Free Trade with America" to Senate Foreign Affairs Defence and Trade Committee, on United States Free Trade Agreement; Private Briefing with Senate Foreign Affairs, Defence and Trade Committee – Australia's relations with PNG and the Pacific; appeared at public hearing, Senate Foreign Affairs Defence and Trade on GAT and US–Australia Free Trade Agreement, Roundtable on Australia's engagement with the World Trade Organization, Joint Standing Committee on Foreign Affairs, Defence and Trade.

HILL, Prof. H, consultant to AusAID, including mission to Indonesia, to advise on desirability of extending funding for the SMERU Research Institute, Indonesia; consultant to the Asian Development Bank, advising on a research project, 'FDI and Globalization in Asia'; appeared before Joint Standing Committee on Foreign Affairs, Trade and Defence.

JHA, Prof. R, adviser, World Institute for Development Economics Research (WIDER); lecturer, Sri Lanka Central Bank; Fellow, World Innovation Foundation, 2002; member, Panel of Experts, Fiscal Affairs Division, International Monetary Fund; consultant: World Bank; United Nations Research Institute for Sustainable Development (UNRISD); Network Economics Consulting Group Ltd (NECG); United Nations Development Program (UNDP).

McKIBBIN, Prof. W, board member: Reserve Bank of Australia; Academic Advisory Board, Prime Minister's Taskforce into Housing Affordability; McKibbin Software Group; Economic Scenarios COM; consultant: Commerce Commission, New Zealand; Queensland Investment Corporation; Bank of Canada.

McLEOD, Dr R H, editor, Bulletin of Indonesian Economic Studies, published by the Indonesia Project, which is part funded by Australian Agency for International Development (AusAID).

### Division of Pacific and Asian History

BALLARD, Dr C, seminar, 'The Signature of Terror: violence, memory and landscape in eastern Indonesia, Australian Defence Force Academy, Canberra; advisor, Morobe Consolidated Goldfields Ltd.

McCORMACK, Prof. G, 'North Korea on the brink?', panel discussion sponsored by AsiaLink, Department of Foreign Affairs and Trade, Canberra; lecture 'The North Korean Enigma' Australian Institute of International Affairs, Melbourne; lectures, 'Terrorism and Japan', Attorney General's Department, Government of Australia, and HMAS Harman, (ASIO class).

WELLS, Prof. K, lecture 'Is the Sunshine Policy Continuing?', Netherlands Embassy, Seoul, Korea.

### Gender Relations Centre

JOLLY, Prof. M, advisor to Trevor Graham, independent filmmaker making film on representations of Pacific women.

### Pacific Manuscripts Bureau

MAIDMENT, Mr E, preservation microfilming of archives of the Pacific Islands Co. Ltd and the Pacific Phosphate Co. Ltd in collaboration with the National Archives of Australia; surveying archives of Greenpeace New Zealand and rare Pacific scientific serials at Mt Albert Research Library and Hort Research Ltd, both in Auckland.

### Resource Management in Asia Pacific Project

BOULAN-SMIT, Dr C, consultant, Placer Dome and Rio Tinto, mine closure training; BHP Billiton, community mapping program.

FILER, Dr C, consultant, PNG Department of Mining, preparation of sustainable development policy for PNG mining sector; briefing, new Australian High Commissioner to PNG; liaison with PNG Parliament's Gas and Energy Committee; member, WWF Scientific Advisory Committee; liaison with Greenpeace Australia, Greenpeace Pacific and Conservation International regarding PNG issues; meeting with representatives of CAEPR (ANU), Environment Australia, National Oceans Office and National Heritage Trust to discuss marine conservation issues in Torres Strait and Cape York; meeting with WWF and Environment Australia regarding Transfly Ecoregional Action Plan.

FOALE, Dr S, consultant, Lihir Management Company, research on traditional ecological knowledge and reporting the social and economic impact of mining on Lihir Island, Papua New Guinea.

HABERLE, Dr S, AQUA representative at the annual Science Meets Parliament meeting, Canberra.

PEREZ, Dr P, seminar presentation, Multi-Agent Based Simulations, CSIRO-CSS, Canberra.

WASSON, Dr M, participant, National Oceans Office and Department of Environment and Heritage northern regional planning meeting; regional coordinator, Arafura and Timor Seas Experts Forum; ongoing liaison with the Marine and Fisheries Ministry of Indonesia, the Department of the Environment and the Ministry of Agriculture, Fisheries and Forestry in Timor Leste, and the Office of Development, Northern Territory; consultant, UNDP.

### State, Society and Governance in Melanesia Project

RATUVA, Dr S, consultant, United Nations Development Program, on civic education; consultant, Asian Development Bank, on Risk Management and Social Protection; advisor, Ministry of Planning, Fiji, on development monitoring; speaker, Centre for Defence and Strategic Studies, Canberra.

DOUGLAS, Dr B, participated in an SSGM Project round table briefing of Michael Potts, incoming Australian High Commissioner to Papua New Guinea; participated in an SSGM Project briefing of Asita De Silva, World Bank's Operations Evaluation Department; assessor for AusAID, and worked with a local NGO in Fiji on the role of non-formal community justice initiatives.

DINNEN, Dr S, law and justice policy adviser in PNG, on an AusAID-funded Law and Justice Sector Program Design Mission; regular meetings with DFAT, Treasury, and AusAID officials on policy issues relating to Pacific Island states; co-author (with other SSGM colleagues) of a Report on Post-Stabilisation Policy Options for the Solomon Islands, commissioned by the Department of Foreign Affairs and Trade.

REGAN, Mr A, full time constitutional adviser to the Bougainville parties in the Bougainville peace process as part of an AusAID funded project; consultant to AusAID and Department of Foreign Affairs and Trade (DFAT) in both Port Moresby and Canberra on developments in Bougainville; participant, group of international experts, on conflict resolution and peace processes; advisor to the Tamil Tiger (LTTE) leadership on their preparations for negotiations with the Sri Lankan government; met with the Glen Cree Reconciliation Centre, Wicklow, Ireland; advisor, DFAT, Canberra; contributor to '*Solomon Islands – Post-Stabilisation Policy Options*' (Anthony Regan, David Hegarty, Ron May, Sinclair Dinnen, Hank Nelson and Ron Duncan,) – a paper prepared for the Pacific Islands Branch of DFAT by the State, Society and Governance in Melanesia Project, RSPAS.

TIMMER, Dr J, advisor to USAid, for Mission to Biak, Papua, to provide recommendations to a combined government, NGO, academic and business team working on legislation of the Special Autonomy for the province; team leader of Papuan experts who aim to provide technical assistance to the government of Papua on the implementation of the Special Autonomy for the province (for the European Commission's delegation to Indonesia); advisor, attempting to raise interest among Dutch donor organisations to financially support Papuaweb, a research, education and information collaboration between the ANU and two universities in Papua, Indonesia.

### Strategic and Defence Studies Centre

BABBAGE, Prof. R, facilitator, Defence Transformation Options Study.

BALL, Prof. D, co-chair, the Australian Committee of CSCAP.

BELL, Dr C, lecture to the Parliamentary Backbenchers in Parliament House, Canberra, on the Iraq Crisis.

DIBB, Prof. P, adviser, Secretary of Defence and other senior defence officers; member, Foreign Ministers Foreign Affairs Council; consultant, Business Council of Australia on their Scenario Project, which has developed a set of scenarios for Australia to 2025 that explore important challenges to business, society and governance; address, Australian Equities and Investment Conference and a number of Australian commercial and merchant banks and stockbroking firms on terrorism and geopolitical risk.

DUPONT, Dr A, inaugural presentation, at the Australian Security in the 21st Century Lecture Series, The Menzies Centre and ADI Ltd on 'Transformation or Stagnation? Rethinking Australian Defence'; briefing, to the Australian Labor Party Caucus on regional security trends and international terrorism, Parliament House; gave evidence, to the Defence Sub-Committee of the Joint Standing Committee on Foreign Affairs, Defence and Trade at a public hearing on Australia's Maritime Strategy;

provided a briefing, at a special sitting of the Government joint party room on the war in Iraq, Parliament House; gave evidence, to the Senate Committee on Foreign Affairs, Defence and Trade Inquiry into Australia's Foreign and Trade Policy Strategy, Parliament House; Foreign Policy Advisor, East Timor's Minister for Foreign Affairs and Cooperation, Jose Ramos Horta; Australian representative, on the ASEAN Regional Forum (ARF) Register of Experts and Eminent Persons; adviser, to the Premier of NSW, Mr Bob Carr, on homeland security; consultant, to the National Crime Authority; consultant, to the Departments of Defence and Foreign Affairs and Trade.

ENEMARK, Mr C, submission on Biological Weapons as Weapons of Mass Destruction to the Parliamentary Joint Committee on ASIO, ASIS and DSD Inquiry into Intelligence on Iraq's Weapons of Mass Destruction; presenter, The Biological Terrorist: Motivations and Capabilities, to a round table forum as part of the Menzies Research Centre series on Australian Security in the 21st Century.

HORNER, Prof. D, consultant, to the Australian Department of Defence.

HUISKEN, Dr R, lecture, to the Australian Defence College, Australian Defence Force Academy.

TAYLOR, Dr B, interaction with wider Australian defence community through involvement in the Defence Transformation Options Project.

WILLIAMS, Mr C, presentation, on 'The Nature of the Threat' to the Defence Industrial Support Course (DISC) in Adelaide; provided a workshop, for Secta on 'The Terrorism Threat to Australia', Sydney; presentation, to the United Services Institute (USI) of the ACT on 'The Evolving Threat'; presentation on 'The Threat to Aviation' to the Joint Committee for Public Audit and Accounts (JCPAA) hearing into aviation security, and open submission and evidence to the public hearing, all in Canberra; presentation on 'The Terrorism Threat' to the Australian Institute of International Affairs (AIIA), Canberra; talk to Rotary on 'Terrorism' on 18 September 2003; Presentation to the Opposition Party Security Forum concerning aspects of transportation security on; presentation to ACT Health forum on 'Health issues and Terrorism'; ran a course on 'Terrorism and Counterterrorism' in Adelaide (the course was a collaboration between SDSC and a private sector security provider); ran counterterrorism workshops for the Australian Federal Police; Gave presentations on aviation security to the Australian Protective Service.

## Research School of Physical Sciences and Engineering

### Applied Mathematics

ASTE, Dr T., founding member and member, board of 'ARIA-Canberra', the Association for the development of collaborative research between Italy and Australia; founding member, 'Marie Curie national group' for Australia; member, EU collaboration, COST P10 Physics of Risk network (Sept 2003 - Dec 2007).

Di MATTEO, Dr T., founding member and member, board of 'ARIA-Canberra', the Association for the development of collaborative research between Italy and Australia; member,

EU collaboration, COST P10 Physics of Risk network (Sept 2003 - Dec 2007).

NINHAM, Emeritus Prof. B.W., co-founder ANU Emeritus Faculty; Italian National chair of Chemistry, Universities of Florence and Cagliari; co-organiser, 17th International Conference of European Colloid and Interface Society.

SENDEN, Dr T.J., board member, The Rio Tinto Australian Sciences Olympiads; consultant, Vita Life Sciences assisting with FDA submission; member, program committee, biophysics representative, for the 2005 AIP Physics Congress.

### Atomic and Molecular Physics Laboratories

BUCKMAN, Prof. S., member, Editorial Board, New Journal of Physics; chair, ACT Chapter of the Fulbright Alumni Association; member, Scientific Committee, International Conference on Electron Molecule Scattering; member, International Scientific Committee, Symposium on the Physics of Ionized Gases (SPIG 21); member, Futures Committee, International Conference on Photonic, Electronic and Atomic Collisions; member, Will Allis Prize Committee of the American Physical Society.

CAVANAGH, Dr S.J., member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004.

CHADDERTON, Prof. L.T., founding editor, International Journal of Radiation Effects and Defects in Solids; member, Editorial Advisory Board, Nuclear Tracks and Radiation Measurement; member, Editorial Advisory Board, International Materials Science Forum; member, Steering Committee, Bilateral Science & Technology Agreement, Mexico and the Federal Government of Australia; member, United Nations Committee on Photovoltaic Applications in Less-Developed Countries, UN Centre for Science & Technology for Development; member, International Committee, Biennial Conference Series on Radiation Effects in Insulators; honorary life member, International Nuclear Track Society, and International Committee, Biennial Conference Series on Particle Tracks in Solids; member, International Committee, Biennial Conference Series on Quantum Electrodynamics and Statistical Physics; member, Advisory Committee, International Conference on Radiation Physics, Government of Mexico, Mexico DF; member, Advisory Committee, Instituto de Petrolleo Mexicana, Mexico DF.

CROMPTON, Prof. R.W., vice-president, Australian Fulbright Association, ACT Chapter Convenor; member, International Advisory Board, International Conferences on Atomic and Molecular Data and their Applications.

GIBSON, Dr S.T., council and web membership database administrator, Australian Optical Society; member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004.

KHEIFETS, Dr A.S., member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004; editor, Proceedings of the 14th International Conference on Vacuum Ultraviolet Physics.

KONO, Dr M., member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004.

LEWIS, Prof. B.R., chairman, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004; Associate Editor, Journal of Quantitative Spectroscopy and Radiative Transfer.

LOWER, Dr J., member, General Committee, International Conference on Photonic, Electronics, and Atomic Collisions (ICPEAC).

ROBSON, R.E., national secretary, Australian Association of von Humboldt Fellows.

VOS, M., member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004.

WEIGOLD, Prof. E., member, International Scientific Committee, International Conferences on X-Ray and Inner Shell Processes; member, International Scientific Advisory Committee, International Symposium on (e,2e) Double Photoionization and Related Topics, Frankfurt, Germany; member, International Organizing Committee, Sagamore (International Conference on Charge, Spin and Momentum Densities); member, Australian Academy of Science Committee, Major National Research Facilities; member, Finance Committee, Australian Academy of Science; member, International Scientific Committee, Electron and Photon Impact Ionization and Related Topics, Louvain-la-Neuve, Belgium, July 2004; member, International Advisory Committee, Spectroscopies in Novel Superconductors, Sitges, Spain, July 2004; chair, Innovation Access Program – International Science and Technology Competitive Grants Assessment Panel; chair, Australian Academy of Science 50th Anniversary Committee; member, Local Organizing Committee, 14th International Conference on Vacuum Ultraviolet Physics, Cairns, 2004.

### Electronic Materials Engineering

CHEN, Dr Y., program leader, ARC Centre of Excellence in Functional Nanomaterials; member, editorial board, International Journals of Indian Nanotechnology; regional editor, Journal of Asian Pacific Nanotechnology Forum; co-chair, nanomaterials program, 2003 Annual Conference of the Australian National Nanotechnology Network (Nano Oz 03).

ELLIMAN, Prof. R.G., president, Australian Institute of Physics; member, International Committee, International conference on Ion Beam Modification of Materials; member, International Committee, International conference on Ion Beam Analysis; member, International Committee, International conference on Atomic Collisions in Solids; member of the Editorial Advisory Board, Vacuum; member, ACT Branch Committee, Australian Institute of Physics; member, Program Review Committee, Accelerator Applications Program, Australian Nuclear Science and Technology Organisation; member, External Advisory Board, Microanalytical Research Centre, University of Melbourne; member of the Divisional Committee, Electronic Materials and Processing Division, International Union of Vacuum Science Techniques and Applications.

FLETCHER, Prof. N., represented Academy of Science, and Academy of Technological Sciences and Engineering, on the Board of FEAST (the Forum for Europe-Australia Science and Technology collaboration); member, selection committee for Australia-Europe senior travel awards; member, selection

committee for Australia-USA travel awards for young researchers; editor, Acoustics Australia; associate editor, Journal of the Acoustical Society of America.

JAGADISH, Prof. C., chair, IEEE Australian Chapter of Electron Devices and Lasers & Electro-Optics Societies; member, Publications Committee, IEEE Electron Devices Society, USA; member, Meetings Committee, IEEE Electron Devices Society, USA; chair, Optoelectronic Devices Technical Committee of the IEEE Electron Devices Society, USA; elected member, Administrative Committee, IEEE Electron Devices Society, USA; member, IEEE Compound Semiconductor Devices and Circuits Technical Committee of The Electron Devices Society; member, IEEE Nanotechnology Technical Committee of The Electron Devices Society; member, IEEE Lasers and Electro-Optics Society Quantum Electronics Award Selection Committee; member, Administrative Committee, IEEE Nanotechnology Council; chair, IEEE Nano-Optoelectronics and Nano-Photonics Technical Committee of The Nanotechnology Council; member, Dielectric Science & Technology Division Executive Committee, The Electrochemical Society, Inc.; member, Electronics Division Executive Committee, The Electrochemical Society, Inc.; associate editor, IEEE/OSA Journal of Lightwave Technology; associate editor, Journal of Nanoscience and Nanotechnology, American Scientific Publishers; member, Steering Committee, IEEE Journal of Lightwave Technology; member, Editorial Board, Journal of Materials Sciences, Materials for Electronics, Kluwer; member, International Editorial Advisory Board, Journal of Optical Society of Korea; chair, Technical Program Committee, 3rd IEEE Conference on Nanotechnology, San Francisco, August 2003; chair, Conference on Photonics: Design, Technology and Packaging, SPIE's International Symposium on Microelectronics, MEMS, and Nanotechnology, Perth, December 2003; member, Program Subcommittee on Active and Compound Semiconductor Devices, OSA Integrated Photonics Research Conference (IPRC 2003), Washington, USA, July 2003; member, IEEE Lasers and Electro-Optics Society Annual Meeting, Optoelectronic Materials and Processing Program Committee, Tucson, USA, October 2003; member, International Advisory Committee, IEEE Electron Devices and Solid State Circuits Conferences, Hong Kong, December 2003; member, Steering Committee, The IEEE 24th International Conference on Microelectronics, Nis, Yugoslavia, May 2004; member, Scientific Advisory Committee, 2004 Conference on Optoelectronic and Microelectronic Materials and Devices, Brisbane, Australia, December 2004; member, Program Committee, 13th International Semiconducting and Insulating Materials Conference, September 2004, Beijing, China; member, International Advisory Committee, Photonics 2004, 7th International Conference On Optoelectronics, Fibre Optics and Photonics, Cochin, India, December 2004; member, International Advisory Committee, COBRA, Inter University Research Institute for Communications Technology, Eindhoven University of Technology, The Netherlands, member, International Advisory Board, The MacDiarmid Institute for Advanced Materials and Nanotechnology, Centre of Research Excellence, Victoria University of Wellington and University of Canterbury, New Zealand; member, Expert Steering Committee, Nanotechnology Benchmarking Project, Australian Academy of Science; professional advisor, LEDEX Corporation; director,

Acton Semiconductors Pty Ltd; reader, Australian Research Council.

PETRAVIC, Dr M., member, Local Organising Committee, First Australian Synchrotron Summer School.

RIDGWAY, Dr M.C., member, Organising Committee/Program Committee, 14th International Conference on Vacuum Ultraviolet Radiation Physics, Australia 2004; member, Organising Committee/Program Committee, 1st Australian Synchrotron Users Workshop, Australia 2003; member, International Committee, Radiation Effects in Insulators International Conference Series; chair, Photon Factory Specialist Committee, Australian Synchrotron Research Program; member, Executive Committee, Australian Synchrotron Research Program; chair, EXAFS Beamline Development Committee, Australian Synchrotron Project; member, National Scientific Advisory Committee, Australian Synchrotron Project; co-Chair, 1st Australian Synchrotron Summer School, Canberra, Australia 2004.

WILLIAMS, Prof. J.S., president, Australian Materials Research Society; member, Board Australian Materials Research Institute; member, Board CRC for Functional Communication Services; member, Board National Youth Science Forum Council; member, Board Australian Photonics CRC; member, Adhering Body Commission, International Union of Materials Research Society; member, Board Australian Materials Technology Network; member, Board Australian Maths Science Institute; member, 2004 Pawsey Medal Selection Committee, Australian Academy of Science; member, 2004 Selby Fellowship Selection Committee, Australian Academy of Science; professional advisor, LEDEX Corp, Taiwan; director, Acton Semiconductors Pty Ltd.

WEIJERS, Dr T.D.M., tutor, School of Physical, Environmental and Mathematical Sciences (formerly School of Physics), Australian Defence Force Academy.

### Laser Physics Centre

BALDWIN, Dr K.G.H., member, Australian Research Council Expert Advisory Committee: Mathematics, Information and Communication Sciences; chair, International Council on Quantum Electronics; chair, Australian Institute of Physics Congress, Canberra, 2005; member, General Organising Committee, International Conference on Laser Spectroscopy 2003; treasurer, Vacuum Ultraviolet Conference XIV, Cairns, 2004; member, Liaison Committee, Australian Conference on Optics, Lasers and Spectroscopy; member, National Committee for Spectroscopy, Australian Academy of Science; member, National Committee for Physics, Australian Academy of Science; chair, Science Policy Committee, Federation of Australian Scientific and Technological Societies; member, Australasian Council on Quantum Electronics.

KROLIKOWSKI, Dr W., referee, Physical Review Letters and Physical Review A & E; referee, Journal of the Optical Society of America B; referee, Optics Letters, Optics Express & Optics Communications; referee, Acta Physica Polonica A.

LUTHER-DAVIES, Prof. B., research director, Australian Photonics CRC - Canberra Node to October 2003; director, Board of Australian Photonics Pty Ltd.



## Nuclear Physics

BARROWS, Dr T.T., member, Committee Australasian Quaternary Association; member, Committee National Institute for the Environment; regional coordinator, MARGO Project (Multiproxy Approach for the Reconstruction of the Glacial Ocean Surface).

BYRNE, Prof. A.P., member, Committee ACT Branch of the Australian Institute of Physics; member, Organising and Program committees 16th Biennial Congress of the Australian Institute of Physics, Canberra Jan 30-Feb 4 2005; member, Committee (Sec/Treasurer) Nuclear and Particle Physics Group (NUPP), Australian Institute of Physics; referee, The Engineering and Physical Sciences Research Council (EPSRC), UK proposals.

DASGUPTA, Dr M., member, Committee, Nuclear and Particle Physics Group, Australian Institute of Physics; member, International Advisory Committee, Nuclear Structure, Astrophysics and Reactions International Conference, Surrey, UK, January 2005.

DRACOU LIS, Prof. G.D., member, Committee, Nuclear and Particle Physics Group, Australian Institute of Physics; member, North America Committee, Australian Academy of Science, International Program of Scientific visits; member, Program Advisory Committee of the 88-inch Cyclotron (including Gammaphase), Lawrence Berkeley National Laboratory; member, Australian Academy of Science, Reactor Working Group; member, 19th AINSE Nuclear and Particle Physics Program Committee, (in association with the AIP Congress), Sydney; member, International Advisory Committee, Conference on Nuclear Structure, Crete, July 2003; member, International Advisory Committee, Conference on Radioactive nuclear Beams RNB6, Argonne National Laboratory, USA, September 2003; member, International Advisory Committee, 8th International Spring Seminar on Nuclear Physics, Paestrum, Italy, May 2004; ANU representative, Engineering and Physical Sciences Research Council (UK), ANU-EPSRC Agreement: beam time allocation; referee, Engineering and Physical Sciences Research Council (UK), Senior Research Fellowship Scheme; expert referee, Engineering and Physical Sciences Research Council (UK), Research Grants; Nuclear Physics Programme; evaluator, Foundation for Research Development (South Africa) - Evaluation of Research Outputs of Principal Grant Holders; reader, Physical and Earth Sciences, Australian Research Council.

FIFIELD, Dr L.K., member, Scientific Advisory Committee, 17th International Radiocarbon Conference, Wellington, New Zealand, September 2003; major grant proposal referee, United States NSF major facilities proposal 2003; ANU nominee, ACT Radiation Council; international member, AMS Strategy Group of the UK National Environment Research Council (NERC); major grant proposal referee, NERC (UK).

HINDE, Dr D.J., member, International Advisory Committee, 8th International Conference on Nucleus-Nucleus Collisions, Moscow, 2003; member, International Advisory Committee, FUSION03 International Conference, Japan, November 2003; reader, Physical, Chemical and Earth Sciences, Australian Research Council.

STUCHBERY, Dr A.E., chair, Nuclear and Particle Physics Group

(NUPP), Australian Institute of Physics; reader, Physical, Chemical and Earth Sciences, Australian Research Council.

WILSON, Dr A.N., member, Meetings Secretary, ACT Branch of Australian Institute of Physics; coordinator, Australian Institute of Physics Women in Physics Lecture (Canberra); member, Organising Committee, Australian Institute of Physics Congress 2005.

## Plasma Research Laboratory

BLACKWELL, Dr B.D., service to Stellarator Physics Advisory Committee, Princeton Plasma Physics Laboratory, Princeton, USA.

BORG, Dr G.G., editor, Czech Journal of Physics.

BOSWELL, Prof. R.W., member, Asia Pacific Conference on Plasma Science and Technology; member, Forum for Europe and Australian Science and Technology; member, Foreign Relations Committee, ATSE.

HARRIS, Prof. J.H., member, Stellarator Physics Advisory Committee, Princeton Plasma Physics Laboratory, Princeton, USA; member, Plasma Specialist Committee, AINSE; member, Executive Committee, International Energy Agency Implementing Agreement for Research on Stellarators.

HOWARD, Dr J., member, Editorial Board, Plasma Physics and Controlled Fusion; member, 11th International Congress on Plasma Physics Program Committee; treasurer, Australian Institute of Physics Congress, 2005.

SHATS, Dr M.G., member, 11th International Congress on Plasma Physics Program Committee.

## Theory Cluster

### Applied Photonics Group

LOVE, Prof. J.D., advisory member for Far East & Australia, European Conference on Optical Communications, Italy, September 2003; member, International Advisory Committee, OptoElectronics & Communications Conference (OECC); convenor, Singapore-Australia Photonics School, Singapore, September 2003; convenor, China-Australia Photonics School, Wuhan, September 2004; convenor, 2nd Korea-Australia Photonics School, Busan, October 2004; convenor, 13th International Workshop on Optical Waveguide Theory & Numerical Modelling, Kiama, July 2004; convenor, Physics in Industry Workshop, ANU, January 2005; co-convenor, Education & Training Workshop, CRC Association Conference, Canberra, May 2003; co-chair, Australian Conference on Optical Fibre Technology/Bragg Grating, Poling & Photosensitivity Conference (ACOFT/BGPP), Sydney, July 2005; director, ACT Siemens Science & Engineering Experience; director, Education & Training, Australian Photonics CRC; director, Photonics Institute Pty Ltd, Sydney; director, Australian Optical Society; general chair, International Congress on Optics, Australian Conference on Optical Fibre Technology, Australian Conference on Optics, Lasers & Spectroscopy (ICO/ACOFT/ACOLS), Sydney, July 2008; group head, Australian Photonics CRC, ANU; honorary ambassador for Canberra; international advisor, Network Technology Research Centre, Nanyang Technological University, Singapore; member, ACT Government, Knowledge Based Economy Board; member, ACT Government, Knowledge

Fund Panel; member, Korea-Australia Photonics Association Committee; member, Organising Committee, Australian Conference on Optical Fibre Technology (ACOFT)/Conference on the Optical Internet (COIN), Melbourne, July 2003; member, Organising Committee, Australian Institute of Physics Congress, Canberra, 2005; member, Steering Committee, Australian Conference on Optical Fibre Technology (ACOFT); member, Technical Subcommittee, 5th Pacific Rim Conference on Lasers & Electro-Optics, Taipei, July 2003; member, Advisory Committee, International Symposium on Advances & Trends in Fibre Optics & Applications, Chongqing, China, October 2004; member, Organising Committee, Australian Conference on Optical Fibre Technology/Australian Optical Society Conference (ACOFT/AOS), ANU, July 2004; postgraduate research student supervisor, La Trobe University; postgraduate research student supervisor: University of Melbourne; postgraduate research student supervisor: University of Sydney; program manager, Photonic Integrated Circuits, Australian Photonics CRC; reader, Australian Research Council; referee, Engineering & Physical Sciences Research Council, UK; referee, Research Grants Council, Hong Kong; referee, Agency for Science, Technology And Research, Singapore; referee, Journal of Lightwave Technology; referee, Optics Letters; referee, Optical & Quantum Electronics; referee, Journal of Physics.; senior vice-president education, Photonics Institute, Bruce, ACT.

STEVENSON, Dr A., general manager and advisory committee chair, Photonics Institute, Bruce, ACT; member, Program Reference Group, and consultant on new course development, Faculty of Science and Technology, Canberra Institute of Technology; co-convenor, CRC Education & Training Managers Meeting, CRCA Conference, Canberra, May 2003; speaker & laboratory presenter, ACT Siemens Science & Engineering Experience, September 2003; speaker and industry partner, National Youth Science Forum, University of Canberra, January 2003; member, ACT Branch Committee, Australian Institute of Physics.

### Nonlinear Physics Group

KIVSHAR, Prof. Y.S., referee, Physics Letters A; referee, Physics D; referee, Optics Letters; referee, Optics Communications; referee, National Science Foundation, USA; referee, Research Foundation of Singapore; reader and referee, Australian Research Council.

NESHEV, Dr D., referee, Optics Letters.

OSTROVSKAYA, Dr E.; referee, Physical Review Letters; referee, Physical Review A.

### Optical Sciences Centre

AKHMEDIEV, Prof. N., member, Scientific Program Committee, 3rd IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Georgia, USA, April 2003; member, sub-committee, Nonlinear Guided Waves and Their Applications Conference, Toronto, Canada, March 2003.

### Theoretical Physics

BALL, Dr R., minutes secretary, ACT Branch of the Australian Institute of Physics; liaison officer, Forum for European-Australian Science and Technology Cooperations (FEAST-France); member, WISENET; member, ANZIAM.

BATCHELOR, Prof. M.T., member, Advisory Board, Journal Physics A; student supervisor, CSIRO Student Research Scheme; referee, Grant Application, NSF, USA; member, AIP Congress 2005 Program Committee.

DAS, Dr M P., member, Editorial Advisory Board, Journal of Physics: Condensed Matter, UK; member, Editorial Board, International Journal of Condensed Matter and Materials Communications; co-convenor, Annual Gordon-Godfrey Research Workshops on Condensed Matter Physics; member, International Advisory Committee, International Workshops on Condensed Matter Theories; member, International Advisory Committee, International Conference on Phonons in Condensed Materials, Bhopal, India, January 2003.

DEWAR, Prof. R.L., member, Commission 16, International Union of Pure and Applied Physics; member, National Committee for Physics; chair, ACT Branch Committee, Australian Institute of Physics; member, International Advisory Committee, International Congress on Plasma Physics, Nice, France, October 2004; member, Program Committee, International Toki Conference, Toki, Japan, December 2003; alternate, Executive Committee, IEA Implementing Agreement on the Development of the Stellarator Concept; member, Board of CSIRO Complex Systems Science Centre; member, AIP Congress 2005 Organising Committee.

GULACSI, Dr M., associate editor, Philosophical Magazine, UK; deputy director general, International Biographical Center, UK.

KUYUCAK, Dr S.; lecturer, Honours Course, Electrodynamics, School of Physics, Sydney University.

KUMAR, Dr K., member, Editorial Board, Transport Theory and Statistical Mechanics.

ROBSON, Dr B.A., member, Australian-French Association for Science and Technology (ACT) Incorporated.

## Research School of Social Sciences

### Demography and Sociology Program

BOOTH, Dr H., council member, Australian Population Association; member, Australasian Mortality Data Interest Group; editor, *Journal of Population Research*.

CALDWELL, Prof J., fellow, Academy of the Social Sciences in Australia; patron, Australian Population Association; honorary president, International Union for the Scientific Study of Population; member, Population Association of America, African Population Association, Indian Association for the Study of Population; member, editorial board, *Population and Development Review*; *Social Science and Medicine*; *Pakistan Development Review*; *Journal of Comparative Family Studies*; *Studies in Family Planning*; *Sociological Perspectives*; *Journal of Population Research*; *African Journal of Reproductive Health*; *Bulletin of the World Health Organization*; *Global Bioethics*.

HULL, Prof T.H., member, board of trustees, ICDDR: Centre for Health and Population Research, Dhaka, Bangladesh; member of council, Sexual Health and Family Planning, ACT; board member, Australian Reproductive health Alliance; consultant, AusAID

activities in Indonesia.; assessor for Health Research Fellowship for VicHealth; member of the international steering committee which organised the Asia Pacific Sexual and Reproductive Health Conference, 9-10 October, Bangkok, Thailand; reviewer, book publication proposal, *Cambridge University Press*.

JONES, Prof G.W., chair, Council of CICRED (Committee for International Cooperation in National Research in Demography); member, ILO advisory committee of SIMPOC (Statistical Information and Monitoring Programme on Child Labour), Academy of the Social Sciences in Australia Executive Committee; honorary treasurer, Academy of the Social Sciences in Australia; associate editor, *Journal of Population Research*; member, editorial board, *Pakistan Development Review*; *Journal of Labour and Management in Development*; member, international advisory board, *Bulletin of Indonesian Economic Studies*.

KHOO, Dr S.-E., member, Australian Institute of Health and Welfare Ethics Committee, Australian Bureau of Statistics 2006 Census Ancestry Consultative Committee; associate editor and book review editor, *Journal of Population Research*.

KINFU-ASHAGREA, Dr Y., member, Technical Advisory Group on Indigenous Mortality Trends.

MCDONALD, Prof P., chair of Committee on Scientific Activities and Council Member of the International Union for the Scientific Study of Population; organiser, Conference Program, International Population Conference, Tours France, 2005; chair of Panel A and workshop speaker, Academy of the Social Sciences in Australia; member, External Review Group, Household, Income and Labour Dynamics Australia (HILDA) Survey; Advisory Committee for the Australian Longitudinal Study of Health and Relationships (ALSHR); review of publication, Australian Institute of Family Studies; committee for 2004 Conference of the Australian Population Association; lectures to the University of the Third Age; United Nations Association of Australia; the Centre for Defence and Strategic Studies, Deakin University and Australian Defence College; supervisor, Australian National Interns Program; advice to the Department of Prime Minister and Cabinet, Work and Family Task Force; meeting of the Australian Collaboration; media spokesperson for various publications of the Australian Bureau of Statistics; Chief Minister's Roundtable Summit, ACT Government; various forms of assistance to the Department of Family and Community Services and the Department of Immigration and Multicultural and Indigenous Affairs; contract work for the NSW Department of Housing; talk to the Australian Family Association; consultations with Backbench Committee on Family Policy, Liberal Party of Australia; with selected Shadow Ministers, Australian Labor Party; review of research proposal for the Wellcome Trust, London; advice on family policy and family surveys to the Government of Singapore; keynote address to the Country Children's Services Association of NSW; speaker, National Symposium on Ageing Research, Department of Health and Ageing; Future of Work Conference of the Australian Council of Trade Unions; conference of the Property Council of Australia; workshop of Manning Clark House; conference of the National Statistics Office, Republic of Korea; discussions with ACCOR Family Services; roundtable and other support to the Productivity Commission reference on first home buyers; keynote address to the Australian Local

Government Association conference; member, editorial board, *Demographic Research*; *Applied Population and Policy*; and *People and Place*.

McMURRAY, Dr C., committee member, International Small Island Studies Association; consultant, NZ FPAID (New Zealand Family Planning Association International Development) on population assistance to the Pacific and men as partners in family planning; SPC ARH (Secretariat of the Pacific Community, Adolescent Reproductive Health Project) on teenage pregnancy in Tonga; UNFPA, Suva on Population and Development assistance to the Pacific.

LUCAS, Dr D., public officer, Welsh Society of Canberra; delivered the St David's Day address to the Sydney Welsh Society/Y Gymdeithas Gymreig Sydney.

WAJCMAN, Prof J., member, editorial board, *British Journal of Sociology*; *Sociology*; *Journal of the British Sociological Association*; *Current Sociology*; *Journal of the International Sociological Association*; *Gender, Work and Organization*; *Science, Technology and Human Values*; *Journal for the Society for Social Studies of Science*; *Science as Culture*; *Gender, Technology and Development*; and *Feminist Theory*.

ZHAO, Dr Z., member, editorial board, *Encyclopedia of Population*, (2003) edited by P. Demeny and G. McNicoll.

ZHU, Dr Y., council member, China Population Association; Vice-President, Population Association of Fujian Province, China.

## Economics Program

BOOTH, Prof A., member, nomination committee, European Association of Labour Economists; editor-in-chief, *Labour Economics*.

BREUNIG, Dr R., consultant, Department of Family and Community Services; book review editor, *Economic Record*; referee, *Econometrica*, *Journal of Population Economics*, *Econometric Reviews*, *Empirical Economics*, *Economic Record*, *Australian Economic Review*, *Review of International Economics*, Social Science and Humanities Research Council (Canada), reader, Australian Research Council.

CHAPMAN, Prof B., consultancies and presentations, World Bank; Government of Colombia; ; consultancy and keynote address, Government of Thailand; invited presentation, The Leverhulme Institute; The Melbourne Institute; Academy of Social Sciences in Australia; Australian Association of Student Assistance; Curtin University of Technology; invited address and video interview, Batten Institute, Darden Graduate School of Business Administration, University of Virginia; chair, HILDA Reference Committee; member, Labour Statistics Advisory Committee, Australian Bureau of Statistics; vice-president, Australian Society of Labour Economists; treasurer, Academy of the Social Sciences in Australia; invited expert witness, Education Committee Inquiry into Australian Higher Education Financing, Australian Senate; provision of advice, University of Sydney Senate; University of Western Australia Senate; invited address, Australia Centre/Hochschulrektoren; address and analysis, National Farmer's Federation; examiner, PhD thesis, Macquarie University; associate editor, *Education Economics*; member, editorial board, *The Economics of Education Review*; *The Australian Journal of Labour Economics*; referee, *The*

*Australian Journal of Labour Economics; The Economic Record; Education Economics; Economics of Education Review.*

COBB-CLARK, Dr D., member, reference committee, Household Income and Labour Dynamics in Australia (HILDA) panel survey, University of Melbourne; research fellow, IZA (Institute for the Study of Labor, Bonn); editor, *Journal of Population Economics*; member, editorial Board, *Australian Journal of Labour Economics*, *Journal of Population Economics*; referee, *International Migration Review*, *The Economic Record*, *The Journal of Labor Economics*, *Journal of Policy Modeling*, *Social Science Quarterly*.

GONG, Dr X., referee, *Labour Economics*.

GÖRGENS, Dr T., referee, *Econometric Theory*, *Econometrica*, *Journal of Econometrics*.

GREGORY, Prof R.G., member, Social, Behavioural and Economic Sciences Expert Advisory Committee, Australian Research Council; Prime Ministers Science, Engineering an Innovation Council Working Group, Promoting Healthy Ageing in Australia; consultant, Department of Family and Community Services; member, editorial board, *Australian Journal of Labour Economics*; member, editorial committee, *Economic and Labour Relations Review*; member, Economic Statistics User Group, Australian Bureau of Statistics; seminar, University of Melbourne; Australian Defence Force Academy; keynote speaker, International Microsimulation Conference on Population Ageing and Health: 'Modeling our Future: Our Failure to Create Sufficient Full time jobs'. Pursuing Opportunity and Prosperity Conference, Institute of Applied Economic and Social Research, University of Melbourne; 'The Growth of the Australian Welfare State', IXth Commonwealth Study Conference; 'Work and Welfare in the Northern Economy', The Charles Darwin Symposium Series, North Australia in the 21st Century; 'Work and Welfare, the Unresolved Conflict', The Future of Work Conference, Australian Council of Trade Unions; Chief Ministers Round Table, Draft Social Priorities for the ACT; 'Where are we now? Debt, Risk and Role of Government: The Bond Market in a Wider Context', Canberra; keynote speaker at various Dept of Family and Community Services conferences; member, editorial board, *Australian Journal of Labour Economics*; associate editor, *Labour Economics*; member, editorial committee, *Economic and Labour Relations Review*.

KEATING, Dr M., advice to the Western Australian Government regarding approval of the Gordon project; seminar, Victorian Treasury on The Labour Market and State Government policies to improve equality and social inclusion; Melbourne Institute, 'Earnings and inequality: Some Policy Implications'; Fabian Society, 'Current Issues and Opportunities in Tax Policy in Australia'; The Centre for Corporate Public Affairs, Melbourne, 'How is Policy Made?'; Department of Employment and Workplace Relations, 'The labour market and inequality'; editorial board, *Australian Journal of Public Administration*; referee, *Australian Journal of Public Administration*; *Australian Economic Review*; book reviewer, *Agenda*.

PAGAN, Prof A.R., member, Nominating Committee for Fellows, Econometric Society; Committee for Award of the Aigner Prize by Journal of Econometrics; inquiry into Modelling and Forecasting at the Bank of England; assistance in Model Development to the Bank of Norway; keynote addresses, Eighth

African Econometrics Meeting at University of Stellenbosch, South Africa; ERC Seventh International Conference in Economics at the Middle East Technical University (METU) in Ankara, Turkey; invited speaker, Econometric Society Meeting, Australasian Chapter, Sydney; associate editor, *Econometrica*; editorial board, *Journal of Applied Econometrics*; *Economic Record*; *Australian Economic Review*; *Macroeconomic Dynamics*; *Journal of Financial Econometrics*; associate editor, *Econometric Reviews*; co-editor, *Advanced Texts in Econometrics*, (Oxford University Press).

RYAN, Dr C., consultant, Commonwealth Department of Education, Science and Training; Commonwealth Department of Health and Ageing, and to the Australian Vice-Chancellors' Committee; other services, Victorian Department of Premier and Cabinet and to the Longitudinal Surveys of Australian Youth Steering Committee; referee, *Labour Economics*.

SMITH, Dr J., invited participant, ACT Inquiry into Revenue Raising, ACT Public Accounts Committee, April; policy advisor, Australian Council of Social Services; members, National Board of Directors, Australian Breastfeeding Association; project manager, Healthpact/Australian Breastfeeding Association; referee, *Australian Economic Review*.

SNOOKS, Prof G.D., editorial board, *Social Evolution and History*; general editor, *Macmillan Economic History of Southeast Asia*; book reviewer for *Journal of World History*, and *EH.Net*.

THAPA, Dr P., referee, *Economic Record* (Australia).

## History Program

BRISCOE, Dr G., consultant, South Sydney Council; adviser on Aboriginal health, Fred Hollows Foundation; member, Human Rights Education Project, Lyneham High School.

DAWSON, Ms B., president, St John's Schoolhouse Museum Board of Management.

DOUST, Ms J., post-graduate student representative, executive committee, Australian Historical Association.

GRIFFITHS, Dr. T, member, Board of the Australian Science and Technology Heritage Centre; member, scientific advisory board, Earthwatch Australia; consultant to ABC Television, development of a series of History programs; commissioned by DEST to give a presentation, oral and written submissions to the National Museum Review.

HIGMAN, Prof B., president, Australian Association for Caribbean Studies; member, editorial board, *New West Indian guide* (Leiden, The Netherlands); *Journal of Caribbean History* (Barbados); *Studies in the World History of Slavery, Abolition and Emancipation* (Northeastern University, USA); University of the West Indies Press (Jamaica).

MacFARLANE, Ms I., consultant, NSW National Parks and Wildlife Service Management Plans (Old Great North Road and Maynggu Ganai Historical site); managing editor, *Aboriginal History*.

McGRATH, Prof A., council member, Canberra & District Historical Society; member, editorial board, *Public History Review*; *Royal Historical Society of Queensland Journal*; member, Human Rights Education Project, Lyneham High School; Manning Clark House forum 'Writing Women into History'.

PETERS-LITTLE, Ms F., member, editorial board, *Aboriginal History*.

ROWSE, Dr T., Guest Speaker, Lyneham High School.

SMITH, Em Prof F.B., member, editorial board, *Health and History*.

STEVEN, Dr M.J.E., consultant, Museum of Sydney; permanent display installation; Exhibition, India, China, Australia: Trade and Society 1788-1850.

### Law Program (incl. Regulatory Institutions Network)

BRAITHWAITE, Prof J.B., Reputex committee member (Social Responsibility Ratings for the top 100 Australian companies); advisory committee, Centre for the Analysis of Risk and Regulation, London School of Economics; Institute of Criminology, University of Sydney; member, Board of Trustees, Law and Society Association; council member, American Society of Criminology; director, Foundation for Effective Markets and Governance; honorary consultant fellow, World Innovation Foundation; Australian Law Reform Commission; scientific advisory board, Drug Use Monitoring in Australia; member, NGO Alliance, Working Party on Restorative Justice; ACT Sentencing Committee; ACT Subcommittee on Restorative Justice; member, advisory panel, Equal Opportunity Commission, Victoria; member, International Advisory Board, *Oxford Socio-Legal Studies*; *British Journal of Criminology*; member, International Editorial Board, *Policy Studies*; *British Journal of Criminology*; member, Editorial Board, *Law and Society Review*; *International Journal of the Sociology of Law*; *Journal of Financial Regulation and Compliance*; *Crime and Society Series*, Westview Press; *Globalization and Law Series*, Dartmouth/Ashgate; *Australasian Studies in Criminology*; *Australian and New Zealand Journal of Criminology*; *Caribbean Journal of Criminology and Social Psychology*; *Online Journal of Justice Studies*; member, Editorial Advisory Board, *Law and Policy*; *Criminal Justice: Law and Social Inquiry*; *International Journal of Criminology*; member, Editorial Advisory Panel, *Theoretical Criminology*; *Australian Journal of Corporate Law*.

CANE, Prof P., secretary and treasurer, Australian Society of Legal Philosophy; consultant, Australian Medical Association (medical indemnity issues); associate editor, *Torts Law Journal*; *Australian Journal of Legal Philosophy*; guest editor, *Australian Bar Review*, December 2003; member, Editorial Committee *Journal of Obligations and Remedies*; *Law Probability and Risk*; *Common Law World Review*, *Commonwealth Law & Legal Education*; *Law and Philosophy*.

COURVILLE, Dr S., advisor, International Federation of Organic Agriculture Movements (IFOAM) on Code of Conduct for Organic TRADE; vice-president, management committee, Australian Environmental Labelling Association (AELA); chairperson, Australian Fair Trade Association of Australia and New Zealand (FTAANZ).

DRAHOS, Prof P., member, Médecins sans Frontières Neglected Diseases Group; advisor, World Health Organization; director, Foundation for Effective Markets and Governance; consultant to the Commonwealth Secretariat, London; member, Editorial

Board, *Prometheus*; series editor, *Globalization and Law Series*.

GRABOSKY, Prof P., deputy secretary general, International Society of Criminology; member, The Campbell Collaboration, Crime and Justice Steering Group; National Advisory Body on Gambling (Australia); member, international advisory board, Centre for Criminology, University of Hong Kong; Australian Capital Territory Crime Prevention Committee; member, Advisory Committee on Workplace Privacy and Surveillance Victoria Law Reform Commission; fellow, Australian Institute of Criminology; consulting editor, *Journal of Contemporary Criminal Justice*; member, editorial board, *Criminal Justice: The International Journal of Policy and Practice*; International Gambling Studies.

JOHNSTONE, Prof R., member, advisory committee, Review of the Workplace Health and Safety Act Queensland; member, National Occupational Health and Safety Commission Research Advisory panel; National Occupational Health and Safety Commission Library Advisory Committee; member, Editorial Board, *Policy and Practice in Health and Safety* (UK journal); editorial committee, *Australian Journal of Labour Law*; *Griffith Law Review*.

McMILLEN, Prof J., editor, *International Gambling Studies*.

MAHER, Ms I., director, Foundation for Effective Markets and Governance.

MARKS, Dr M., ongoing research and advisory role with the Police and Prisons Civil Rights Union, South Africa; research associate, Industrial, Organisational and Labour Studies, University of Natal (South Africa); editorial Board, *Policing and Society*; *Loyola Journal of Social Sciences*.

MARSHALL, Dr D., book editor, *International Gambling Studies*.

SCOTT, Mr C., consultant, Auditor General of Victoria on cold reviews of performance audit reports; associate editor, *Journal of Law and Society*; member, Editorial Committee, *Telecommunications Policy*; *Modern Law Review*; member, Advisory Board, *Utilities Law Review*.

SHEARING, Prof C., professor extraordinary, University of the Western Cape; advisory Board, Socio-Legal Research Centre, Law School, Griffith University; associate member, Institute of Criminology and Criminal Justice, Queen's University, Belfast; research associate, International Centre for Comparative Criminology, University of Montreal; visiting professor, Department of Criminology, Keele University; co-director, Security 21: An International Centre for Security and Justice, ANU; professor emeritus, Department of Political Science, University of Toronto; senior fellow, Munk Centre for International Studies at Trinity College, University of Toronto; director, Community Peace Programme, School of Government, University of the Western Cape; member, Editorial Board, *Criminal Justice*; *Journal of Regulatory Law and Practice*; *Natal University Law and Society Review*; *Policing and Society*; member, Board of Contributing Editors, *Policing in Democratic Societies* (Electronic Newsletter); member, International Advisory Board, *The British Journal of Criminology*; reviewer, *Police Studies*; *Economy and Society*; *Law & Policy*; *Journal of Contemporary Ethnography*; *Criminology*; *Canadian Journal of*

*Criminology; American Bar Foundation Research Journal/Law and Social Inquiry; Law and Society Review; Social Problems; Canadian Journal of Sociology.*

STAPLETON, Prof J., academic associate, Fountain Court Chambers, The Temple, London; adviser, American Law Institute, Restatement of the Law (Torts): General Principles; consultant, Merrill Lynch (UK and USA); statutory visiting professor in law, University of Oxford; member, Editorial Board, *Torts Law Journal; Commonwealth Law & Legal Education; University of Queensland Law Review*; external reviewer, *Modern Law Review; Law Quarterly Review; Torts Law Journal.*

STONE, Dr A., member, Management Committee, Women's Legal Centre ACT and Region; editor, *Federal Law Review.*

WATCHIRS, Dr H., consultant, GRM International Pty Ltd under an AusAID funded project in Indonesian on HIV/AIDS Prevention and Care; co-editor, Special Issue on Audit of the *Law and Policy Journal*; Special Issue of the *International Journal of Law and Psychiatry.*

ZINES, Prof L.R., member, Advisory Board of the British Institute of International and Comparative Law and the Board's Commonwealth Law Section; adviser, Australian Archives on matters of constitutional law and constitutional history; member, Advisory Board, *Public Law Review*; reviewer, *Sydney Law Review; Federal Law Review.*

## Philosophy Program

BENNETT, Dr K., referee, *Philosophical Studies; Nous; Pacific Philosophical Quarterly; Philosophy and Phenomenological Research; Australasian Journal of Philosophy; Princeton University Press.*

GODFREY-SMITH, Prof P., associate editor, *Biology and Philosophy*; referee, *Philosophy of Science, Mind and Language.*

JACKSON, Prof F., distinguished research fellow to the research project 'Naturalised Mind - Cognisant Nature', Department of Philosophy, University of Aarhus, Denmark; honorary professorial fellow, Department of Philosophy, University of Melbourne; international advisor, AHRB Research Project on The Metaphysics and Epistemology of Modality, University of St Andrews; international advisor, *Mind*; member, editorial board, *Dialectica; Philosophy and Phenomenological Research; Philosophical Studies.*

JOYCE, Dr R., referee, *Analysis; Australasian Journal of Philosophy; Biology and Philosophy; Canadian Journal of Philosophy; Journal of Ethics; European Journal of Philosophy; Nous; Philosophical Quarterly; Philosophical Studies*; book reviewer, *Biology and Philosophy; Mind; Philosophical Books*

O'DEA, Dr J., referee, *Australian Journal of Philosophy; Erkenntnis.*

PAUL, Dr L., associate editor, *Philosophy for the 21st Century: A Comprehensive Reader*, Oxford University Press (USA); referee, *Australian Journal of Philosophy; Philosophical Quarterly; The Canadian Journal of Philosophy*; OUP (UK); Kluwer; *Philosophical Studies.*

SMITH, Prof M., member, executive, Australian Society for Legal Philosophy; member, advisory panel, *European Journal of Philosophy*; member, editorial boards, *Australasian Journal*

*of Philosophy; Ethics; Philosopher's Imprint; Philosophical Explorations.*

STERELNY, Prof K., editor, *Biology and Philosophy*; member, editorial board, *Philosophy of Science*; joint editor (with R. Wilson), MIT Series on *Life and Mind*; member, editorial board: *Cambridge Studies in Philosophy and Biology*

## Political Science Program

HINDESS, Prof B., referee, *Australian Journal of Political Science, Borderlands, British Journal of Sociology, Journal of Political Philosophy, Sociology, Theory & Event.*

MARSH, Dr I., Director, Research Committee for Economic Development of Australia (2003 continuing); senate fellow, Department of the Senate, Canberra; member, editorial boards, *Australian Journal of Management; Industry and Innovation* referee, *Australian Journal of Political Science, Australian Journal of Politics and History, Japanese Journal of Political Science, Industry and Innovation* and *Australian Journal of Public Administration*; book manuscripts refereed for OUP and UNSW Press.

RHODES, Prof R.A.W., director of research, Australia and New Zealand School of Government (ANZSOG); em prof of politics, University of Newcastle, UK; fellow, Academy of Social Sciences (UK); president, Political Studies Association of the United Kingdom; referee for grant awarding bodies, UK Economic and Social Research Council (ESRC) Professorial Fellowship Scheme 2003; ESRC Research Grants Scheme; Fulbright Scholarship Award; British Academy Small Grants Scheme; Australian Research Council; assessor for professorial and other senior university appointments, University of Sheffield; Griffith University, Universitat Pompeu Fabra (Barcelona); editor, *Public Administration*; series editor for Open University Press (an imprint of McGraw-Hill), 'Public Policy and Management' series; Palgrave-Macmillan. 'Transforming Government' series. member, editorial board, *Public Administration Review; American Journal of Public Administration; Journal of History and Governance; Talking Politics; Regional Studies; Australian Journal of Public Administration; Politics Review; Local Government Studies*; referee (journals), *Public Administration Review; American Journal of Public Administration; British Journal of Politics and International Relations; Journal of East Caribbean Studies*; referee (publishers), Polity, Cambridge University Press (Australia), Cambridge University Press (UK), Routledge.

SAWER, Prof M., member executive, Panel C, Academy of Social Sciences; Chair Symposium Committee, Academy of Social Sciences; member, advisory board, Research Centre on Women and Politics, University of Ottawa; South Asian Research Network on Gender, Law and Governance; chair, Research Committee 19, International Political Science Association; convenor, Pamela Denoon Lecture Committee; member, editorial board, *Australian Journal of Politics and History.*

UHR, Dr J., senate fellow, appointed by the Clerk of the Senate; member of the Baker Prize Committee, Senate of Australia; advisor to the Australian Curriculum Studies Association on civics education; advisor to and commentator in the Australian press and media; examiner for three PhDs (University of New England; University of Tasmania; and Griffith

University; referee, *Journal of Legislative Studies* (UK), *Public Administration* (UK), *Journal of Public Administration Theory and Research* (USA), *Journal of Political Philosophy* (Aust), *Australian Journal of Political Science*, *Australian Journal of Public Administration*.

### Social and Political Theory Program

BRENNAN, Prof H.G., president, Public Choice Society (USA); board member, Relationships Australia, Canberra/region; St Marks National Institute of Theology; joint editor, *Economics and Philosophy*; member, editorial board, *Public Finance Review*, *Australian Economic Papers*; *Constitutional Political Economy*; associate editor, *Political Philosophy*.

BROWN, Dr R., editor, *Contemporary Philosophy in Australia*; referee for a collection of essays on Thomas Hobbes, Oxford University Press.

DRYZEK, Prof J.S., wrote the chapter on "Environmental Issues" for the *World Youth Report 2003*, Commissioned by the General Assembly of the United Nations; presented papers at conference on Democracy After Governance (Copenhagen); conference on Deliberative Democracy and Sensitive Issues (Amsterdam); American Political Science Association Annual Conference (Philadelphia, September); Department of Political Science, University of North Carolina; Ecopolitics Conference (Melbourne); executive committee, *Political Theory*; corresponding editor, *Critical Review of International Social and Political Philosophy*; International Advisory Board, *New Political Economy*; Advisory Board, Committee on the Political Economy of the Good Society; member, editorial board, *Journal of Politics*; *Journal of Theoretical Politics*; *Journal of Political Philosophy*; *International Political Science Review*; *Global Environmental Politics*; *Columbia Journal of Project Siting and Management*; *Environmental Politics*; *Ecopolitics: Thought and Action*.

GOODIN, Prof R.E., academic adviser, Institute for the Integrated Study of Future Generations, Kyoto, Japan; member, advisory board, Brennan Center for Justice, New York University Law School; Project on "Moral Issues, Human Rights and Tobacco Control" (Jerome Katz, Dept. Communications, Rutgers University, director; Robert Wood Johnson Foundation, sponsor); member, executive committee (Australian Representative), Society for the Advancement of Socio-Economics; member, founding board, Committee on the Political Economy of the Good Society (PEGS); co-editor (with C. Kukathas), *The Journal of Political Philosophy*, Blackwell Publishers; editor, book series on *Theories of Institutional Design*, Cambridge University Press; general editor, Oxford Handbooks of Political Science (11 vols); member, editorial board, *Ethics*; *British Journal of Political Science*; *Journal of Public Policy*; *Political Studies*; *The Responsive Community*; *New Political Economy*; *La Revue Internationale d'Éthique Sociétal et Gouvernementale / Journal of Social and Government Ethics (Canada)*; *Policy Sciences*; *Comparative European Politics*; *Theory and Research in Education*; *American Political Science Review* (also member of Executive Comm of Ed Board); *Journal of Ethics*

HEALY, Dr K., editor, *Accounts*, Newsletter of the Economic Sociology section of the American Sociological Association; referee, *American Sociological Review*; *American Journal*

*of Sociology*; *The Information Society*; *Social Networks Transactions of the Institute of British Geographers*; *Contemporary Sociology*; Sage Publications/Pine Forge Press.

LACEY, Prof N., member, editorial board, *Punishment and Society*; *Policy Studies*; *Journal of Political Philosophy*; *Buffalo Criminal Law Review*; Butterworths Law in Context Series; Cambridge University Press *Studies in Law and Society* series; co-editor (articles): *Modern Law Review*

LIST, Dr C., referee for *American Political Science Review*; *Journal of Economic Theory*; *Journal of Political Philosophy*; *Journal of Theoretical Politics*; *Philosophical Explorations*; Cambridge University Press

McDERMOTT, Dr D., referee for *The Journal of Political Philosophy*; *The Canadian Journal of Philosophy*; *Economics and Philosophy*.

MACKIE, Dr G., volunteer consultant, Tostan, a non-governmental organization devoted to basic education and development in Thies, Senegal (pioneer in abandonment of female genital cutting); Reviewer, *American Political Science Review*; *British Journal of Political Science*; *Political Theory*; *Politics*; *Philosophy and Economics*.

PETTIT, Prof P.N., member, advisory board, The McDonnell Project in Philosophy and the Neurosciences, Simon Fraser University, Vancouver; member, board of academic advisors, Freedom Project, John Templeton Foundation 1999-; external assessor for Chair Appointment, Bristol University 2002/03; joint editor, *Journal of Philosophy*; associate editor, *Journal of Political Philosophy*; member, editorial board, *Philosophical Papers*; *Ethics*; *Australasian Journal of Philosophy*; *Ratio*; *International Journal of Philosophical Studies*; *European Journal of Philosophy*; *Philosophy and Phenomenological Research*; *Sorites (Electronic Journal)*; *Philosophical Explorations (Netherlands)*; *Cahiers de philosophie de l'universite de Caen (France)*; *Journal of Economic Methodology*; *Enfoques*; *Notre Dame Philosophical Reviews (Electronic)*; *Res Publica (Argentine)*; *Brain and Behavioural Sciences Associate*; *Raison Publicque*; *Law and Philosophy*; *Economics and Philosophy*; *Contemporary Political Theory*; *Cambridge Studies in Philosophy and Law*

PLUMWOOD, Dr V., referee for *Ethics and the Environment*; *International Journal of Feminist Politics*

### Australian Centre for Social Policy Research

ACKLAND, Dr R., short-term adviser, Thailand-Australia Social Protection Facility (funded by AusAID); consultant to the World Bank: Papua New Guinea Public Expenditure and Service Delivery Project; AusAID: provision of training in poverty analysis (AusAID Governance Training Program run by NCDS).

BREUSCH, Dr T., member, Methodology Advisory Committee, Australian Bureau of Statistics, Canberra; chair, Australasian Standing Committee, Econometric Society; consultant on Modelling ICT use and productivity in the Australian economy, Productivity Commission, Canberra.

EVANS, Dr A., council member and newsletter editor, Australian Population Association; member, IUSSP Scientific Committee on the Transition to Adulthood.

GIBSON, Dr R., member, Research Committee on Political Sociology, International Sociological Association (Research Committee 18), International Political Science Association (Research Committee 16); member of executive committee, British Politics Group of the American Political Science Association; Co-editor, *ICORE News*, the newsletter of the International Committee for Research into Elections and Representative Democracy; member, editorial board, *Journal of E-Government*; Haworth Political Press, New York.

GRAY, Dr E., member, advisory committee, Family Statistics Advisory Group, Australian Bureau of Statistics; council member, Australian Population Association; ACT representative, Australian Population Association.

MITCHELL, Dr D., chair, Ethics Committee, Australian Institute of Criminology; long-term adviser, Thailand-Australia Social Protection Facility; editor, Australian Journal of Social Issues; member, editorial board, International Social Security Review.

WILSON, Dr S., member, International Sociological Association Research Committee on the Sociology of Work (RC-30); associate editor, *The Australian Review of Public Affairs*

### Australian Dictionary of Biography

CLEMENTS, Dr G., member, Burgmann College Council; committee member, Canberra One Parent Family Support Group.

DAWSON, Ms B., president, St John's Schoolhouse Museum Board of Management

HANCOCK, Mr I.R., consultant historian to National Archives of Australia for the release of Cabinet records.

LANGMORE, Dr D., member, Historic Places Advisory Committee, ACT.

MOLONY, Prof J., president, Independent Community for Refugees, Australia; trustee, Eureka Stockade Memorial Trust; adjunct professor, Australian Catholic University.

### Centre for Immigration and Multicultural Studies

JUPP, Dr J., Adjunct Professor RMIT University; member, Adult Migrant English Program Research Advisory Committee; Asia Pacific Migration Research Network of the UNESCO-MOST program; Policy Research Network, National Institute for Governance; international member, Refugee Studies Centre, York University, Canada; committee member Friends of Peace in Sri Lanka; chairman, Australian Fabian Society (ACT); consultant, Ecumenical Migration Centre (Melbourne) on revised settlement policy.

### Centre for Tax System Integrity

AHMED, Dr E., member, editorial committee, *Alternative Law Journal*; joint editor, special issue of *Journal of Social Issues* on Restorative Justice and Civil Society.

BRAITHWAITE, Dr V., chair, ethics committee, Australian Institute of Criminology; member, Cash Economy Task Force, Australian Taxation Office; adviser on compliance, New Zealand Inland Revenue; adviser, OECD Centre for Tax Policy and Administrations, Task Group 4, Sydney; member, editorial board, *Journal of Family Studies*; guest editor (with

G. Rawlings), *Voices for Change: Australian Perspectives on Tax Administration*. Special issue of *Australian Journal of Social Issues* 38(3).

JOB, Ms J., guest lecturer on the implementation of and experience with responsive regulation in large government organisations, Fels Institute of Governance, University of Pennsylvania.

MURPHY, Dr K., guest lecturer on the theory of responsive regulation, Fels Institute of Governance, University of Pennsylvania.

RAWLINGS, Dr G., guest editor (with V. Braithwaite), *Voices for Change: Australian Perspectives on Tax Administration*. Special issue of *Australian Journal of Social Issues* 38(3).

WENZEL, Dr M., associate editor, *Australian Journal of Psychology*.

### Development Studies Network

THOMAS, Dr P., technical adviser to the Department for International Development, United Kingdom (DFID), on non-formal education in the Pacific; Department for International Development United Kingdom on community roles in environmental management in the Pacific; Worldwide Fund for Nature South Pacific on communication and community involvement in environmental management programs; AusAID on the regional Pacific Children's Programme on preventing child abuse; AusAID on the regional health project Pacific Action for Health, on preventing non-communicable diseases; member, communication research advisory group for the Geneva Centre for Humanitarian Demining; member of training team on poverty alleviation on AusAID's China Capacity Building Programme; member, advisory board, Centre for Democratic Institutes; member, international advisory council, Sexual Health and Family Planning Australia.

### Research Evaluation and Policy Project

BUTLER, Ms L., member, editorial advisory board, *Scientometrics*.

DONOVAN, Dr C., associate member, Sociology Group at Nuffield College, Oxford University; Evidence Network, the UK ESRC Centre for Evidence Based Policy and Practice.

GLÄSER, Dr J., committee member, German "Gesellschaft für Wissenschafts- und Technikforschung" (Society of science and Technology Research); board member, Research Committee 23 "Sociology of Science and Technology" of the International Sociological Association.

## The John Curtin School of Medical Research

### Centre for Bioinformation Science

BOOTH, Dr H., Chair of Organizing Committee for BioInfoSummer December 1-5 2003 (see summary); Initiation and development an ANU graduate course award in Bioinformatics (first enrolment December 2003) -currently have 16 participants in the course; 2003 Australian Festival of Science (Canberra) Public Lecture: Voyage along the Human Genome" as part of



the Codebreaker Event; Contributed to the NIB Voyage along the Genome Bicycle at the 2003 Australian Festival of Science; Released POZITIV software at [www.cbis.anu.edu.au](http://www.cbis.anu.edu.au)

BURDEN, C., Co-Editor, Biometrics Section, Encyclopedia of Life Support Systems

EASTEAL, Prof. S., Editor, Molecular Biology and Evolution; Scientific Advisory Committee, Genetic Technologies Ltd; Advisory Board, Sydney University Biological Informatics and Technology Centre; Research Committee, Australian Institute of Sport; Councillor, Society for Molecular Biology and Evolution; Advisory Board, ARC Bioinformatics Centre of Excellence, University of Queensland; Organizing Committee, Lorne Genome Conference; Organizing Committee, XIX International Congress of Genetics.

HUTTLEY, Dr G., Member of the program committee for the 2nd Asia-Pacific Bioinformatics Conference; Member of the program committee for the 1st International Workshop on Biological Data Management;

ISAEV, A., Associate Editor, Journal of Mathematical Analysis and Applications

MAINDONALD, J., Topic Editor for Statistical Computing, Biometrics Section, Encyclopedia of Life Support Systems Co-editor; Editor, Computing section, 2nd Edn, Wiley Encyclopedia of Biostatistics; Organiser, Workshop on R, University of Southern Queensland, Toowoomba. October 2003

WILSON, Prof. S., Associate Editor, 'Computational Statistics and Data Analysis'; Associate Editor, 'Annals of Human Genetics'; Member, Editorial Board, 'Statistical Methods in Medical Research'; Member, Editorial Board, 'Behavior Genetics'; Member, Conference Advisory Committee of the International Biometric Society; Member, Committee on Memorials, Institute of Mathematical Statistics; Member, ISI's Mahalanobis Committee; Member, Steering Committee, ANU's National Institute for Health and Human Science; Member, EPSRC Peer Review College (UK); Member, The Australian Family IBD Register Committee; Editor, Theme 4.31 Biometrics in Encyclopedia of Life Support Systems (UNESCO); Editor, Section 14: "Computation" in Encyclopaedia of Biostatistics, Wiley; Member, Editorial Committee, 6th edition of the ISI's A Dictionary of Statistical Terms; Representative, Statistical Society of Australia, at the Australian Foundation for Science meetings; elected to Advisors' Committee; Member, Local Committee organising BioInfoSummer; Member, Board of ANU Centre for Complex Systems.

### Division of Immunology and Genetics

ADA, Emeritus Prof. G. L., Member of the Australian Influenza Vaccine Committee; member of the Programme Advisory Committee and Programme Executive Committee of the Australian HIV Vaccine Consortium (Director, Prof. David Cooper, Head of NCHECR); Scientific patron of the Austin Research Institute, Melbourne; acted as a referee for the Wellcome Trust, the Lancet, National Academy of Sciences, USA; Expert Opinion on Emerging Drugs.

CHAUDHRI, Dr. G., acted as Honorary Secretary of the Australasian Society for Immunology Inc.

BLANDEN, Prof. R. V., served as a member of the Editorial Boards

of Immunology and Cell Biology, and the Asia-Pacific Journal of Biotechnology.

COOPER, Dr. P., acted as a Consultant for The National Health Sciences Centre, The Canberra Hospital and for GlaxoSmith Kline s.a.

EASTEAL, Prof. S., Editor Molecular Biology and Evolution; Scientific Advisory Committee, Genetic Technologies Ltd.; Advisory Board, Sydney University Biological Informatics and Technology Centre; Research Committee, Australian Institute of Sport; Councillor, Society for Molecular Biology and Evolution; Advisory Board, ARC Bioinformatics Centre of Excellence, University of Queensland; Expert Task Force, Aus Industry National Bioinformatics Strategy; Organizing Committee, Lorne Genome Conference; Organizing Committee, XIX International Congress of Genetics

FREEMAN, Dr. C., ACT representative Matrix Biology Society of Australia and New Zealand 2003; Member of Canberra Region Scientific Meeting Planning Committee, 2003; Advisor for ACT cancer website: [www.hotkey.net.au/~string/listing](http://www.hotkey.net.au/~string/listing); . Talks to University of the New Age, Pro-bus, Canberra Hospital Haematology Department, Canberra City Dance Club.

GOODNOW, Prof. C., Member of the Australian Society of Immunology; Member American Association of Immunologists and a Member of the American Association for the Advancement of Science. He is a member of a number of advisory boards including: NHMRC Project Grants Review Panel 2a; Scientific Advisory Board, Australian Genome Research Facility and the Scientific Advisory Board, Illumina, Inc, San Diego; He is on the Editorial Boards of the Journal of Experimental Medicine, Immunity, Immunological Reviews, International Immunology, Current Biology, and Genome Biology, Bio Med Central Immunology

PARISH, Prof. C., acted as the Editor-in-Chief of Immunology and Cell Biology; served on the Medical Research Advisory Committee of the Australian Cancer Research Foundation; chair of a NHMRC Research Fellowships Committee Peer Review Advisory Panel; served on the NHMRC Research Fellowships Committee; acted as ANU representative on the Program Management Committee of the Australian HIV Vaccine Consortium; acted as President of the Australasian Society for Immunology Inc.

RAMSHAW, Prof. I. A., member Scientific Advisory Panel Westmead Institute for Cancer Research .Editorial Board member, Viral Immunology , Microbes and Infection. Faculty 1000

SIMEONOVIC, Dr. C., member of the Editorial Board of Cell Transplantation; Elected member of Council, Society Liaison Officer and Education Officer, The Transplantation Society of Australia and New Zealand; Member of the Local Organizing Committee, The Australian Health & Medical Research Congress (Sydney, 2004)

WARREN, Dr H. S., served as a member of the Editorial Board of Immunology and Cell Biology.

WILLENBORG, Dr. D. O., member of the International Advisory Board, International Society of Neuro immunology. Editorial Board member of Journal of Neuro immunology, Journal of

Neuropathology and Experimental Neurology; Associate Editor Journal of Immunology.

### Division of Molecular Bioscience

BOARD, Prof. P., is currently a member of the Editorial Board of the Biochemical Journal. He is an advisor to Parkinson's NSW Inc and gave presentations on Parkinson's Disease research to the ACT Parkinson's support group. He was an assessor of NHMRC grants. He is a consultant to Biotron Limited.

BAKER, Dr. R., Director and Vice-President, Genome Conference Inc.; Executive Director and Honorary Treasurer, The Australian Society for Medical Research; Expert Consultant to the Human Gene Nomenclature Committee, London; Member of organising committee, 24th Annual Conference, The Organisation and Expression of the Genome, Lorne, Victoria; Expert Assessor for The Australian Research Council; Grant Reviewer, Cancer Council of Australia, and Marsden Fund, New Zealand; Careers Night Speaker, Canberra Boys Grammar School, Canberra; Member, ANU Joint Committee on Postgraduate Awards; Member, ANU University Awards Committee.

CASAROTTO, Dr. M., Assessor for NHMRC.

DULHUNTY, Prof. A., Consultant for BIOTRON. Board of Directors of the ACT Orthopaedic and Muscular-skeletal Research Foundation.

FOSTER, Dr. P., Associate Editor, Pharmacology and Therapeutics; member of the executive committee of the International Eosinophil Society; member of working group for the basic science section of the International Eosinophil Meeting, Colorado, USA, 2003. Sub Editor, American Journal of Respiratory Cell and Molecular Biology. GRP member NHMRC.

GAGE, Prof. P. W., is currently President of the Australian Physiological and Pharmacological Society. He is a member of the Editorial Committee of the Journal of Cellular and Molecular Neurobiology, and the Scientific Board of the Motor Neurone Disease Research Institute of Australia. He is an honorary member of the Australian Society of Anaesthetists.

MATTHAEI, Dr. K., acted as a Consultant for the Australian Quarantine Inspection Service. Member of ANU Equity Diversity Consultative Group.

SHANNON, Dr. F., Member of an NHMRC Project grant assessment panel, 2003. Convenor of the Lorne Genome Conference for 2003.

TREMETHICK, Dr. D., invited analyst for Chemtract, Biochemistry and Molecular Biology. Organiser, Lorne Genome Conference.

YOUNG, Prof. I. G., Editor DNA Sequence. Member Biological Defence Advisory Committee, (Department of Defence). Grant reviewer, Wellcome Trust, Research Grants Council, Hong Kong.

### Division of Neuroscience

BEKKERS, Dr. J., Consultant to Axon Instruments, Foster City, USA

COWAN, Dr. A., Course co-ordinator for Biol3101 'Physiology of the Nervous System', ANU; Convenor for Neuroscience Honours Program, Australian National University

HENDRY, Prof. I., Science advisor on the board of the Wenkart Foundation; Member of the John James Memorial Ethics Committee; Member of the editorial board for International Journal of Developmental Neuroscience; Member of the editorial board for Journal of Nanobiotechnology

HILL, Prof. C. E., Training Awards Committee, National Health and Medical Research Council; Cardiovascular Health Advisory Committee of the National Board of the Heart Foundation; Editorial Board, The Journal of Physiology; ACT Representative, ANZ Microcirculation Society

OLESKEVICH, Dr. S., Convenor for Neuroscience Graduate Program, ANU; Council Member and State Representative (ACT), Australian Neuroscience Society

REDMAN, Prof. S., Member, Editorial Boards of Neuroscience (Section Editor), Trends in Neuroscience, Journal of Computational Neuroscience, Synapse, Neuroreport, Journal of Neuroscience Methods, European Journal of Neuroscience, Journal of Clinical Neuroscience, Clinical and Experimental Pharmacology and Physiology; Treasurer, International Brain Research Organisation; Board Member, Neurosciences Australia Ltd; Chair, 2004 Gordon Conference on Synaptic Transmission; Member Research Advisory Board of the Prince of Wales Medical Research Institute

STUART, Dr. G. J., Reviewed grants for the NH&MRC, the Wellcome Trust and the British Medical Research Council; Co-chair, IBRO Meeting, Prague, Czech Republic, July, 2003

STRICKER, Associate-Prof. C., Panel member for Medical Student interviews (ANUMS), ANU

### High Blood Pressure Research Unit

WHITWORTH, Prof. J. A., Director, Anutech Pty Ltd; Member, ACT Government Knowledge Based Economy Board; Honorary Ambassador for Women; ACT Tall Poppies Committee; Member University of New South Wales, External Independent Inquiry; Chair, Advisory Panel, Commonwealth Health Minister's Award for Excellence in Health & Medical Research; Trustee, High Blood Pressure Research Foundation of Australia; Director, Research Australia; Director, Australian Phenomics Facility; Council member, Charles Darwin University; National Committee of Medicine for the Australian Academy of Science; Member, Research and Development Advisory Committee, Institute for International Health; Scientific Advisory Committee for the Study of Health Outcomes in Aircraft Maintenance Personnel (SHOAMP), Commonwealth Department of Veterans Affairs; Federation Fellowships Committee; Member, National Health and Medical Research Council; Member, Global Advisory Committee on Health Research, WHO; Member, WHO Expert Advisory Panel on Health Science & Technology Policy; WHO/ISH Liaison Committee; Co-Chair WHO/ISH Guidelines Writing Committee; Member, ISH International Scientific Program Committee (Sao Paulo 2004); Member, ISH International Scientific Program Committee (Fukuoka 2006).

SCHYVENS, Dr. C., Member of the Organising Committee, Medical Research Week Expo, Australian Society for Medical Research; Secretary, ACT branch of the Australian Society for Medical Research; Co-chair of the Cardiorespiratory and Renal Curriculum Group, School of Medicine, ANU; Member of the

ANU Animal Experimentation Ethics Committee; CSIRO 2003 Student Research Scheme.

## The Faculties

### Faculty of Arts

ALLEN, Dr. C.; Chairman, Linguistics and Philology Section of the Australian Academy of the Humanities.

ALLISON, Dr P., Fieldwork report completed for Cultural Heritage Division, NSW National Parks and Wildlife Service: P. M. Allison and A. Cremin, *The Kinchega Archaeological Research Project: Survey and Artefact Collection at the Old Kinchega Homestead Refuse Site 2002*; guest seminar - Seminar für Vor- und Frühgeschichte, Johann Wolfgang Goethe-Universität, Frankfurt am Main; participation in the *Roman Archaeology Conference and the Theoretical Roman Archaeology Conference*, University of Leicester 3-6 April 2003; presentation of conference paper, 'Mapping artefacts and activities within Roman military forts', at *19th International Congress of Roman Frontier Studies*, Pécs, Hungary, 1-8 September; national reader for Australian Research Council Grants.

AUSTRALIAN NATIONAL DICTIONARY CENTRE published *Convict Words: Language in Early Colonial Australia* (OUP), the fourth edition of the *Australian Concise Oxford Dictionary*, and (in association with the National Museum of Australia) *Aussie English for Beginners: Book Two*.

BELLWOOD, Prof. P., delivered keynote presentation, "Relations between South China and SE Asia in prehistoric times" at *Conference on Prehistoric Archaeology of South China and Southeast Asia*, organised by Chinese Academy of the Social Sciences, Guilin, December 10-13, and "Recent archaeological research on the Neolithic in Island SE Asia", chair of session, "Environmental archaeology and subsistence strategies"; media interviews including two programs on ABC Radio National, *Lingua Franca*; editor *IPPA Bulletin*.

BLOUL, Dr. R.; Reviewer, *Journal of Sociology*; reviewer, *The Asian Pacific Journal of Anthropology*; reviewer, *Journal of Australian Studies*.

BULBECK, Dr. D., assistance with museum documentation for National Museum of Australia Repatriation Unit; two community reports (with Michael Westaway) for Yorta Yorta Community on repatriated remains from Cohuna and Euston.

CARROLI, Ms. P.; Chair of the Emotions Panel, Theme: Remorse and Shame, Australasian Centre for Italian Studies Conference; Participant, Triple Symposium Learning And Teaching The Literature Curriculum. How Readers Approach Literary Texts, And How Instruction May Enhance Literary Competence. Part 1: Processes in Reading and Interpreting Literary Texts, 10th Biennial Conference of the European Association on Learning and Instruction (EARLI); Juror, New York University's Zerilli-Marimò Prize for Italian Fiction; Member, Committee of Italians Abroad (Italian Ministry of Foreign Affairs); Higher Education Representative/Italian, Panel of the A.C.T. Board of Senior Secondary Studies; Academic convener, Bologna, Siena/ANU exchange schemes.

CLARK, Dr. G., edited *Pacific History* (volume 38, 2) on Dumont

d'Urville's Oceania, with contributions from scholars in New Zealand, United Kingdom and France.

CLELLAND, Ms C.; Adjudicator for the National One Act Play Festival; Lectured on Theatre Design at the University of Canberra

CREMIN, Dr. A., (visiting fellow) member of executive committee of Australia ICOMOS (International Committee on Sites and Monuments); general editor of its journal, *Historic Environment*.

CRAIG, Dr. D.; Member, ACT Board of Senior School Studies, History.

CROZET, Ms. C.; Paper delivered, AFMLTA (Australian Federation of Modern Language Teachers Association) national conference: *Babble, Babel and Beyond*, Brisbane; Participant, *Stage Bilinguisme et Biculturalisme*- International Workshop for French teachers, hosted by the French Embassy & Telopea Park School, Canberra; Public address, Rotary club, Canberra; LIFT Programme Adviser; Coordinator, French immersion workshop, in collaboration with the French Embassy, the Alliance Française of Canberra and CRAFT (Canberra & Region Association of French Teachers).

CURTHOYS, Prof. A.; Elected member, Australian Academy of the Humanities, November 2003; member, Editorial Board, *Aboriginal History*; member, Editorial Board, *Australian Feminist Studies*; member, Editorial Board, *Labour History*; member, Editorial Board, *Cultural Studies Review*; member, Editorial Board, *Feminist Review*; member, Editorial Board, *Public History Review*; member, Editorial Board, *Journal of Australian Studies*; member, Editorial Board, *Hecate*; member, Editorial Board, *Borderlands*; member, Research Advisory Committee, Australian Institute of Aboriginal and Torres Strait Islander Studies; member, Dictionary of Biography Advisory Board, Australian Senate; member, Workshop Committee, Academy of Social Sciences in Australia; member; Executive Committee, International Australian Studies Association (InASA), elected Vice-President in November 2003; member, Academy of Social Sciences of Australia; member, Australian Historical Association; member, Oral History Association of Australia; member, International Australian Studies Association; entry for Encarta, Microsoft online encyclopaedia; External Assessor of Discovery Grants for Australian Research Council; reviewer, Allen and Unwin; reviewer, *American Historical Review*; PhD theses examined for University of Sydney, University of Melbourne, University of Queensland, Darwin University, University of Newcastle, University of Otago, University of Technology, Sydney; consultancy, Australian Studies in China, Australia-China Council (under auspices of DFAT), member of partnership headed by the Australian Studies Centre at the University of Queensland, and also including the Australian Centre at the University of Melbourne.

DUNDON, Dr A., visiting fellowship, Sainsbury Research Unit, University of East Anglia, (January-April).

FARRINGTON, Mr. I., delivered two papers at 51st International Congress of Americanists, Santiago de Chile, July, 2003; reviewed two papers for *Latin American Antiquity*.

FORTH, Dr. C.; Manuscript reviewer, Louisiana State University Press; manuscript reviewer, *Journal of Women's History*;

appointed affiliate, Centre for the History of European Discourses (University of Queensland); appointed member, International Board of Consultants, *Sport in Society*.

GRISHIN Prof. S.; opened the Persian Art Gallery, Canberra with Minister Bill Wood and Mr Alhabib, Iranian Chargé de/Affaires.

GARDNER, Dr. D., visiting professor *Institut für Ethnologie*, University of Heidelberg. (January-April).

GEORGE, Dr. J.; Member, International Advisory Board, *European Journal of International Relations* (Munich, Germany); member, Editorial Board, *Antepodium: An Antipodean Journal of World Affairs* (Wellington, New Zealand); member, Editorial Board, *Borderlands* e-journal (Adelaide); professional reviewer of articles, *The European Journal of International Relations* (Germany); professional reviewer of articles, *Review of International Studies* (UK); professional reviewer of articles, *Millennium Journal of International Studies* (UK). GRAY, Dr. G.; President, Sexual Health and Family Planning Association ACT, to June 2003; senior vice president, Sexual Health and Family Planning Association ACT, from June 2003; Deputy Convener, Australian Women's Health Network. GREIG, Dr. A.; Visiting Senior Research Fellow, Australian Expert Group in Industrial Studies, University of Western Sydney; referee, *Journal of Sociology*; reviewer, *Cambridge University Press*; member, Editorial Committee, 'Seeing Red'; Rapporteur, 'Urban economy' stream, 'State of Australian Cities' conference, 3-5 December 2003, Carlton Hotel, Parramatta (Sydney).

GROVES, Prof. C., attended workshop *Indonesian Prosimians, Taxonomy, Husbandry and Conservation*, Bogor, Indonesia, presentation "Tarsiers, yesterday, today and tomorrow"; Presentation to LIPI (Lembaga Ilmiah Pengetahuan Indonesia), Jakarta, February; visited Bili, Democratic Republic of Congo, (25 April - 3 May), to investigate reports of an unusual population of chimpanzees and to assess the feasibility of a field station to study them; Keynote address, "Suid Generis: Flying with Pigs" at conference, *Pigs and Humans: the Archaeology and History of the Pig*, September, University of Durham, Durham; presentation "Domestic and wild mammals: naming and identity", at conference on "The Naming of Animals", Venice, Italy, (30 September - 5 October); Keynote address "From Calpe to Catanduanes: Babewynes, Apes, Marmesettes and other Diverse Bestes" at *CALPE 2003, Barbary and other Macaques*, Gibraltar, 3-9 November; Opening address "Taxonomy and Biogeography of Primates in Vietnam and Neighbouring Regions", *Conservation of Primates in Vietnam*, a conference to mark the tenth anniversary of the Endangered Primate Rescue Centre, Cuc Phuong National Park, Vietnam, November; Lecture, "The Aboriginal Peopling of Australia: what we know and what we don't know", National Museum of Australia, for National Archaeology Week.

HARRIS, Professor Stuart (Visiting Fellow); Australian Institute of International Affairs National President's Forum. Interviews in ABC Television Series "The Insiders"

HART, Dr. J.; Elected member, Executive Committee of the American Political Science Association Presidency Research Group; provided advice to the Senate Finance and Public Administration Committee's enquiry into Members of Parliament Staff; briefed Australian politicians participating

in the Australian Political Exchange Committee's USA program 2003. HELLIWELL, Dr. C., consultant and lender (artefacts and photographs) to the exhibition *The Art of Rice: Spirit and Sustenance in Asia*, (exhibition opened October 2003), Fowler Museum, University of California, Los Angeles; delivered invited paper at *How is Society Possible?* Conference, Macquarie University, June 2003.

HIGGINS Dr. I.; ANU representative on the ACT English Panel, Board of Secondary School Studies; General Editor of the Cambridge Edition of the Works of Jonathan Swift, an international collaborative project involving scholars from England, Ireland, USA and Australia.

HILLMAN, Dr. R.; DAAD selection committee for local applicants; member of the Musicology Society of Australia; member of the Goethe Society. Media interview, ABC's 7.30 Report: Conference papers presented at AULLA (Wellington), the Stanford HRC, and the German Studies Association of Australia (Sydney); Member of the steering committee of the Centre for Cross Cultural Research;

HISCOCK, Dr. P., professional development for AACAI (*Australian Association of Consulting Archaeologists*), workshop, November 2003, titled "Learning and living lithics", designed to update the skills of professionals working in the field, sponsored by and held at the University of Sydney; expert advice to the Northern Land Council, with a formal submission to the Larakia Land claim hearing; expert advice in legal dispute over, and the NSW Commission of Inquiry, into the Sandon Point development; member of editorial boards of *The Palaeoanthropology Journal*, *Archaeology in Oceania*, and *Queensland Archaeological Review*; continued as an honorary Research Fellow of the Australian Museum.

HOPKINS, Dr. A.; Organised a PhD scholarship, equivalent to an APAL, to be fully funded by Defence Science and Technology Organisation, Melbourne. The scholar will be located at DSTO. HYSLOP, Dr. A.; Member, Editorial Board, *Health and History*; public officer, Australian Historical Association Inc; reviewer of papers, 'Creating Spaces', a postgraduate social sciences conference, ANU.

ILHAN, Dr Medhi; special lectures, 10th Anniversary of Elele Magazine/Cultural Celebrations Night, Melbourne. Special Lectures, Australian Turkish Islamic Federation and Foundation. Interviews to SBS Radio (Turkish Program), 3ZZZ Community Radio.

IRELAND, Dr. R.; Chair, NAATI Russian Panel.

JANSEN, Dr. L.; ANU representative at the Accreditation Panel for German; LIFT Director.

KLOVDAHL, Dr. A., Referee, *Journal of Sociology*; referee, *AIDS Care*; referee, *AIDS and Behavior*; reviewed book proposal for Routledge; appointed Adjunct Professor, School of Public Health, University of Texas, Houston, Texas; member editorial board, *Journal of Social Structure*. KOCH, Dr. H.; Chair, Nominating Committee of the International Society for Historical Linguistics for organising the biennial International Conferences on Historical Linguistics.

KUHN, Dr. R.; Member, Editorial Board, *New Political Science*; referee, *Journal of Australian Political Economy*; member,

selection committee for German Academic Exchange Service scholarships for Australians. LO, Dr. J.: Management committee of the Live Events Research Network (LERN) which was awarded \$40,000 seed funding from the ARC Research Network scheme; organised a public lecture for Professor Alan Filewod (Guelph University) at the Australian War Memorial, July 2003; Literary Advisor, Asian-Australian Art Centre Sydney; Academic Advisor for the "Voices and Visions from Asia" CD Rom series, Curriculum Corporation, Melbourne; referee for *Modern Drama*, *Kunapipi* and assessed 2 manuscripts for Hong Kong University Press; Editorial Board of *Australasian Drama Studies*; invited to sit on Editorial Board of *About Performance* (University of Sydney); member of a number of research organisations including the Krishnan Somers Foundation of Diasporic Studies, Murdoch University and Centre for the Studies of the Chinese Southern Diaspora (ANU); Papers presented: Australian Catholic University Brisbane (July 2003): "Hybrid Seductions" Australasian Drama Studies Association Annual Conference.

University of WA (Dec 2003): "Reformasi and its Reverberations" 10th Biennial Symposium on Culture and Society in the Asia-Pacific Region.

LYON, Dr. M., represented ANU Arts Faculty and ANU Medical School at *Cultural Competence in Australian Medical Education Workshop*, workshop sponsored by the Centre for Culture & Health and Faculty of Medicine at University of NSW.

MCKINLEY, Dr. M.; Extensive media appearances: radio 182, TV 58, print 41, online 17. MAURER, Dr. L.; Participant, Conference of the Australian Society for French Studies, Brisbane; Coordinator, Seminar, Université de Franche-Comté; Paper presented, Langue, didactique, technologies Research Group, University of Franche-Comté; Paper presented, Plurilinguisme et Apprentissage Research Group, l'Ecole Nationale Supérieure, Lettres et Sciences Humaines de Lyon; Participant 'Analyse et usages des supports multimédias' Seminar, Institut Universitaire pour la Formation des Maîtres; Participant, Il Meticcio culturale: luogo di creazione, di nuove identità o di conflitto?, Conference, Italy.

MERLAN, Prof. F., prepared expert opinion in relation to the Wotjobaluk Native Title Claim, contracted by the Australian Government Solicitor; delivered invited address, Australian Anthropological Association, October; delivered invited paper, University of Chicago, December, "Being Black: Spatial Re-Ordering and the Politics of Indigeneity in First- and Fourth World Settings".

MINCHIN, Dr. E.: Member, executive committee of the Australian Society for Classical Studies; Member, Council of the Australian Archaeological Institute at Athens; Member, Accreditation Panel for Latin, ACT Board of Senior Secondary Studies; Editorial board member, *Arts and Humanities in Higher Education*; Member, Review Committee: review of Classics Department, University of Otago, 2003.

MOFFATT, Dr. A.: Management committee of the journal *Mediterranean Archaeology*; Executive and publications committee of the Australian Association for Byzantine Studies; Australian bibliographer for *Byzantinische Zeitschrift*; ANU representative on the Council of the Australian Archaeological Institute at Athens.

MOLITERNO, Dr. G.; public lecture on Warhol's Paintings and Cinema at the National Gallery in November. Also co-edited *The Italian Touch*, a book of interviews with Italian-Australians in Sydney, a project part-financed by the Italian government.

MULLER, Dr. K.; Paper delivered, Australasian Association for European History conference, 'Europe's Pasts and Present, Brisbane; Guest lecture, Canberra's Goethe Society; French Accreditation Panel, ACT Board of Senior Studies; Media interview, ABC Lateline.

NOURZHANOV, Dr Kirill; Australian Defence Force Academy, special lecture. Formal and informal advice to: Department of Immigration and Multicultural and Indigenous Affairs Refugee Review Tribunal. Media interviews to, inter alia, SBS Radio and Television, ABC Television, South China Post. Feature article published in *The Australian Financial Review*.

PAPADAKIS, Prof. E.; Referee, *Australian Journal of Political Science*; International Assessor, Australian Research Council; consultation, with officers of the Department of Foreign Affairs and Trade and the European Diplomatic Corps on issues pertaining to relations between Australia and Europe.

PETERSON, Dr N., with the Torres Strait Regional Authority, planning for a regional application for recognition of native title in the sea of the Torres Strait region, participated in two workshops at ANU: 1-2 July and 17 December 2003; with *Museum Victoria*: in relation to a successful ARC Linkage grant titled: *Anthropological and Aboriginal perspectives on the Donald Thomson Collection: material culture, collecting and identity*; taught in a four day native title workshop sponsored by *Athropos Consulting* and the Department of Anthropology, University of Adelaide on: "Achieving outcomes: a course for professionals", (10 -14 February, University of Adelaide); attended Academy of Social Sciences forum, "Youth in Australia", November; co-organised live video-streaming link-up lecture between ANU and the University of Lethbridge, Canada for the course on *Globalisation since 1492*, run by Dr Anthony Hall, 20 November; member editorial board *Australian Aboriginal Studies*; appointed *Australian Anthropological Society* representative on the monitoring panel of the *National Native Title Tribunal/ATSIC* mentoring project for young anthropologists in Native Title Representative Bodies, workshop Alice Springs 6-7 June and meeting Sydney 1 October.

RAGHAVAN, Dr P., Lectures on Indo-Australian prehistoric links and biometrics, at medical colleges in Chandigarh, Punjab, Delhi, Madhya Pradesh, and Uttar Pradesh; interviews with *The Tribune*, *The Times of India*, *The Hindustan Times*, and *The Pioneer*.

RAWSON, Prof. B.; Member, Editorial Board, *The Cambridge Guide to Classical Civilisation* (Cambridge, UK); member, Editorial Committee, *Antichthon* (Journal of the Australian Society for Classical Studies). ROMERIL, Dr. J.; Writing Fellow in the School of Humanities 2003: The Barry Andrews Memorial Lecture 2003 hosted in conjunction with Social Sciences, UNSW@ADFA.

ROSE, Dr. P.; Invited to give talks at three venues in Australia and one in Korea; Produced two forensic-phonetic reports, one on Cantonese for the Joint Asian Crime Group of the AFP, and

one, on English, for the defense in a criminal case.

ROWLAND, Dr. D., ANU Representative, Behavioural Sciences Accreditation Panel, ACT Board of Senior Secondary Studies; Council Member, Australian Association of Gerontology, ACT Division; member, Editorial Board, *Australasian Journal on Ageing*; reviewer, *Journal of Population Research*; reviewer, *People and Place*; reviewer, *Applied Population and Policy*. RUSSELL, Dr. G.; Inaugural Honours seminar program in English at Hawker College;

SAHA, L.; Editor-in-Chief, *Social Psychology of Education: An International Journal* (Kluwer Academic Publishers) SAIKAL, Prof. A.; Australian Defence Force Academy – special lecture

Australian Defence College – lecture series; Attorney-General's Department – lecture series; Australian Institute of International Affairs National President's Forum; IDP Education and Education Australia (International Enterprises) Peace Scholarship Trust, keynote speaker at launch; IDP Education Conference, Melbourne, October 2003, speaker; Monash University/University of Western Australia conference: "Islam and the West: The Impact of September 11, speaker; National Press Club, Canberra, luncheon address (televised by ABC); Queensland Supreme Court Judges Seminar, presentation; Royal Institute of International Affairs, London, Lecture on "Islam and the West: Conflict or Cooperation"; University of Melbourne Women for Palestine memorial event for Edward Said; University of Western Australia symposium on "Islam in a Globalised World". Formal and informal advice to:

Department of Immigration and Multicultural and Indigenous Affairs Refugee Review Tribunal; Refugee Council of Australia. Media interviews to, inter alia, ABC Television (including the *News*, *Lateline*, *7.30 Report*), ABC Radio (various national programs and regional networks, including *AM*, *PM*, *Late Night Live*), SBS Television and Radio, CNN, News Radio Singapore, commercial networks in South Australia, New South Wales, Victoria and ACT, Reuters, Voice of America. Feature articles published in *The International Herald Tribune*, *The Toronto Globe & Mail*, *The Khaleej Times*, *The Australian Financial Review*, *The Age*, *The Sydney Morning Herald*, *The Diplomat*.

SCHMIDT, Ms. G.; Committee member of the Goethe Society; ANU representative of the Canberra German Network; Acting LIFT Director (Semester 2).

SHEARMUR, Dr. J.; Chair, Departmental Ethics Committee, Department of Health and Ageing; member vCJD Donor Deferral Workshop, Blood and Organ Donation Taskforce; referee Australian Journal of Political Science, Journal of Political Philosophy, British Journal for the Philosophy of Science, Popper Centennial Conference and Buffalo Searle/De Soto conference

SIM, Dr R., attended *Association for Environmental Archaeology Annual Symposium 2003, Worlds apart? Human settlement and biota of islands*, (Queens University Belfast, April 2003), presented a paper on the preliminary findings of ARC Discovery Project; *The Sir Edward Pellew Group of Islands, Gulf of Carpentaria Archaeology Project*; organised and conducted a series of three week long shell midden workshops for archaeology students, (Dec 2003/Jan 2004) attended by students from ANU, La Trobe University, University of Southern

Queensland, Flinders University and Sydney University; Cultural Heritage representative (on-going three year appointment) on the Tasmanian World Heritage Area Consultative Committee – a Federal advisory committee overseeing the state management of the Tasmanian World Heritage Area.

SMITH, Dr. R.; Panel of Judges, Australian Literary Society (ALS) Gold Medal 2004; contributing editor, Visual Arts, *Muse* magazine, Canberra; curator series of 4 talks titled "On Being Continued... the Aesthetics of Narrative", Experimental Art Foundation, Adelaide.

SPEZIALI, Ms. C.; Participant, Australasian Centre for Italian Studies Conference; Member, selection committee for Italian Government Scholarships to Italy; Translator, Prime Minister John Howard's speech delivered at the Associazione Tricolore – Italiani nel mondo during the visit of senator Tremaglia; Presented three lectures at Nurrabundah College, as part of the "ANU Tailored Talks Series".

SPRIGGS, Prof. M., lecture to Canberra Archaeological Society, March; lecture in pacific archaeology and departmental seminar, Department of Anthropology, School of Social Science, University of Otago, April; lecture to U3A, Canberra, May; examination of PhD thesis and workshop, *Pre-Agricultural Use of Rainforests in Southeast Asia*, Groningen Institute of Archaeology, University of Groningen, Netherlands, May; participant in *Pioneers of Island Melanesia Project* workshop, Cambridge University, 25-27 April; lecture to The Historical Association, Cornish Branch, Truro, UK, October; presented paper to *Workshop on Pacific Palaeodemography*, University of California, Berkeley, Gump Research Station, Mo'orea, Tahiti, December.

STANDISH, Dr W., (Visiting Fellow) Consultancies, periodic contract with AusAID on electoral governance in Papua New Guinea; informal advice to Parliamentary Research Service, Canberra.

TARBIN, Dr. S., Member, Editorial Committee, *Parergon*. TORABI, Dr Mohammad; Iranian Studies Conference, Sydney, speaker.

University of 3rd Age, Canberra, special lectures. Media interviews to SBS Persian Program.

TRAVERS, Ms. M.; Secretary, the Australian Society of WW1 Aero Historians.

TURNER, Dr. A.; Adjudicator for the National One Act Play Festival.

WARHURST, Prof. J.; Chairman, Australian Republican Movement; member, Editorial Board, *Commonwealth and Comparative Politics*; member, Editorial Board, *Australian Journal of Politics and History*; member, Editorial Board, *Australian Canadian Studies*; member, selection subcommittee for the Australian Parliamentary Fellowship; member, Selection Committee for the Institute of Public Administration Australia/ University of Canberra Public Administration Trust Fund; member, Selection Committee for Neville Bonner Scholarship; reviewer, *Australian Journal of Political Science*; reviewer, *Australian Journal of Politics and History*; reviewer, *Australian Canadian Studies*; reviewer, 'Creating Spaces' conference; Chair, Revisiting the Hawke Government conference, Old Parliament House, September; resource person, ABC Talkback Classroom

Interview of Kim Beazley; Chair, Senator Meg Lees, Lecture on Reshaping Australian Politics; invited appearance before the Standing Committee on Legal affairs, Legislative Assembly of the Australian Capital Territory; assessor, Social Science and Humanities Research Council of Canada; assessor, Australian Research Council; external examiner, Honours theses at Department of Government and International Studies, Flinders University; adviser to promotion committees, University of Adelaide and the University of New England; PhD examiner, Monash University and the University of Melbourne. WHITE, Dr. K.; PhD Examiner, for Victoria University of Wellington, Department of Sociology and Social Policy, for Flinders University of South Australia, Department of Sociology; External Honours examiner, Wollongong University; reviewer, *Health Sociology Review*; reviewer, Oxford University Press; reviewer, *Demography*; reviewer, *The Journal of Sociology*; reviewer, *Current Sociology*; reviewer, Sage, London; elected Board member and subsequently elected President, Cancer Council of the ACT; member, Cancer Council of Australia and a member of its Strategic Review Committee and its Governance sub-committee; member AMA, ACT Branch Working Party on Health and Aged Care.

WIERZBICKA, Prof. A.; Keynote speaker at 3 international conferences; Conducted a Masterclass at Leyden University (the Netherlands) with Prof. Cliff Goddard of University of New England. WINDLE, Dr. K.; Member, NAATI Russian Panel and the Regional Advisory Committee; Secretary-Treasurer of the Australian and New Zealand Slavists' Association (ANZSA); Editor *ANZSA Newsletter* (twice yearly); from September, Vice-President ANZSA; Member, editorial board, *Australian Slavonic & East European Studies*, assessed submissions for publication in this journal; Honorary Visiting Fellow, School of Politics, Australian Defence Force Academy; Member, Accreditation Panel for Polish, ACT Board of Senior Secondary Studies; Conference papers presented at ANZSA Conference (Macquarie, July); British Association of Slavists' 20th Century Study Group, Mansfield College, Oxford, September); Gave a 'Tailored Talk' at Radford College.

WRIGHT, Prof. I.; Hon. Secretary of the Cambridge Australia Trust; oversaw the Australian selection of Gates Cambridge PhD Scholars for the Bill and Melinda Gates Foundation; member of the Executive Committee of the Australia and New Zealand Shakespeare Association; Australian correspondent of the International Association of University Professors of English; editorial board member of *Meridian* and *The International Journal of Scottish Theatre History*; gave regular talks or lectures in Canberra schools and colleges and began a regular involvement with Hawker College honours programme in English; coordinated the Year 12 Extensions programme in English.

## Faculty of Asian Studies

Faculty members remained in strong demand from both national and international print and electronic media for commentary and background advice on the contemporary, historical, sociological, economic and cultural affairs of the Asia region.

BURTON, Dr. A. tutored in Sanskrit and coordinated the ANU students participating in the Sanskrit courses offered by

University of Sydney through video-conferencing; conducted Hindi video-conferencing courses at the University of Sydney.

CORBETT, Prof. J. discussant, Conference on Reform of Japanese Economy – Cabinet Office, Government of Japan; organiser of annual conference on Japanese Economy, (joint conference of the NBER, CEPR, European Institute of Japanese Studies Stockholm and CIRJE, Tokyo University) in Tokyo; discussant and occasional chair - conference of the Australian Association of Japanese Studies; member, editorial Board Journal of Japanese and International Economics; guest lecturer - Australian Defence College; session chair (Japan's Economy) at Conference of Economics Society of Australia; coordinates the ANU entry in the quinquennial Japan Foundation Survey of Japanese Studies in Australia; regular liaison Japanese Embassy - advising on visiting speaker programs / meeting visiting members of the Japanese ministries / discussing preparation for the Economic Framework agreement currently under negotiation between Australia and Japan (included assistance with preparation of background papers for these negotiations with DFAT; discussions with OECD and European Central Bank regarding European and international experience on regulation of cross-border trade in e-finance services.

EDWARDS, Dr. L. secretary, Asian Studies Association of Australia (ASAA); Editor-in-Chief ASAA's *Women in Asia* series; committee member, Chinese Studies Association of Australia; register of Peers – Australia Council for the Arts, member, editorial Boards – *Asian Studies Review*, *Intersections: Gender, History and Culture in the Asian Context*, *E-Journal for Asian Linguistics and Language Teaching*, *East Asian History*.

FEALY, Dr. G. contributing participant in 4th General Meeting - Conference of the Council for Security Cooperation in the Asia-Pacific, Jakarta, Dec 03; member – editorial team, Georgetown University (USA) *Southeast Asia Journal*.

HAJJAR, Dr. N. supervised and delivered introductory Arabic course *Living Arabic in Context*, to Department of Arabic and Islamic Studies, Sydney University; public lecture on 'Islam: History and Politics', for ACT Access Asia School Coordinators; guest lecture – University of Sydney - Arab & Muslim women, Sep 03; expert advice to NSW Board of Secondary School Studies - independent assessor of the Arabic Extended Level examination papers; advisor to NSW BSSS on suitable resources for the study of Arabic societies and culture; expert adviser to Federal government (including Australian Federal Police, Immigration, Foreign Affairs), to the media (SBS, ABC, newspapers, etc) and community organisations on current issues connected to the Arab World, Islam and the Middle East; consultancy on Arabic cultural matters and in the trans-creation of artwork for the *Australian Agency for International Development (AusAID)*; delivered a paper to forum organized by *The Sydney Writer's Festival*, with Dr. Ghada Karmi, author of *In Search of Fatima: A Palestinian Story*, Sydney, May 03; expert advisor to several Australian cultural bodies, including the *Literature Board*, *Australia Council for the Arts*, *Powerhouse Museum* in Sydney, *Environment Australia*, *Australian and World Heritage Division*, and the Australian War Memorial, in Canberra; Education and Secular Arab Democracy; Ameen Rihani on Education as a Force for Social Change and a Shield

for a Just and Strong Arab State', at the *Annual British Society for Middle Eastern Studies Conference*, Jul 03.

HENDRIKS, Dr. P. member, review panel for JET Programme applications to the Embassy of Japan in Australia; chair of examiners National Japanese Essay-Writing Competition; member, review panel, International Baccalaureate examinations in Japanese; consultant on Japanese examinations for the University of Oslo.

HOGUE, C. senior advisor ASEAN Focus Group; editorial review board, *Journal of International Communications* (Macquarie University).

HOOKER, Prof. V. member, Foreign Affairs Council (to Sep 03), Board member, Australia-Indonesia Institute, chaired panel 'Political Transition' in special Malaysian Update conference, Dec 03; sessional chair, 'Indonesia Update'; sessional chair, 'Indonesian Open' Conference, Sep 03; sessional chair 'Political Transition' in special Malaysian Update conference, Dec 03; participated in special workshop on Islam in Southeast Asia organised in Jakarta by CSCAP, Dec 03; member, editorial board *Review of Indonesian and Malaysian Affairs*; editor (to Jul 03) / member – editorial committee, Southeast Asia Publications Series run jointly by the Asian Studies Assoc of Australia (ASAA) and Allen & Unwin; vice-president – Association of the Publication of Indonesian and Malaysian Studies; International Advisory Board – *Journal of Southeast Asia Research* (SOAS London); reviewer manuscripts for the *International Journal of Feminist Politics*; member, Foreign Affairs Council (Department of Foreign Affairs and Trade), member, International Advisory Board of *Encyclopaedia for Women in Islamic Cultures* (Leiden, Brill); co-organiser Australia Indonesia institute Moslem Exchange Program (with Prof Ricklefs University of Melbourne), Board member Australia-Indonesia Institute; Graduate Workshop on Islam in Indonesia – with Prof. M. Ricklefs, University of Melbourne - organised and co-chaired special workshop for 12 ANU and University of Melbourne graduate students; member of review committee Melbourne Institute of Asian Language Studies; briefed AusAID on Islamic education system in Indonesia (Apr 03); negotiated with AusAID (and Minister Downer's Office) regarding system of scholarships for Indonesian postgraduates; coordinated Canberra visits of Muslim Exchange visitors during 2003; appeared before Senate Hearing on Australia-Indonesia relations, May 03.

IKEDA, S. Vice-President Australia-Japan Society, ACT; Chair, Steering Committee Canberra Japanese Supplementary School.

ISHIHARA, S. Professional consultancies (expert advisor) to the Japanese Language Adviser of the Curriculum Initiatives section of the Australian Capital Territory Education and Community Services; executive member of the Australian Speech Science and Technology Association Incorporated (ASSTA).

KUMAR, Dr. K Vice-President / Treasurer and committee member, Australian Academy of the Humanities; editorial committee – Leiden University monograph series, *Semaian*; member, Australia-Japan workshop on the nation in Southeast Asia, and invited member, Harvard Conference on Indonesia.

LEE, Dr. D-Y member, ACT Board of Senior Secondary School Education - Japanese Accreditation Panel; member, editorial

board for e-Journal of Asian Linguistics & Language Teaching, member, Council of Canberra Korean community school.

LI, Dr. N. co-editor, *EJRS-Newsletter* (European Association of Japanese Resource Specialists).

LOUIE, Dr. K. member, ; Fellow of the Australian Academy of the Humanities; Council of the Chinese Studies Association of Australia; member of the Executive Committee of ASAA and the Australia-China Council; Editor of *Asian Studies Review* (Blackwell Publishers); member of the Editorial Board of the following journals: *The China Journal*, *AUMLA: Journal of the Australasian Universities Language and Literature Association*, and *E-journal of Asian Linguistics and Language Teaching*, and *Journal East Asian History*.

MILNER, Prof. A.C. member, Federal Government's Foreign Affairs Council; member Council of *Asialink*; member, Advisory Council of the Australasia Centre of The Asia Society; member, Council of the Malaysia Cultural Foundation; co-chair of the Australian Committee of the Council for Security Cooperation in the Asia-Pacific; member, editorial committee, Cambridge University Press, *Asia-Pacific Series*; editorial committee of the *Australian Journal of International Affairs* (Australian Institute of International Affairs); editorial committee of the Southeast Asia Publications Series, Asian Studies Assoc of Australia (ASAA); co-organiser of the 4th General Meeting Conference of the Council for Security Cooperation in the Asia-Pacific, Jakarta, December 2003; appeared before Senate hearing on Australia-Indonesia relations (with Prof Des Ball) May 03; co-convenor of "As Others See Us", conference held at the National Library of Australia; convenor, ANU Retreat, Australia-Asia National Leaders Program (Asialink); co-operation with St James Ethics Centre/ISIS Malaysia conference on terrorism and ethics, Port Dickson, Malaysia, Feb 03; co-operation with ISIS network at the Asia-Pacific Roundtable 'Islam in Southeast Asia', Kuala Lumpur, Aug 03; presentation on 'Australia and Asia – 'Changing Times', National Summit on studies of Asia in Australian Schools, Canberra, Nov 03 (Asia Education Foundation); active participation with private business group, *ASEAN Focus*, producing a monthly analysis of developments in each country of the ASEAN region; external examiner, Universiti Malaysia, Sabah, Aug 03; external examiner, National Institute of Education, Nanyang Technological University, Singapore, Nov 03.

POWERS, Dr. J. series editor, *Studies in Buddhism and Tibetan Culture*, Snow Lion Publications; Curzon Press, Critical Studies in Buddhism series, *Journal of Indian Philosophy and Religion*, initiated Mind Science Forum involving Dalai Lama in Canberra open forum.

PROUDFOOT, Dr. I. member, advisory board, *Indonesia and the Malay World*.

QUINN, Dr. G. member of the Indonesian Accreditation Panel, ACT Board of Senior Secondary Studies; member, National Reference Group, Australian Consortium of In-Country Indonesian Study (ACICIS); member for the Canberra support group for the East Timor University Library.

REYNOLDS, Dr. C. member, International Advisory Committee, *Journal of the Siam Society*; member, International Advisory Board, *Kyoto Review of Southeast Asia*; chaired panel ICAS3



– Singapore; panel chair – 3rd International Conference of Asian Studies – ‘New directions in Thai Social History’; keynote speaker – Suranaree University, Thailand, Dec 03 – ‘Postmodernism and Thai Studies’; invited presenter – Universities Historical Research Centre, Yangon, Burma, Dec 03 – ‘Thai Manual Knowledge: Theory and Practice’.

SANDILANDS, C. active in oversight of administrative arrangements between ANU and Thai Universities supporting the high profile Year in Asia program (Thailand) and the DEST sponsored University Mobility in Asia Program; Thai related language and cultural advice to Canberra bureaucracy and community organisations.

SHIN, Dr. G-H, member (overseas) Presidential Advisory Council on Democratic and Peaceful Unification (Korean (Central) Government; Foundation member, Korean Society (ACT); Organised / co-chaired – National Strategic Korean Language Education Conference, UNSW.

VERVOORN, Dr. A. consulting editor Oxford University Press.

WELLS, Prof. president / vice-president Korea Studies Association of Australia; Member of Organising Committee, KSAA Biennial Conference; Invited guest speaker at Yonsei University Institute for Modern Korean Studies; keynote speaker at 3rd Biennial KSAA conference.

YANG, T, Ms. consultancy/speech writing for Federal minister/ Members of Parliament on matters relating to China or Chinese communities in Australia; consultancy on Chinese cultural issues to ADACAS (Advocacy for People with Disability), ACT Disability, Aged Care and Advocacy Service Inc.

## Faculty of Engineering and Information Technology

BAIRD, Prof. J., ANU Engineering Industry Alliance and Business ACT; Chair, Group of Eight Deans of Engineering and Associates; Chair of the Technical Committee SF019 for Standards Australia; Member course review panels for the Canberra Institute of Technology.

BLAKERS, Prof. A., ACT Government; ANZSES; Canberra Airport Corporation; CVC REEF; Energy Innovations; EPTAC; MRET Review; Origin, Rheem; Solarization; Sustainable Cities, House of Representatives Enquiry; guest speaker at National Museum as part of National Institute for Engineering and Information Technology series.

CHRISTEN, Dr P., New South Wales Department of Health.

GARDNER, Dr H., Powerhouse Museum, Sydney.

JAMES, Prof. M., member ACT BSSS Engineering Studies Panel.

JOHNSON, Dr C., CRC for Smart Internet Technology.

KALYANASUNDARAM, Dr S., Commonwealth Department of Transport and Regional Services.

McCREATH, Dr E., ACM Programming Contest (South Pacific Region).

McCREATH, Dr E., CRC for Smart Internet Technology.

PETERSON, Dr A.V., member ACT BSSS Computing Studies Panel.

RENDELL, Dr A., Board member cOMPunity (international user group for the OpenMP community).

STACHURSKI, Dr Z., National Youth Science Foundation.

## Faculty of Science

### School of Biochemistry and Molecular Biology

BEHM Dr C, World Health Organization, TDR Programme, Geneva: organised and chaired a Scientific Working Group meeting on 'RNA interference in *Caenorhabditis elegans* as a means of identifying drug targets for filariasis' held in Glion sur Montreux, Switzerland: archivist, council member, and convenor of the Bancroft-Mackerras Medal Committee of the Australian Society for Parasitology: referee for *Science*, *Biochimica et Biophysica Acta*, *Trends in Parasitology*, *Parasitology*, *International Journal for Parasitology*, *Molecular and Biochemical Parasitology*, *Folia Parasitologica*: assessor, Wellcome Trust (UK): visited the Malaghan Institute of Medical Research in Wellington, New Zealand, for 6 weeks in April/May to advise several research groups on establishment of RNA interference techniques.

BRÖER Dr S, managing editor of *Cellular Physiology and Biochemistry*: associate editor for *Biochemical Journal*: reviewed papers for *Journal of Biological Chemistry*, *Biochemical Journal*, *American Journal of Physiology*, *European Journal of Physiology*.

CLARK Prof I, joint sepsis pathogenesis studies with Canberra Hospital Intensive Care Unit: Australian president of NHMRC Research Fellows Association 2002-2003.

FAHRER Dr A, member of AGRF/ACRF DNA resource network committee: reviewed NHMRC grants: chaired workshop at Australasian Society of Immunology meeting: facilitator for ASI postgraduate immunology training workshop 2003.

HOWITT Dr S, member of General Science Panel for accreditation of Year 11 and 12 courses in ACT: council member of Australian Society for Biochemistry and Molecular Biology: appointed to Fulbright Scholarship Selection Committee.

KIRK Prof K, reviewed papers submitted to the *American Journal of Physiology*, *Antimicrobial Agents & Chemotherapy*, *Blood*, *International Journal of Parasitology*, *Molecular and Biochemical Parasitology*, *Molecular Microbiology*, *Nature*, *Science*, and *Trends in Parasitology*: served as *Physiology Editor* for the *International Journal of Parasitology*: reviewed grants for the Australian National Health and Medical Research Council, the Australian Research Council and the Wellcome Trust. Represented the ANU on the board of the Cooperative Research Centre for Pest Animal Control. Member of the Research Advisory Board for the John Curtin School of Medical Research, ANU. Member of the organising committee of 'Molecular Approaches to Malaria 2004', Lorne.

MARTIN Dr R, Australian Medical Council: team member for the accreditation of Newcastle University Medical School.

MATHESIUS Dr U, reviewed manuscripts for *Plant Physiology*, *Planta* and *Functional Plant Biology*: reviewed an NSF grant.

O'NEILL Dr R, reviewed papers for *Journal of Immunology*: on Editorial Board of *Immunology & Cell Biology*: reviewed grants for the International Cancer Research Foundation.

POGSON, Dr B, co-organiser Lorne Genome Conference, Lorne, Victoria, Feb 2003: invited speaker and discussion leader, Gordon Conference on Carotenoids: participant, FASTS Science meets

Parliament Forum, Oct 2003: speaker, "Biotechnology and GM Foods" ACT Teacher Invitation Days: invited seminar: University of Melbourne, Oct 2003: peer review for *Plant Cell*, *Physiologia Plantarum*, *The Plant Journal*, *Functional Plant Biology*, *J of Exp Botany*, US Dept of Agriculture, USA National Science Foundation, Australian Research Council, New Phytologist.

VANLEEUWEN Dr B, served as Education Program Manager for the Pest Animal Control Cooperative Research Centre: supervised ANU students working in Pest Animal Control Cooperative Research Centre laboratories at CSIRO Sustainable Ecosystems: collaborated with the staff of the Pest Animal Control Cooperative Research Centre, CSIRO Entomology and CSIRO Sustainable Ecosystems in student supervision.

VERMA Dr N, member of the Biology Accreditation Panel for the ACT Board of Senior Secondary Studies: assessed grant applications for the NHMRC and ARC: chair of the Division 4 of the National Scientific Advisory Committee of the Australian Society for Microbiology.

### School of Botany and Zoology

COCKBURN, Prof A. was an Editor for *Behavioral Ecology & Sociobiology*.

CRISP, Prof. M. and Trueman Dr J. were Editors for *Systematic Biology*.

DOWNES, S. was on the Editorial Boards of *Journal of Herpetology*, and *Behavioural Ecology and Sociobiology*.

FOLEY, Dr W. was on the Editorial Board of *Chemoecology*.

GORDON, Dr D. was invited to serve a 5-year term as an associate editor for the journal *Microbiology*.

JENNIONS, Dr M. was invited to become an Editor for *Animal Behaviour*, and collaborated with Dr LM Torres-Vila (Servicio de Sanidad Vegetal, Consejería de Agricultura y Medio Ambiente, Badajoz, Spain), and was a reviewer for 10 national and international journals, and USA and Norwegian funding agencies.

KEOGH, Dr S. was on the Editorial Board of *Contemporary Herpetology*.

MAGRATH Dr R. was a Scientific Editor for the *Journal of Avian Biology* and was on the Editorial Board for the *Australian Journal of Zoology*.

OLSEN, P (Visiting Fellow) was the Editor of *Wingspan*, for Birds Australia.

ASH, Dr J. collaborated the Papua New Guinea Government, University of Papua New Guinea and various international funding agencies to (1) provide an online Geographic Information System based on a digital elevation model and recent satellite imagery of Papua New Guinea, (2) document changing land use in Papua New Guinea over the past 30 years.

HAPPOLD, Dr D In connection with "The Mammals of Africa" project, collaborated with colleagues in the following: American Museum of Natural History (USA); Smithsonian Institution, Washington DC (USA); The Natural History Museum, London (UK); Staatliches Museum für Naturkunde (Germany); Museum National d'Histoire Naturelle (France); University of Cape Town,

Cape Town (South Africa); Rhodes University (South Africa); University of Natal (South Africa); Durban Natural History Museum (South Africa); University of Pretoria (South Africa); Senckenberg Museum (Germany); University of London (UK); Museum Alexander Koenig (Germany); University of Antwerp (Belgium); Musee d'Afrique Centrale (Belgium).

KEOGH, Dr S. gave a series of invited postgraduate workshops at the University of Witwatersrand and the University of Pretoria in South Africa.

NICOTRA, Dr A. co-supervised PhD students with Mark Clemments (CSIRO Plant Industry), Saul Cunningham (CSIRO Entomology) and Ulrike Mathesius (Bambi).

PEAKALL, Dr R. is a committee member of a Course Assessment Panel for the ACT Accreditation and Registration Council responsible for assessing a Canberra Institute of Technology degree program in forensics.

### Department of Chemistry

BARROW, Dr R. A., Treasurer, ACT branch of the RACI; ANU representative, ACT Board of Secondary School Studies Chemistry Panel.

CIFUENTES, Dr M., Memberships Officer, ACT Branch of the RACI.

CHAI, Dr C. L., ACT representative, Organic Division of the RACI.

HUMPHREY, Dr M.G., Honorary Treasurer, Royal Australian Institute of Chemistry Inorganic Division (until March); Past President, ACT Branch of the RACI (until July); ACT representative, RACI Inorganic Division (from February); Member, RACI ACT Branch Fellowship Assessment Committee; Member, RACI Organometallic Award Selection Committee; Member, RACI Committee on Conventions.

PACE, Dr R. J., Member, Australian Academy of Science Selection Committee for the 'North American Scientific Exchange Program'.

SALEM, Dr G., member, Steering Committee of the International Chemistry Olympiad; Director, Rio Tinto Australian Science Olympiads Chemistry Program; ACT representative, Chemical Education Division Standing Committee of the RACI; member, RACI Education Committee.

STERNS, Dr M., collaborative work, Australian Transport Safety Bureau, the Australian War Memorial.

STRANGER, Dr R., Member, ACT Branch Committee of the RACI.

### Department of Earth and Marine Sciences (formerly Geology)

CRC LEME. The ANU, as a core party of, participates in the Minerals Council of Australia's (MCA) Minerals Tertiary Education Council (MTEC) initiative in Honours- and Postgraduate-level minerals education. CRC LEME, through ANU, and in association with other CRC LEME core parties, offers a series of regolith geoscience-related one- and two-week courses to Honours and Postgraduates from within the MTEC network (Melbourne, Monash, UTas, Adelaide, CUT, JCU, UWA), outside students, and professionals from the Australian and international minerals

industry. These courses are based in capital cities or in the more highly prospective minerals centres of inland Australia. CRC LEME's offerings into the MTEC initiative are managed through ANU and in 2004 the program will be entirely funded by MTEC through CRC LEME, using funds granted directly from member minerals companies of the MCA. The initiative directly benefits students at ANU by allowing them access at no cost to the minerals education programs of VIEPS (Melbourne and Monash) and the G3 (UTas, JCU and UWA), as well as other universities and research institutions within the Minerals Processing and Mining consortia of MTEC, raising the profile of the minerals industry and our own graduates.

There is much collaboration especially through the CRC LEME, with staff of Geoscience Australia, including for student supervision.

ARCULUS, Prof R. assisted the Senate (Federal Government) during the Estimates hearings by providing advice with regard to the *RV Southern Surveyor*. He was also recently appointed on the Scientific Committee for the National Facility *RV Southern Surveyor*.

COX, Prof S. F. served on the Federal Government appointed panel reviewing the first year of research activity in the CRC for Predictive Mineral Discovery.

### Department of Mathematics

BRYCE, Dr R A., ANU Representative ACT Board of Senior Secondary Studies; Chair, Assessment and Certification Committee, BSSS; Member Problems Committee Australian Mathematics Competition; Member Problems Committee Mathematics Challenge for Young Australians; Member, Advisory Committee Australian Mathematics Trust; Member Australian Mathematical Olympiad Committee; ANU Convenor Canberra Mathematics Enrichment Programme

COSSEY, Dr P J., Associate Editor, Bulletin Aust MS; Public Officer, Aust MS and AMPAI

FERRARIO, Dr L., Member Astronomical Society of Australia; Member Australian Mathematical Society; Member of ARIA (Association for Research between Italy and Australasia); Member Scientific Organising Committee of international Conference "Astrophysics of Cataclysmic Variables and Related Objects", Strasbourg (France), 11-16 July 2004; Referee of several ARC applications

HUTCHINSON, Prof J., Reviewer, Sydney University Mathematics courses

ISAEV, Dr A V., Associate Editor, Journal Mathematical Analysis and Applications; Referee for Illinois Journal of Mathematics, Rocky Mountain Journal of Mathematics

ORMEROD, Dr E A., Lectured for the maths enrichment program; Secretary for Science Faculty working group on teaching and learning; Academic Advisor, ANU Chapter of Golden Key Honour Society

ROBERTS, Dr S G., AustMS (Australian Mathematics Society), member; ANZIAM (Australian and New Zealand Industrial and Applied Mathematics group) member; Computational Mathematics Group (subgroup of ANZIAM) member and treasurer; AMS (American Mathematical Society) member; SIAM, member; IEEE, member.

SMYTHE, Dr N F., Apple University Consortium Development Fund Panel member, and AUDF Co-ordinator for ANU/ADFA/UC site

WICKRAMASINGHE, Dr D T., Scientific Organising Committee of Joint Discussion on "White Dwarfs: Galactic and Cosmological Probes"; Scientific Organising Committee of the International Astronomical Union Colloquium 194, "Compact Binaries in the Galaxy and Beyond"

### School of Psychology

BRINKMAN, Dr J., school visits and a public lecture in the DEST/ABC sponsored "Science in the Bush" program.

BYRNE, Prof D, Member of the ACT Mental Health Tribunal; Member of the National Committee on Psychology, Australian Academy of Science; and member of Membership committee, Academy of the Social Sciences in Australia

EDWARDS, Dr M., hosted visited to laboratory for science teachers as part of ConSEA ACT Programme

SMITHSON, Dr M., Statistical Analysis of complaints data for Australian Federal Police; Member of Research Grant assessment panel for the Australian Research Council

WILKINSON, Dr R., Australian Psychological Society Clinical College representative in the accreditation review panel for Monash University School of Psychology

WILKINSON Dr R., Elected as committee member to the Australian Psychological Society Relationships Interest Group Executive Committee

### Department of Physics

BACHOR, Prof H.A., quantum imaging with Prof. C. Fabre (Universite Paris VI, France) as part of the QUICOV European Network Quantum cryptography and quantum noise reduction by Prof. H.A BACHOR and Dr P.K. LAM with Prof. G. Leuchs (Universitaet Erlangen, Germany) as part of the QUANTIM European Network Light detection and generation below the quantum noise limit by Prof. H.A. BACHOR and Dr P.K. LAM with Dr R. Schnabel and Prof. K. Danzmann (Universitaet Hannover, Germany);

BYRNE, Dr A.P., development of an ion implanter for radioisotopes with Dr H. Timmers (University College, ADFA, UNSW); and Dr A.M. BAXTER, spectroscopy of neutron deficient lead and thallium nuclei with Prof. G.D. Dracoulis, Dr G.J. Lane (RSPHysSE), Dr A.O. Macchiavelli (LBL, Berkeley CA); decay of superdeformed 192Pb with Dr A. N. Wilson, Prof. G.D. Dracoulis, Dr G.J. Lane (RSPHysSE), Dr A.O. Macchiavelli (LBL, Berkeley CA); diffuse damage in semiconductors with Dr M.C. Ridgway (RSPHysSE), Dr R. Vianden (ISKP, Universitaet Bonn, Germany); superallowed Beta decays with Assoc. Prof. P.H. Barker (University of Auckland, NZ); neutron rich trans-lead nuclei using radioactive beams with Prof. G.D. Dracoulis, Dr G.J. Lane, (RSPHysSE) and Prof. P.M. Walker (University of Surrey, UK); PAC studies of materials with Dr M.C. Ridgeway (RSPHysSE) and Dr R. Vianden (ISKP Universitaet Bonn, Germany); superallowed Fermi decays with A. Prof P.H. Barker (University of Auckland, NZ); realistic shell model calculations for trans-lead nuclei with Prof. G.D. Dracoulis and Dr G.J. Lane (RSPHysSE) and Prof A. Covello (University of Naples, Italy); shape co-existence in

very neutron-deficient Pb nuclei with Prof. G.D. Dracoulis, Dr G.J. Lane, Dr T. Kibédi (RSPHysSE) and Dr J. Gerl (GST, Germany) and Dr A. Andreyev (University of Liverpool, UK); structure of multi-quasiparticle isomers in 176Lu and 177 Lu with Prof. G.D. Dracoulis, Dr G.J. Lane, Dr T. Kibédi (RSPHysSE) and Dr F.G. Kondev and Dr R. Janssens (Argonne National Laboratory, USA); hyperfine interactions spectrometer with Dr A.E Stuchbery (RSPHysSE) and Ass.Prof D.H. Chaplin (ADFA, UNSW).

FRANCIS, Dr P., red quasars from the two micron all sky survey with Dr R. Cutri and Dr B. Nelson (IPAC, Caltech); galaxy clusters in the high redshift universe with Dr B.E. Woodgate and H. Teplitz (NASA Goddard Space-Flight Center), G. Williger (Johns Hopkins University) and P. Palunas (University of Texas, Austin); Imaging Gas at High Redshifts, with Dr J Bland-Hawthorn (AAO); High Redshift Radio Galaxies with Flat Radio Spectra, with Dr RL Webster (Melbourne), Dr M.E. Whiting, Dr S. Curran, Dr J Webb (UNSW) and Dr M. Murphy (IoA Cambridge)

HOPE, Dr J.J., development of XMDS numerical package for high-performance integration with Dr P.D. Drummond and Mr P Cochrane (University of Queensland); continuous evaporation as a pumping method for an atom laser with Dr. M.J. Davis (University of Queensland); Single mode quantum statistical model of an atom laser with Mr A.S. Bradley (Victoria University, NZ)

HOUWING, Dr A.F.H., Scramjet flows with Dr R. Boyce, and Dr N. Mudford, (School of Aerospace and Mechanical Engineering at the Australian Defence Force Academy, UNSW) and with Dr M. Gruber (Wright Patterson Airforce Base, U.S)

LAM, Dr P.K., and Dr M.B GRAY, development of a high speed quantum cryptography system with the Defense Signals Directorate and Defense Science and Technology Organization

McCLELLAND, Prof. D.E., and Dr M.B. GRAY, dispersion compensation and high quality optics manufacture, with CSIRO NML

McCLELLAND, Prof. D.E., and Dr S.M. SCOTT, gravitational wave detection (Japanese projects TAMA and LCGT).

SCOTT, Dr S.M., gravitational wave detection data analysis with LIGO Laboratory, US and the LIGO Science Collaboration; development of visualization software for General Relativity with Dr B.J.K. Evans (ANUSF); boundary constructions for space-time by with Dr P. Szekeres, (University of Adelaide) and Dr M.J.S.L Ashley (Pennsylvania State University); Initial cosmological singularities with Dr G.B. Ericksson, (University of Queensland); Varying light-speed cosmologies with Dr G. Bicknell (RSSA).

### School of Resources, Environment and Society (including ICAM)

BAKER, Dr R., working with Environment Australia and the traditional owners of Uluru Kata Tjuta National Park on joint management arrangements; member, IUCN Commission on Environment, Economics and Social Policy and its Collaborative Management Working Group.

BANKS, Dr J.C.G., collaborated with R Taylor, Environment Conservation Officer, Parks and Wildlife, Darwin Northern Territory on 'Growth and age determination of Darwin

Ironwood, *Erythrophleum chlorostachys*; as Tree Protection Officer with Environment ACT, collaborated with D Jongeneel on 'Risk assessment of urban trees in Canberra'; carried out an assessment of old trees on ANU campus with a year 11 student, Ms K Wallace-Bourne under the CSIRO Student Research Scheme.

BHATI Dr U.N., wrote and distributed four ANU Forestry market reports, in association with Australian Forest Growers and the Joint Venture Agroforestry Program of RIRDC, L&W Australia, FWPRDC, and MDBC.

BRACK, Dr C., member, Research Working Group 2 (Forest Measurement and Management); chairman of IUFRO 4.02.03 (International Union of Forest Research Organisations working party on Inventories on Successive Occasions), member of the Cooperative Research Centre for Greenhouse Accounting; on-going collaboration with CSIRO and AGO in development of a Carbon Accounting Toolbox; collaboration with Department of Sustainability and Environment (Victoria) on quantifying and improving the precision of native forest inventory; member of BRS Technical Advisory Group and subsequent statistical support for an *Inventory of Privately Managed Native Forest*, member of the BRS Technical Advisory Committee and subsequent statistical support for *A Continental Forest Monitoring Framework for Australia*, member of the ACIAR Project *Team Planning methods for sustainable management of timber stocks in PNG forests*; provision of advice to Canberra Urban Parks and Places on the management of risks and work scheduling for urban forests of the ACT.

BROWN Emeritus Professor V., collaborated with the Local Government Baton Forum, in the development of a national advocacy group for sustainable development for the local government sector; with Computer Professionals for the Public Sphere in the development of a pattern language for civil society communication; is a member of the Scientific Advisory Panel, Manly Council, NSW; advisor to the Environmental Health Research centre, Port Pirie; had a submission on the Utopian City accepted as evidence by the House of Representatives Committee of Inquiry into Sustainable Cities; was appointed to the ACT Health Promotion Board, and to the Sustainability Expert Reference Group of the ACT Government; is a member of the editorial panel for the international research journals "Local Environment"; *Environmental Health* and *Eco-Health*; and a member of the Planning Group for the CRC for Sustainable Urban Environments and Health; joint supervisor, PhD candidates Holmes and Parissi, University of Western Sydney.

CARY, Dr G., was appointed to the Federal Bushfire Research Advisory Group, continued as a member of the ACT Bushfire Council and as an Associate Editor for the International Journal of Wildland Fire, is a researcher in the Bushfire Cooperative Research Centre, and continued collaboration with:- USDA Forest Service on landscape fire regime modelling; IGBP/GCTE on landscape fire model comparison; Aracruz Cellulose in eucalypt growth modelling; the Tasmanian Parks and Wildlife Service and the NSW National Parks and Wildlife Service on landscape fire regime modelling.

CROKE, Dr B. member, CRC for Landscape Evolution and Mineral Exploration; member Sydney Catchment Authority pathogen budgeting research project; member ActewAGL research project

on impact of January 2003 fires on Corin catchment.

DUMARESQ, D. provided a short report to the NSW NPWS on the immediate impacts of the January 2003 fires on the ecosystems of the Munyang Valley in Kosciuszko National Park.

GILL, Dr A.M., was involved with the aftermath of the widespread, socially disastrous fires of January and February 2003. As such he was one of the two Scientific Experts on the three member Inquiry into the Victorian Fires of 2002-2003. He contributed to many requests for advice. He continued his appointment as Chairman of the ACT Bush Fire Council and remains a member of the ACT Bushfire Fuel Management Committee. Outside of ANU, he had scientific collaborations with: NSW National Parks and Wildlife Service; Northern Territory Bush Fire Council; and, University of Melbourne.

GREENE, Dr R., President, Australian Association of Natural Resource Management.

GUNNINGHAM, Prof N., member, Department of Health and Aging (NICNAS) taskforce on Low Regulatory Concern Chemicals; collaborated with the Department of Environment Protection (WA) and Environment Protection Authority (Vic) on a research project on Next generation environmental regulation.

JAKEMAN, Prof A.J. editor-in-chief, Environmental Modelling and Software; editorial board, Environmetrics, Journal of Forecasting, Ecological Modelling, Hydrological Processes, Systems Analysis Modelling Simulation; Board of Directors, International Association for Mathematics and Computers in Simulation (1988-); Affiliate, CRC for Catchment Hydrology (iCAM); member, CRC for Landscape Evolution and Mineral Exploration.

JAMES, Dr R.N., member, Advisory Board for ACT Forests; worked with the Forest Products and Economics section of the U.N. Food and Agricultural Organisation, Rome on forecasting production of high quality wood from the forest plantations of the world.

JOHNSON, K presented invited lecture 'Transport and Urban Planning; the Canberra experience' to planning students at University of NSW; participated in discussion forum of urban forestry issues (with SRES colleagues) and ACT government officers.

KANOWSKI, Prof P.J., co-supervised research student projects with colleagues from CSIRO Forestry and Forest Products and CSIRO Sustainable Ecosystems, and the Queensland Forestry Research Institute; Member, ACT Non-Urban Land Use Study Steering Committee; Panel Member, COAG National Inquiry into Bushfire Mitigation and Management; Interim Director, International Partnership for Forestry Education.

LEES, Dr B., was active in assisting the merging of the five main spatial science professional organisations in Australasia; AURISA, the Institute of Surveyors, the Mapping Sciences Institute, the Institution of Engineering and Mining Surveyors, and the Remote Sensing and Photogrammetry Association of Australia under the Commonwealth Government Spatial Industry Action Agenda 2001. In 2003, in particular, he took a significant role in the first merged conference of these bodies as program manager.

LETCHER, Dr R. presented Linking farmer decisions to catchment scale processes to the Farming Systems Forum hosted by the Australian Cotton research industry; presented Resource Management in the Murray-Darling Basin to high school students; member, National Cotton Research project.

MACKEY, Dr B., member of CRC for Greenhouse Accounting project C1 Constraining the terrestrial carbon cycle from landscape to continent; associate editor of Environmental Conservation, published by Cambridge University Press; organised symposium on the theme of large scale connectivity and conservation planning for 2003 Ecological Society of Australia Conference; co-chair, IUCN Commission on Environmental Law, Ethics Specialist Group; invited keynote speaker at international workshop on Conservation Area Design for British Columbia, University of British Columbia, November 2003; invited speaker, Workshop on Environmentally and Socially Appropriate Economic Development for Cape York Peninsula, JCU Cairns Campus, November 2003, organized by The ACF and the CRC for Tropical Forests; World Parks Congress, Durban South Africa, September 2003, organised by the IUCN (The World Conservation Union); invited Chair, session on "Wilderness, biodiversity conservation and protected areas"; The Future of Ecolabelling in Australia, invited Chair, Plenary Session, a conference jointly organized by the Regulatory Institutes Network The Australian National University and the Australian Environmental Labelling Association with the support of the United Nations Environment Program, Australian Academy of Science, Canberra, 9-10 October 2003; invited speaker at The Australian National University, Centre for Resource and Environmental Studies Ian Moore Memorial Symposium on Terrain Analysis, September 2003; invited speaker at international conference on ecological integrity, public health, justice and law, Urbino Italy, organised by the Global Integrity Network.

MAHENDRARAJAH, Dr S., cooperated with Dr K Jegasothy, Department of Applied Economics, Victoria University on transfer function modelling of demand of timber products; cooperated with Dr Velu Rasiah, Department of Natural Resources, Mareeba, on optimal nitrate management in sugarcane and banana production systems for mitigation of pollution externalities at Great Barrier Reef; continued research collaboration with Dr Dan Etherington, Managing Director of Kokonut Pacific Pty Ltd on the refinement and promotion of direct micro-expressed coconut oil as a renewable energy source for rural industry; cooperating with Phil Townsend, NAFI, on the analytics of supply and demand factors in medium run projection of markets for Australian forest products; member, Accreditation Panel for Agriculture, Board of Senior Secondary Studies, reviewing and approving college course initiatives; member, Forest Economics research group, CRC- Sustainable Production Forestry.

NEWHAM, Dr L.T.H. member, National River Contaminants Program project; workshop presentation on the use of the CatchMODS modelling system for Ben Chifley Dam Steering Committee and local government representatives; invited presentation titled 'Catchment Scale Water Quality and Quantity Monitoring and Modelling' to Environment ACT natural resource managers; invited presentation titled 'Ben Chifley Modelling System' to Science Branch, NSW

Environment Protection Authority; presentation title 'Natural Resource Management in the Murray-Darling Basin' to high school students.

NORTON, Prof J. member, Technical Committee on Modelling Identification and Signal Processing International Federation of Automatic Control; invited speaker at workshop of International Institute for Applied Systems Analysis, Laxenburg, Austria.

RACE, Dr D., collaborated with Dr David Freudenberger, CSIRO Sustainable Ecosystems, on the project "Farm Forestry for Green and Gold"; commenced preliminary research with scientists at ACIAR, CIFOR, FORDA and WWF to review company-community partnerships in Indonesia; conducted research with Dr Isla Grundy, the University of Stellenbosch, to assess company-community partnerships in South Africa, for an ACIAR project, led by Professor PETER KANOWSKI, member, Sustainable Silviculture Program, CRC Sustainable Production Forestry; member, AFFA's Reference Group for National Farm Forestry Coordinator; and acted as a referee for two scientific journals.

SLEE, Dr M., assisted editorially with several Rural Industries Research and Development (RIRDC) publications and continued work on the improvement of commercial eucalypt oil production as part of the Joint Venture Agroforestry Program, sponsored by RIRDC, Land and Water Australia and FWPRDC; participated in a Research Planning Workshop on Abnormal Vertical Growth in Macadamia at Bundaberg organized by the Australian Macadamia Society in conjunction with Horticulture Australia, The Queensland Department of Primary Industries and CSIRO; examined PhD theses at Universiti Putra Malaysia, and Sri Venkatesawa University, Tirupati, India.

TIDEMANN, Dr C.R., continued to serve on the Flora and Fauna Committee of the ACT Government and on IUCN (World Conservation Union) Specialist Groups: Chiroptera (Bats); Sustainable Use of Wildlife and Invasive Species; collaborated with a number of NSW Councils to develop management strategies for control of pest birds.

TURNER, Dr B., lead author, "Good Practice Guidance for Land Use, Landuse Change and Forestry" by Intergovernmental Panel on Climate Change, at request of Australian Greenhouse Office.

van DIEMEN, Dr P., team leader, Asian Development Bank, reviewed all their small business programs since 1990, worth over US\$4 billion and spread over 20 countries; collaborated with the Economics Department of the Free University of Amsterdam on a joint project funded by the ILO, investigating cluster development in Indonesia; collaborated with Mahidol University, Thailand and ANU, SRES in hosting and jointly teaching GEOG 3015.

## Medical School

BUCKLEY, A/Prof. N., member, editorial board, Australian Medicines Handbook; member, editorial board, Drug Safety; member, editorial board, Toxicological Reviews; member, editorial board, TOXINZ; member, editorial board, Poisindex; member, National Prescribing Service Communications Working Group; member, National Prescribing Service Curriculum and Training Working Group; member, Royal Australasian College of Physicians Written Examination Committee.

BUDGE, Assoc Prof. M speaker at Commonwealth Department of Health & Ageing Hosting an ARCHI Forum, Sydney; Fourth International Conference on Homocysteine Metabolism Basel, Switzerland; Health Outcomes 2003 9th Annual Conference, Canberra; ARCHI Seminar, Noosaville Qld; Seminar, High Blood Pressure Research Council of Australia, Melbourne; Mental Health and Ageing Division Workshop DOHA; Member, Older Persons Theme Committee, 45 AND UP Study, Institute of Health Research, University of Sydney; Grant Assessor, NHMRC; Journal Reviewer for Stroke, Neuroscience, Journal of Internal Medicine.

DAHLSTROM Assoc Prof. JE, member of organising committee for the professional day at Pathology Update 2003, Royal College of Pathologists of Australasia, Sydney; examiner Part I, Anatomical Pathology, Royal College of Pathologists of Australasia; Anatomical Pathology representative on Pathology Professional Activities Committee, Royal College of Pathologists of Australasia; member of Anatomical Pathology Advisory Committee, Royal College of Pathologists of Australasia; member of subcommittee developing a curriculum for the Royal College of Pathologists of Australasia; convenor of Quality assurance symposium and Error and error reduction symposium at the XXV Congress of the International Academy of Pathology (IAP) Congress 2004, Brisbane; member ACT and Southern Eastern NSW Breast Cancer Treatment Group and Research subcommittee member;; member on ACT Cervical Cytology Management Committee;; member Clinical Review Committee, The Canberra Hospital; member of ACT Health and Community Care Human Research Ethics Committee; Member of editorial boards and journal reviewer; reviewer for the journals Pathology, Experimental Lung Research and Oncogene; member of editorial board of Pathology; speaker at National Youth Science Forum (University of Canberra); speaker at Australasian Division of the International Academy of Pathology, Sydney; speaker at 21st Review and Recent Advances in Pathology, Sydney.

DAVIS Dr AJ, member of ACT and SE NSW Breast Cancer Treatment Group; member of ACT and SE NSW Colorectal Cancer Treatment Group.

DREW, Dr (Snr Lect) LRH Board Member, Richmond Fellowship of the ACT; Reviewer for Australian and New Zealand Journal of Psychiatry and CNS Drugs.

DOUGLAS Dr KA member, National Heart Foundation Australia Obesity Overweight and Cardiovascular Disease Working Group; ACT Children's Plan Steering Committee; ACT Children's Plan Health Sub-Committee; Federation of Rural Australian Medical Educators (FRAME) Reference Group; Rural Doctors Network Medical Training Forum; National Consortium for

Education in Primary Medical Care (NCEPMC); Management Committee; Executive Member of The Canberra Hospital's Division of Community Medicine; Queanbeyan Health Campus Redevelopment Steering Committee; University of Sydney Medical Program Community Term Committee; Canberra Clinical School Management Committee; delivered seminars in vocational training program for General Practice Education Australia Ltd; Reviewer, Australian Family Physician; Examiner, the RACGP FRACGP Examination.

ELLWOOD, Prof D member of AMWAC O & G Workforce, Member of Review Panel for Maternity Services in Goulburn SAHS, Expert Medico-legal Specialist for South Australia Health Commission, Northern Territory Health & Community Care Complaints Commission, Western Australia Medical Board, Queensland Health & in New South Wales; member of ACTORDS Study W & C Hospital Adelaide; member of The Australian Doctor Advisory Panel.

FAUNCE, Dr TA reviewer for Int. J Law and Psychiatry; reviewer for Medical Education; Chair, John James Hospital Ethics Committee (surrogacy, IVF); member, Canberra Hospital Clinical Ethics Committee; member, Board of Australian Institute of Health law and Ethics (AIHLE); member Australian Teachers of Ethics and Law in Medicine (ATEAM); Course instructor, ACT Department of Justice and Community Services, Human Rights Act Training Program; Presenter, Australian Senate Conference on health impacts of US-Australia Free Trade Agreement.

FRICKER Prof. PA Chairman, Medical Commission, Australian Commonwealth Games Association; member, Medical Commission, The Australian Olympic Committee; Medical Director, Australian Olympic Team to Athens 2004; member, Australian Sports Drug Medical Advisory Committee; reviewer for British Journal of Sports Medicine, Clinical Journal of Sports Medicine, Physician and Sportsmedicine.

GATENBY, Prof. PA member of Board of the National Health Science Centre; member of Life Sciences panel of the CRC program, DEST; member of ACT Health and Medical Research Council; member of Committee of Deans of Australian Medical Schools; assessor for NHMRC grants; reviewer for Medical Journal of Australia, Internal Medicine, Pathology; moderator, Poster Session, Student selection, The Network Towards Unity For Health, Annual Conference, Newcastle, NSW 2003; member of planning committee for the 11th International Meeting on Phospholipid Antibodies.

LOOI, Dr (Snr Lect) J.C.L., Director, Research Centre for the Neurosciences of Ageing, OPMHS, ACT Health; member, International College of Geriatric Psychoneuropharmacology; Secretary, Committee for Education & Training; Royal Australian and New Zealand College of Psychiatrists; member, Bi-National Board of Research representing Early Career Researchers; member, Australian Medical Association; member, Federal Committee for the Care of Older People representing the Faculty of Psychiatry of Old Age, RANZCP, Australian Medical Association; Co-Chairman and speaker, Seminar on Issues in Late-Life, Older Persons Mental Health & Research Centre for the Neurosciences of Ageing; Chairman, New Researcher Session Organising Committee, 39th RANZCP Congress Christchurch 2004, Royal Australian and New Zealand College of Psychiatrists; Chairman, Early Career Researcher Session,

ACT Health & Medical Research Conference 2004 Organising Committee; co-author, Neuropsychiatry Module, New South Wales Institute of Psychiatry Postgraduate Course in Psychiatry; Supervisor, Research Supervisor, Advanced Training Program in Psychiatry of Old Age, Faculty of Psychiatry of Old Age & Postgraduate Training Program in Psychiatry, Mental Health ACT; Invited Consultant, James Cook University & Townsville Mental Health Services/Queensland Health; Invited Consultant, Commonwealth Department of Health, Aged Care & Community Care; Invited Consultant, Home from Home Day Respite Program, Commonwealth Department of Health, Aged Care & Community Care/Veterans Affairs/Carers ACT; speaker, Board of Research Workshop, 38th Royal Australian and New Zealand College of Psychiatrists Congress, Hobart 2003; Expert Panelist for 2 Workshop Aged Care Session, ACT Division of General Practice; Expert Panelist & Presented Lecture, Geriatric Medicine Nursing Education Session; Invited Lecturer, Postgraduate Mental Health Nursing, La Trobe University/Mental Health ACT; Expert Panelist and Workshop Facilitator, General Practitioner Continuing Medical Education, various venues; Expert Panelist & Presented Lecture, ACT Division of General Practice, Canberra; Invited Workshop Facilitator, Illawarra Health Service Postgraduate Course in Psychiatry & Consultant Psychiatrist CME; Invited Lecture, Central Sydney Area Health Service Postgraduate Course in Psychiatry; Invited Lecture, Faculty of Psychiatry of Old Age (RANZCP) Annual Scientific Meeting, Brisbane; Invited Lecturer, University of the Third Age & Council of the Aged Joint Meeting.

LUECK, Assoc Prof. C reviewer, Journal of Neurology, Neurosurgery and Psychiatry, British Journal of Ophthalmology; presented lectures to the Canberra branch of the Royal Australasian College of Physicians, the Movement Disorders Society; member, NSW/ACT Neurology Advanced Trainee committee.

MARTIN, Dr, R. Member of Australian Medical Council Accreditation Team for University of Newcastle Medical School.

MITCHELL Dr IA Chair, Clinical Review Committee, The Canberra Hospital; Member, Medical Advisory Committee, The Canberra Hospital; member, Clinical Privileges Committee, The Canberra Hospital; member, ACT Medical Board; member, Clinical Audit Committee, ACT Health; member, ACT Organ Donation Taskforce, ACT Health; ACT Council Representative for NSW Postgraduate Medical Council; ACT Representative for NSW Intensive Care Implementation Group; Reviewer for Anaesthesia and Intensive Care.

OWEN, A/Prof C. member, Commonwealth Dept of Health - Mental Health Member National Mental Health Working Group; Hobart Psychiatry Review for Royal Hobart Hospital; Member RANZCP Board of Research

PHILLIPS, Dr C. member, ACT Corrections Health Board; member; ACT Cervical Screening Committee; member, Relationships Australia National Ethics Committee; member, Riverina and Greater Murray Refugee Service Network; medical adviser, Companion House Regional Settlement Program; external referee, Medical Journal of Australia, Australian Family Physician; delivered seminars in vocational training program for General Practice Education Australia Ltd; examiner, Royal

Australian College of General Practitioners.

REYNOLDS, Associate Professor Graham J. Member, ACT Government, Interagency Committee, Children's Plan; Member, ACT Government, ACT Health, Children's Plan, Health Subcommittee; Member, ACT Health Portfolio IT/IIM Committee; Director of Paediatric Clinical Training at the Canberra Hospital, Royal Australasian College of Physicians; Member, Committee for Paediatric Clinical Training, Royal Australasian College of Physicians; Director, Children's Hospital's Australasia; Director, Australia and New Zealand Neonatal Network (ANZNN); Director, Perinatal Services Network, NSW Health; Member, Advisory Board, Therapy ACT, ACT Department of Education; Member, Greater Eastern and Southern Child Health Network(GESCHN), NSW Health Department; Member, Paediatric Professorial Heads of Department, Australia; Director of Paediatrics and Child Health, Director of Neonatology, The Canberra Hospital, ACT Health; Member, Executive, Women and Children's Health Service Management Team, The Canberra Hospital.

RICHARDSON, Prof D. AACEM-Levy Family Visiting Professor at University of Cincinnati Department of Emergency Medicine; Member of National Institute of Clinical Studies Emergency Department Collaborative Steering Committee; Chair, Aust College of Road Safety ACT faculty; Member, Australasian College for Emergency Medicine ACT faculty; Member of St John's Ambulance Medical Standards Committee; ACT Councillor, Australasian College for Emergency Medicine; Speaker, National Institute of Clinical Studies Emergency Department Collaborative; Speaker, Queensland Health Surgical Access Meeting; Speaker, Australian College of Road Safety Workshop; Reviewer, Medical Journal of Australia.

YIP Dr D, council member of Clinical Oncological Society of Australia (COSA), Chair of COSA Gastrointestinal Group, Convenor COSA 31st Annual Scientific Meeting, Canberra (2004) member of ACT Health and Community Care Clinical Trials Sub-Committee, National Health and Medical Research Council (NHMRC) and Australian Cancer Network Working Party for Update of Clinical Guidelines for the Management of Colorectal Carcinoma, member of ACT and SE NSW Colorectal Cancer Treatment Subgroup and Breast Cancer Treatment Subgroup, speaker at Australian and New Zealand Gastrointestinal Cancer Institute Launch, Canberra and Cancer Council ACT Living with Cancer programme, chaired working committee to establish Cancer Resources Centre and Carers' Lounge at The Canberra Hospital.



## University Schools and Centres

### Asia Pacific School of Economics & Government

BENNETT, J., Australian Agricultural and Resource Economic Society, President; Economic Society of Australia, member; Centre for Independent Studies Advisory Council, member; Environment Institute of Australia, member; Australian Journal of Agricultural and Resource Economics, associate editor; Australian Journal of Environmental Management, member of the editorial advisory board; Centre for Independent Studies, member of advisory board; Land and Water Australia, occasional adviser; Commonwealth Treasury, short courses.

DE BROUWER, G., American Economic Association, member; East Asian Economic Association, member; Economic Society of Australia, member.

CHAND, S., American Economic Association, member; Economic Society of Australia, member; Government of Papua New Guinea, Adviser.

DRYSDALE, P., Economic Society of Australia and New Zealand, member; Royal Economic Society, member; Asian Studies Association of Australia, member; Australian Studies Association of Japan, member; Waseda University, member of the Asia Pacific Institute International Advisory Board; Japan Economic Association East Coast USA, member; Japanese Studies Association of Australia, member; Korean Studies Association of Australia, member; United States Academy of Political Science, member; International Standing Committee, coordinator of the Pacific Trade and Development Conference; Korea Institute for International Economic Policy, member of the panel of International Advisers; Columbia University, Research Associate in the Center on Japanese Economy and Business; Stanford University, Distinguished Associate, Asia Pacific Research Center; Harvard University, member of Asia Vision 21 Project; Australian Academy of Social Science, fellow; Ritsumeikan University Kyoto, member of the International Advisory Board; Peking University, member of the International Advisory Board for the China Center for Economic Research; Sydney Institute, board member; Economics Today, member of the editorial advisory board; IDRC Journal, member of the editorial advisory board; Japanese Studies, member of the editorial advisory board; Journal of Economic Studies, member of the editorial advisory board; Journal of Asian-Pacific Economic Literature, member of the editorial board; Pacific Review, member of the editorial advisory board; Routledge Economics/Asian Series, member of the editorial advisory board; World Bank Book Series, member of the editorial advisory board; Blake Dawson Waldron and BHP Billiton, adviser for the BHP Coal Appeal; Asia Pacific Advisory Committee, International Trade; Department of Foreign Affairs and Trade, Strengthening Australia-Japan relationship; Chinese Academy of Social Sciences and the Chinese Ministry of Foreign Affairs, APEC issues; Department of Treasury, Regional Financial Integration, Services Industry Research; NGSM, teaching course on Business, Government and the International Economy: The Case of East Asia and the Pacific.

DWYER, T., American Economic Association, member; Economic Society of Australia, member; Australian Business Economists, member; Taxation Institute of Australia, fellow; Financial Planning Association of Australia, member.

FINDLAY, C., Economic Society of Australia, member; Australian Pacific Economic Cooperation Committee, vice chair; Pacific Economic Cooperation Conference Coordinating Group, chair; Foreign Affairs Council, member; Australian Secretariat for the APEC Business Advisory Council, staffer; World Bank, Consultant on trade in services.

GANGULY, R., Australian Institute of Management, fellow.

GROGAN, D., AusAID, consultancy; Asian-Pacific Economic Literature Journal Subscription, member, Canberra Society of Editors; Pacific Economic Bulletin, associate editor. University of the South Pacific and the Foundation for Development Cooperation, coordinating Pacific Updates. Lae Chamber of Commerce and Industry, Institute of National Affairs, Lae & Port Moresby and the University of Goroka, Divine Word University, Madang, coordinating Papua New Guinea Updates.

HESS, M., editor, Labour and Management in Development, Human Resource Management in Papua New Guinea with the University of Papua New Guinea.

JAMES, H., Yangon University, strategic development; University of Malaya, strategic development; Universiti Kebangsaan Malaysia, strategic development; Nature and Society Forum, public presentation to the forum on 'The Political Ecology of Sustainable Development in Myanmar'; Cambridge University, visiting fellow and seminars presented in October and November 2003.

LAL, P., Australia and New Zealand Society of Ecological Economics, executive member; Australian Institute of Agriculture Science and Technology (IAAST), member; International Society for Mangrove Ecosystems, life member; AusAID, Evaluating CARD Project Proposals; Productivity Commission, evaluating their environmental research proposal; South Pacific Regional Environment Environmental Program, Economic considerations in community based development and conservation projects; ALTA Task Force, Fiji, Economics of alternative land tenure options.

LEUNG, S., AusAID, Ho Chi Minh National Political Academy teaching and research project on public policy; United Nations Development Program Implementation of the Vietnamese Government's ten-year socio-economic strategy; Department of Foreign Affairs and Trade, Corporate governance in Vietnam.

LARMOUR, P., NSW Independent Commission Against Corruption, Corruption and Anti-Corruption training course. AusAID, Governance and Poverty Reduction Training Course.

MACINTYRE, A., Australian Defence College, Guest Lecturer; ONA, consultancy, Trends in East Asia, Canberra; DFAT, consultancy, The United States and Asia, Canberra; AusAID, consultancy, US Aid Policy, Canberra; Asian Survey, editorial board; Pacific Review, editorial board; Bulletin of Indonesian Economic Studies, editorial board; Journal of East Asian Studies, editorial board; Journal of the Asia Pacific Economy, editorial board; Journal of Southeast East Asian Business, editorial board;

Asian Pacific Economic Literature, editorial board; Stanford University, conference presentation on Institutions and the Political Economy of Corruption in Developing Countries, Center for Development, Democracy and the Rule of Law; University of Southern California, conference presentation on Indonesia and Southeast Asia: Internal and Regional Developments, Pacific Council on International Policy; The Australia-United States Alliance Canberra, conference presentation for the Hedley Bull Conference; Charles Darwin Symposium Three, conference presentation at The Eye of the Storm: Northern Australia's Location in an Arc of Instability; Tsinghua University, Beijing, China, conference presentation at the East Asia Security Cooperation Symposium, Economic Interdependence and Regional Security Cooperation in East Asia; PAFTAD 29, conference presentation on Reshaping the Asia Pacific Economic Order "Politico-Strategic Dimensions of Economic Cooperation in the Pacific; NGSM, teaching course on Business, Government and the International Economy: The Case of East Asia and the Pacific.

REILLY, B., International Institute for Democracy and Electoral Assistance, Stockholm, electoral advisor; Constitutional Commission of Afghanistan, advisor; National Democratic Institute, consultant to Guyana; East West Center, Honolulu, Hawaii USA, Visiting Fellow; Journal of African Elections, member of the editorial board, Representation.

SIDORENKO, A., AusAID, Global Distance Learning Initiative (Virtual Colombo Plan); MOFTEC, China Economics and Foreign Trade Training Project, Insurance Policy Study.

SONG, L., International Finance Corporation (IFC) and State Economic and Trade Commission (SETC), Key findings from the survey of privatised state-owned enterprises, China; International Finance Corporation (IFC), the World Bank and Mekong Private Sector Development Facility (MPDF), Key findings from the survey of private enterprises, Vietnam.

TAIT, M., Asian-Pacific Economic Literature, member of the editorial board; Pacific Economic Bulletin, editor, member of the editorial board; Cambridge University Press, executive editor of the Trade and Development Series; University of the South Pacific, Tonga, National University of Samoa, coordinating Pacific Updates; Institute of National Affairs, University of Papua New Guinea Port Moresby and Mt Hagen, and the University of Goroka, coordinating Papua New Guinea Updates.

TEUEA, T., Australian Institute of Banking and Finance, Senior Associate Professional Membership.

## Centre for Aboriginal Economic Policy Research

ALTMAN, Prof. J.C., board member and Adjunct Professor, Key Centre for Tropical Wildlife Management, Charles Darwin University (CDU); member, Scientific Program Advisory Group, Tropical Savannas Management CRC, CDU; ARC-appointed Chair, Committee of Review, 2nd year review, Tropical Savannas Management Cooperative Research Centre, CDU; member, Organising Committee, Charles Darwin Symposium Series, CDU; member, Research Advisory Board, VicHealth Koori Health Research and Community Development Unit, University

of Melbourne; member, Advisory Committee to the Cultural Ministers Council Statistics Working Group, Department of Communications, Information Technology, and the Arts; Associate Editor, *Journal of Tourism Studies*; member, Advisory Board, *TAPJA* (The Asia Pacific Journal of Anthropology); referee, *APPEA Journal*, *Australian Journal of Public Administration*, *Economic Papers*; referee, Department of Agriculture, Fisheries and Forestry; Referee, AIATSIS research grants program; international assessor, ARC; member, Australian and New Zealand Network of the Sustainable Use Specialist Group of the International Union for the Conservation of Nature and Natural Resources; member, Reconciliation Australia Banking Project Steering Committee; member, Steering Committee, Garma Festival; assisted the Indigenous Business Review team; opinion leader on partnership with Rio Tinto Ltd Indigenous Australians programs and community relations programs; review of fisheries report for Department of Agriculture, Fisheries and Forestry.

BRADY, M., member, Expert Advisory Committee on Alcohol; Collaboration with colleagues at the University of Queensland, Queensland Health, Wu-Chopperan Aboriginal Health Service (Cairns), on Health Information (touch-screen) Technology; advice to UNICEF re planned activities in Central Australia; advice to population Health (Commonwealth) re Indigenous substance misuse; referee, *Contemporary Drug Problems*, *Social Science and Medicine*, and *Australian and New Zealand Journal of Public Health*; grant assessor, Alcohol Education and Rehabilitation Foundation, National Drug Law Enforcement Fund.

HUNTER, B., Australian Census Analytic Program Fellow with the Australian Bureau of Statistics to examine 'Factors underlying Indigenous labour force status, 1981–2001'; Research Associate, Centre for Applied Economics, The Hawke Institute, University of South Australia, Adelaide; member, Editorial Board, *Australian Journal of Labour Economics*; referee, *Economic Papers*, *Economic Record*, and *Australian Journal of Labour Economics*; assessor, ARC; assisted the Indigenous Business Review team.

LEVITUS, R., cooperation with Northern Land Council on site mapping in Mt Bunday area, Northern Territory.

MARTIN, D.F., member, Executive, Australian Anthropological Society; Commonwealth inter-departmental Technical Working Group developing reforms to the Prescribed Bodies Corporate regime under the Native Title Act.; cooperation with the South West Land and Sea Council on appropriate trust and compensation distribution mechanisms; cooperation with Aurukun Shire Council and Cape York Partnerships on strategies and issues regarding alcohol, community justice and economic development issues in Aurukun and Napranum; assisted the Indigenous Business Review team.

MORPHY, F., member, Indigenous Enumeration Strategy Working Group, Australian Bureau of Statistics.

SANDERS, W., expert witness at Parliamentary Joint Standing Committee on Electoral Matters Inquiry into Representation of the Territories in the House of Representatives, Parliament House; member, Indigenous Enumeration Strategy Working Group, Australian Bureau of Statistics; member, Breaching Review Taskforce, Department of Family and Community

Services; grant assessor, Australian Housing and Urban Research Institute; reviewer, ARC application.

SCHWAB, R.G., member, National Centre for Vocational Education Research Ltd Indigenous Student Outcomes Survey Advisory Group; referee, *Australian Aboriginal Studies*; cooperation with Northern Territory Department of Education, Employment and Training on the Self-managing Schools/Community Controlled Schools initiative; assisted the Indigenous Business Review team; advice to the Enterprise and Career Education Foundation; Indigenous Education Branch, Department of Employment, Science and Training; Western Australia Department of Education and Training; Asia-Pacific Centre for Philanthropy and Social Investment, Swinburne University evaluation of the Rio Tinto Aboriginal Foundation; Environment Australia as part of Council of Australian Governments Indigenous Community Coordination Pilot; ANU Representative on Community Radio 2XXfm Board of Management.

SMITH, B., advice to North Queensland Land Council, Central Queensland Land Council and Cape York Land Council on native title matters; Cape York Partnerships on establishment of 'Computer Culture' project in Coen region, central Cape York Peninsula; Chuulangun Aboriginal Corporation.

SMITH, D.E., member, Steering Committee for the Building Effective Indigenous Governance Conference; Northern Territory Government on Indigenous governance and economic development; Udall Public Policy Centre, The Native Nations Institute and the Harvard Project in Tucson, USA on comparative Indigenous governance research.

SUTHERLAND, D., member, Aboriginal and Torres Strait Islander Advisory Committee; Member, Australian Council for Educational Research; member, ACT Indigenous Education Consultative Body; member, ACT Council of Australian Governments Indigenous Community Coordination Taskforce Indigenous Working Group, (Phase 1 and 2); member, National Indigenous English Literacy and Numeracy Strategy Reference Group, ACT Canberra Institute of Technology and Yurauna Centre; member, National Indigenous English Literacy and Numeracy Strategy Reference Group, Department of Education, Youth and Family Services; cooperation with Environment Australia as part of Council of Australian Governments Indigenous Community Coordination Pilot (with R.G. Schwab); advice to ACT Department of Education, Youth and Family Services on Review of Indigenous Education in the ACT; National Centre for Vocational Education Research Ltd on Indigenous student outcomes survey and Indigenous Research Strategy in Vocational Education and Training; NSW Aboriginal Early Childhood Support Services Unit; Department of Employment and Workplace Relations; member, Winnunga Nimmityjah, Aboriginal Medical Service.

TAYLOR, J., member, Australian Bureau of Statistics Advisory Committees for the Indigenous Social Survey and the General Social Survey, and Indigenous Enumeration Strategy Working Group; expert witness at Parliamentary Joint Standing Committee on Electoral Matters Inquiry into Representation of the Territories in the House of Representatives, Parliament House; assisted the Indigenous Business Review team; cooperation with colleagues at University of Queensland,

University of Waikato, University of Houston, University of Calgary, Mahidol University, McMaster University and Stanford University in the production of a volume on Indigenous population mobility; cooperation with University of Queensland on demographic research proposal to the Desert Knowledge and Tropical Savannas Cooperative Research Centres; advice to NT Department of Community Development regarding data needs for regional planning; Council of Australian Governments Indigenous Community Coordination Taskforce on data needs for baseline profiles; Department of Immigration, Multiculturalism and Indigenous Affairs regarding census analysis.

## Centre for Continuing Education

DASH, Mr J, committee member, University Association of Lifelong Learning; deputy chair, Capital Region Enterprise and Employment Development Association

## Centre for Cross-Cultural Research

CHURCHER, Ms Betty, deputy chairman, Australia-India Council; undertook review of the Parliament House Art Collection, Canberra.

EDMUNDS, Dr Mary, member, National Native Title Tribunal; member, National Alternative Dispute Resolution Advisory Council; member, AIATSIS Native Title Research Advisory Committee; member, AIATSIS Indigenous Facilitation and Mediation Project; research consultant to the Human Rights and Equal Opportunity Commission for the Social Justice Commissioner's Native Title Report 2003.

FRENCH, Ms Alison, expert advisor, Art Gallery of South Australia's "Namatjira Treasure Day" and the Queensland Art Gallery's "Namatjira Open Day".

HAYNE, Ms Katie and Stephen ZAGALA, prepared a film for the successful Intangible Heritage application submitted to UNESCO by the Vanuatu Cultural Centre.

MORPHY, Professor Howard, Olwen BEAZLEY and Ursula FREDERICK, co-convened a Visiting Scholars Program on "Diasporas and Contested Cultural Heritage" with the Commonwealth Department of the Environment and Heritage.

MORPHY, Professor Howard, member, Expert Advisory Committee, Australian Research Council; consultant on native title issues, Northern Lands Council; fellow, Australian Academy of the Humanities; fellow, Australian Academy of the Social Sciences; adjunct curator, Kluge-Rhue Aboriginal Art Collection, University of Virginia, USA; chairperson, Wenner-Gren Foundation for Anthropological Research Expert Advisors Committee, New York, USA; member, Australian Institute of Aboriginal and Torres Strait Islander Studies; fellow, Royal Anthropological Institute of Great Britain and Ireland; member, American Anthropological Association; member, Association of Social Anthropologists of the UK and the Commonwealth.

READ Professor Peter, public officer, Link Up (NSW) Aboriginal Corporation; address on black armband history to the Western Australian History Teachers Association; address as part of Heritage Week 'Night Sittings' at Old Parliament House,

Canberra: public lecture "Facing the Bushfires" for Canberra Museum and Gallery; research consultant for "Seven Years On" (Aboriginal Oral History Project) for the National Library of Australia.

THOMAS, Dr Mandy, vice president, Australian Anthropological Society.

## Centre for Educational Development & Academic Methods

COLLINS, Mr R: A national survey of the Australian Judiciary's training needs and IT facilities for the National Judicial College of Australia.

COLLINS, Mr R: (As a consultancy) provided survey design and analysis expertise to the Charles Darwin University on a project to survey their first year students.

PEARSON, Ms M: Inter-University Consortium Steering Group – FIRST (for Improving Research Supervision and Training); Member, comprising members from UTS, Sydney University, QUT and the ANU. The consortium includes over 30 institutions from Australia and New Zealand. FIRST is a web-based resource for supervisors and others with responsibility for research training.

PEARSON, Ms M: 'Postgraduate Research Students and Generic Capabilities: online directions'; Advisory Group committee Member, Department of Education, Science and training project under its Research Evaluation programme.

## Centre for Mental Health Research

ANSTEY, Dr K.J., convenor, ACT APS Ageing Interest Group; member, Management Board, NHMRC Prevention of Injuries in Older Persons; member, Scientific Advisory Board, NHMRC Prevention of Injuries in Older Persons; panel member, NHMRC Training Awards Committee for Training Fellowships; Board of Editors, Psychology and Aging; member, Board of Editors, Ageing International.

BUTTERWORTH, Dr P., Reviewer Panel, Victorian Centre of Excellence in Depression Research Grant Applications. Consultant, Department of Family and Community Services.

CHRISTENSEN, Prof. H, member, Scientific Committee of the Alzheimer's Association; member, Medical and Scientific Panel of Alzheimer's Australia Research and Alzheimer's Australia; member of the Executive, The Australasian Society for Psychiatric Research; chair, Medical and Dental Scholarships B NHMRC, Member, Training and Awards Committee, NHMRC; member, Australian Health Information Committee, member, blueboffins (subcommittee of BlueVoices, an initiative of beyondblue); Reviewer Panel, Victorian Centre of Excellence in Depression Research Grant Applications; member, Editorial Panel, beyondblue web site; member, Advisory Board, Reachout!; member, Board of Editors, Gerontology: International Journal of Experimental and Clinical Gerontology; member, Board of Editors, Psychology and Aging.

GRIFFITHS, Dr K.M., chair, beyondblue bluevoices Research Committee (blueboffins); Australian Research Team for the Australia-Japan Partnership; member, beyondblue bluevoices Management Committee; member, ACT Suicide Prevention Working Party.

JORM, Prof. A.F., co-opted member, Board of the Mental Health Council of Australia; member, Committee of World Psychiatric Association Section of Epidemiology and Public Health; member, Executive of the National Association of Research Fellows; member, Medical and Scientific Advisory Panel, Alzheimer's Disease International; chair and trustee, Beyondblue Depression Research Ancillary Fund Trust; member, Research Committee of the ORYGEN Research Centre; member, Research Committee of the Australian Rotary Health Research Fund; member, NHMRC Research Committee; member, NHMRC Assessment Panel for Howard Florey Centenary Fellowships; member, NHMRC Program Grants Committee; member, Medical and Scientific Panel of Alzheimer's Australia Research and Alzheimer's Australia; member, NISAD Scientific Advisory Committee; member, Australian Research Team for the Australia-Japan Partnership, Board of Editors, Brain Aging; member, Board of Editors, Australasian Journal on Ageing; member, Advisory Board, International Journal of Methods in Psychiatric Research.

KITCHENER, B.; member of the ACT Mindmatters Reference Group, member of the ACT Mental Health Providers Network (MHPN); representative of the MHPN on the ACT Mental Health Prevention, Promotion and Early Intervention (PPEI) Reference Group.

RODGERS, B; member, NHMRC Program Grants Committee; member, Public Health Grants Assessing Committee, Health Research Council of New Zealand, member, Separation Support Network; member, Reference Group, Review of Family Relationships Services Program, Commonwealth Department of Family and Community Services; advisor, Child Support Agency Suicide Prevention Pilot Study; advisor, Child Support Agency and Family Court of Australia *Me and My Mental Health* project; advisor, Family Court of Australia, Suicide Prevention Pilot Study; member, Board of Editors Journal of Social Welfare and Family Law.

## Humanities Research Centre

Collaborative conferences conducted by the HRC: 'The Archaeology and Environmental History of Southern Deserts' with Dr Mike Smith (National Museum of Australia); 'Books and Empire: Textual Production, Distribution and Consumption in Colonial and Postcolonial Countries' with Prof Elizabeth Webby (University of Sydney), and Prof. Paul Eggert (UNSW at ADFA); 'Forest, Desert and Sea' with Prof. Paul Turnbull (James Cook University); 'Genocide and Colonialism' with Dr Dirk Moses (University of Sydney); 'Envisioning the Future: Digital Research and Scholarship in the Humanities' with Dr Paul Turnbull (James Cook University and supported by the Australian Academy of the Humanities and the Centre for Cross-Cultural Research, ANU); 'Towards an Ecology of Practices' with Dr Brian Massumi (University of Montreal), Dr Sandra Buckley (Mc Gill University) and Steven Zagala (Centre for Cross-Cultural Research, ANU); 'Art and Human Rights' with Dr Jennifer Webb (University of Canberra), Ms Margo Neale (National Museum of Australia), 'State of Arts, Culture and Society in a Transforming South Africa' with Prof Mbulelo Mzamane, HRC Visiting Fellow with NIHCA and with Dr Jennifer Webb (University of Canberra) and South African High Commission and 'AD-The Art of the

Documentary' with Dr Catherine Summerhayes (National Institute of the Humanities and Creative Arts, ANU) supported by the National Museum of Australia, Rydges, ScreenSound Australia, Ronin Films, Australian War Memorial and the Centre for Cross-Cultural Research, ANU.

Joint performance and public program with the National Museum of Australia, Dr Michael Mel (August 2003); joint exhibitions with National Museum of Australia, National Gallery of Australia and Canberra Contemporary Art Space (August 2003); collaborative schools education program with the National Museum of Australia, Prof. Mbulelo Mzamane (November 2003).

BARCLAY, Dr G., (visiting fellow), ABC Radio interviews (4) as international relations expert on situation in Iraq, United Nations and Iraq, US threat to Syria, sheep trade to Middle East and China; Radio Singapore interviews (7) as international relations expert on Arab League resolution on Saddam Hussein, Iraq, US and Iraq and Turkey and Iraq; 2UH Newcastle radio interviews (2) on Iraq and the US threat to Syria; 3AH Melbourne radio interview on US threat to Syria; Radio 2SER interview on Iran; New Zealand Radio interview on Australian Foreign Policy; National Indigenous Broadcasting Service on Israel and Palestine; ABC-TV, World at Noon interviews (2) as international relations expert on United Nations and Iraq, War in Iraq; ABC-TV, 7.30 Report interview as international relations expert on US Threat to Syria; L'Express (France) interview on Australian policy on refugees; Manicichi Newspapers (Japan) email interview on Australian relations with Asia.

BELL, Mr R., (PhD student), member of Urban Services, ACT Arts and Cultural Services' Canberra Glass Centre Advisory Group; judge of Hermann's Art Award exhibition in Melbourne; delivered paper 'Engaging with Objects: The Language of Craft and Design' at NETS Victoria, Melbourne; and paper 'Decorative Arts and Design projects at the National Gallery of Australia' for the Craft Victoria forum for craft curators, Melbourne; presented lecture 'The Art of Glass' at The Canberra Museum and Art Gallery, ACT.

CHURCHER, Dr B., (joint appointment with the Centre for Cross-Cultural Research), Deputy Chair, Australia-India Council, refined the research and writing of the four-part SBS documentary, *Art Under Fire*. In her role with the Australia-India Council she led a delegation to India.

CLARK, Ms C., joint art forum program with NITA and National Museum of Australia, Dr Michael Mel, 30 July; collaboration with C.P. Biennial, Indonesia, September 2003; co-convenor 'State of Arts, Culture and Society in a Transforming South Africa' with South African High Commission and University of Canberra, 24 November.

ELLIOTT, Emeritus Prof. R., reviewed 25 books for The Canberra Times including books on medieval history and literature, music, fine arts, refugees and asylum seekers; presented papers at the University of the Third Age, Hawker College and Erindale College, ACT.

GALLA, Prof. A., (visiting fellow), President of Asia-Pacific Chapter of the International Council of Museums (ICOM).

GAMMAGE, Prof. B., commentator (with Philip Satchell) ABC Anzac day march broadcast and host, special Anzac program,

5DN, Adelaide; selection panel, Frederick Watson Fellowships, National Archives of Australia; member, Editorial Advisory Board, *War in History*, based in Cambridge and Colorado; Committee Member Manning Clark House.

KNELLWOLF, Dr. C., (visiting fellow), radio interview with ABC Radio National's Late Night Live on 'Frankenstein's Science conference; Radio 666 interview to promote public outreach program 'Electrifying Scientists' performance at the National Library of Australia.

MCCALMAN, Prof. I., Advisory Group, Commonwealth Government Review of National Research Priorities 2002-3; historical consultant, 2003 BBC documentary on Omai; historical consultant, 2003 BBC documentary on Nelson and Lady Emma Hamilton; historical consultant, 'History Detectives', 2003 documentary, Australian Broadcasting Commission; President, Australian Academy of the Humanities; National Academies Forum, Advisory Committee; Member, National Library of Australia Council; chaired selection panel, National Library of Australia Folk Festival Fellowship; Council for the Humanities Arts and Social Sciences, Steering Committee; Member, Australian Research Information Infrastructure Committee; Editorial Advisory Board, *Culture and Social History (UK)*; International Advisory Committee, Consortium of Humanities Centers and Institutes, Harvard University, USA; public lectures given, 'Moving the Intellectual Field Forward' at the Deans of Arts, Social Sciences and Humanities Conference, UTS, Sydney; 'From Reality TV to the Airport Bookshop: the pleasures and perils of popularizing scholarship', at the Centre for Cultural and Critical Studies, University of Queensland.; opening speech at National Scholarly Communications Forum, Sydney; panel speaker at Melbourne Writers' Festival and Brisbane Writers' Festival; opening speech and chair at Australian Academy of the Humanities Symposium, Melbourne; audio-visual recording 'Scholars and the Real World' for Perspective, ABC Radio National; audio-visual recording 'Omai: a Portrait', for Imagine, BBC Television, Channel 2, London. Interview with 'Bulletin', vol 121, June 2003, interview with 'The Gold Coast Bulletin' 24 June 2003; interview with 'The Age', August 2003. Radio interviews with ABC radio 666, 26 June, ABC radio 72R (Tasmania), 26 June, ABC radio 720 (Perth) 26 June, ABC radio 5DN (Adelaide) 27 June, ABC local radio Early Mornings 28 June, ABC Classic FM with Margaret Throsby 2 July, ABC radio National with Philip Adams 2 July, ABC radio 702 (Sydney), 3 July, ABC radio 5AN (Adelaide) 16 July and BBC World Service Outlook program on 3 July 2003.

MURPHY, Ms B., (PhD student), working with museum colleagues (electronically) on redefinition of the term "museum" for new Statutes, International Council of Museums (Paris) and world-wide use as base-standard definition of museums in cultural policy arenas; member of Commonwealth Government's Visions of Australia Committee; Vice-president of International Council of Museums, (ICOM), Paris, Maison de l'Unesco; member standing committee of Council: ICOM Legal Affaires and Property Committee; attended ICOM Executive Council and other meetings; member of Board, Museum Domain Management Association – a joint initiative of ICOM (Paris) and the J Paul Getty Museum & Institute (Los Angeles); member of International Committee for Museums and Collections of Modern Art (CIMAM); ex-officio member

of ICOM Australian National Committee and board of ICOM Asia-Pacific; adjunct professor and International program Adviser at Museum of Contemporary Art, Taipei; delivered paper 'Colin McCahon; regional questions' at Art Gallery of New South Wales symposium.

PICKERING, Dr P., office holder, Canberra Branch of the Society for the Study of Labour History; academic coordinator and presenter at the Summer School for History Teachers held in collaboration with the ACT History Teachers Association; historical advisor to the National Museum of Australia on a major exhibition on Immigration; presented international papers at the British World Conference, University of Calgary and the UK-Australian Labour History Conference, Manchester Metropolitan University.

TAYLOR, Prof. K., (visiting fellow), President, National Trust of Australia, ACT; Board member, Australian Council of National Trusts; member, ACT Planning Advisory Forum 2002-2003 (Minister for Planning appointment); member of ACT Historic Places Management Committee; member of ACTCode Advisory Panel, ACT; visiting professor Faculty of Architecture, Silpakorn University, Bangkok, International Postgraduate Program in Architectural Heritage Management and Tourism; invited participant and speaker at UNESCO Fourth Experts' Meeting, Borobudur World Heritage Site, July 2003; contributor to The Canberra Times Feb 2003 on Fires and Wilderness; assessor ARC Discovery Grants; consultant for the National Capital Authority; presented lecture 'Cultural Heritage Conservation and Tourism: Dilemma of the Chicken and the Egg' at the Managing Heritage Environment in Asia Symposium and Workshop, Yogyakarta, Indonesia.

TURNER, Dr C., member of selection committee for ACT panel of the Winston Churchill Memorial Trust Churchill Fellowships; historical advisor to the National Museum of Australia on development of major exhibitions 'Outlaws' (2003) and Immigration (forthcoming 2005); artistic advisor to the National Library of Australia on 2006 French Revolution exhibition development; member of Cultural Facilities Corporation (ACT Government); selection committee member for National Museum of Australia staff appointments; chair, session convener and commentary on French Art for the Annual Conference of Art Associations of Australia and New Zealand held at the National Gallery of Art. Minorities in Asia-Pacific Museums (ARC Grant) with Margo Neale, National Museum of Australia and Alison Carroll, AsiaLink, University of Melbourne. Research project director for 'Art and Human Rights', conference and exhibitions with National Gallery of Australia, National Museum of Australia, Canberra Contemporary Art Space, Drill Hall Gallery and Canberra School of Art, ANU with the following national media coverage: 20 May, exhibition profile, Muse; June, listing, Museums Australia Newsletter; June, listing, Art Almanac; June - August listing, Art & Australia; July, listing, Art Monthly; July, listing, Art Almanac; July, listing, Muse; 3 July, ANU Media Release; 10 July, review 'Witness to Silence Art & Human Rights' The Canberra Review; 10 July, listing, What's on, The Canberra Times; Southern Cross Ten Television; 17 July, interview, Dr Caroline Turner, ABC Radio 666; 17 July, interview, Dr Caroline Turner and Juan Davila, WIN News; 18 July, interview, Dr Caroline Turner, Artsound; 19 July, exhibition profile, 'Exhibition takes confronting look

at human rights' by Helen Musa, The Canberra Times; 22 July, exhibition profile, 'Human rights', The Canberra Times; 24 July, exhibition opening photographs, The Canberra Times; 24 July, listing, What's on, The Canberra Times; 26 July, review, 'Silence shattered' by Sasha Grishin, The Canberra Times; 31 July, listing, What's on, The Canberra Times; August, listing, Art Almanac; August, listing, Muse; 7 August, listing, What's on, The Canberra Times; 9 August, review, 'Rubbishing the artist raises itself to an art form' by Helen Musa, The Canberra Times; 10 August, exhibition profile, 'Silent witnesses' by Helen Musa, The Canberra Times; 10 August, exhibition profile, Canberra Sunday Times; 13 August, interview, Pat Hoffie, Artery, 2XX Radio; 14 August, listing, What's on, The Canberra Times; 15 August, reviews Gorman House and School of Art, 'Protesting the abuse of cultural rights' by Sasha Grishin, The Canberra Times; 22 August, exhibition profile, Stateline, ABC; September, review by Phillipa Kelly, Muse.

### The Herbert and Valmae Freilich Foundation

Conference, 'Genocide and Colonialism' with Dr Dirk Moses (History Department, University of Sydney); lecture series with Prof Donald Akenson (Queens University, Canada); schools program with Prof Mbuleo Mzamane, (University of Venda, South Africa) and HRC Visiting Fellow (joint with Freilich Foundation), at O'Connor Co-Operative School, Lyons Primary School and Kambah High School.

## Mathematical Sciences Institute

### Centre for Mathematics and its Applications

BACHELOR, Prof M.T., CSIRO, supervisor, Student Research Scheme; Journal of Physics A: Mathematical and General, member, Advisory Board.

BAXTER, Prof R.J., Journal of Statistical Physics, member, Editorial Board; Annals of Combinatorics, member, Editorial Board; Physica A, member, Advisory Board.

CAREY, Prof A.L., Australian Mathematical Sciences Council, President; FASTS Board, member; CSSIP, member, Review of Masters in Signal and Information Processing for the CRC; University of Auckland, member, Vice-Chancellor's Centre of Research Excellent Performance Advisory Group; Reports in Mathematical Physics, member, Editorial Board; University of South Australia, member, Advisory Board for Centre for Industrial and Applied Mathematics.

DALEY, Dr D.J., Applied Probability Trust, Trustee and Associate Editor; NSW Vice-Chancellors Committee, ANU representative, Technical Committee on Scaling.

GANI, Prof J.M., Applied Probability Trust, Trustee; The Mathematical Scientist, Editor; Journal of Applied Statistics, Associate Editor; Mathematical Medicine and Biology, Associate Editor; Utilitas Mathematica, Associate Editor; Australian Academy of Science, member, Asia Exchange Committee; Australian Academy of Science, member, Library Committee; Springer-Verlag, New York, (joint) Editor, Series on Probability and its Applications.

HALL, Prof P.G., Centre for Mathematical and Statistical Modelling of Complex Systems, Deputy Director; Australian

Mathematical Sciences Institute, Chair, Scientific Committee; Bernoulli Society, President (to August); International Review of Mathematics (UK), member; Institute of Statistical Science in Academia Sinica, member, Review Committee; Royal Society of London, member, SC1 for electing Fellows; Australian Academy of Science, Chair, SC1 for electing Fellows; Australian Academy of Science, member, Council; National Committee for the Mathematical Sciences, Chair; Bernoulli, Chair, Search Committee for a new editor; Annals of Statistics, member, Editorial Board; Australian and New Zealand Journal of Statistics, member, Editorial Board; Bernoulli, member, Editorial Board; Econometric Theory, member, Editorial Board; Journal of Statistical Planning and Inference, member, Editorial Board; Korean Journal of Statistics, member, Editorial Board; Probability Theory and Related Fields, member, Editorial Board; Statistica Sinica, member, Editorial Board.

HEGLAND, Dr T.M., Computational Statistics and Data Analysis, Associate Editor; ANZIAM, Chair, Computational Mathematics Group Committee; ANZIAM, member, Executive Committee; ANZIAM, member, ACT Branch Committee; ARC, Assessor, grant applications.

HEYDE, Prof C.C., Australian Mathematics Trust, board member and member, Executive Committee; ISI, member, Publications Committee; Bernoulli Society, member, Publications Committee; Columbia University, member, Executive Committee of Graduate School of Arts and Sciences; Columbia University, Director, Center for Applied Probability; Applied Probability Trust, Trustee; Journal of Applied Probability, Advances in Applied Probability, Editor-in-Chief; Australian Mathematical Society, (joint) Editor, Lecture Note/Monograph Series; Springer, (joint) Editor, Series in Probability and its Applications; The Mathematical Scientist, Associate Editor; Journal of Applied Mathematics and Stochastic Analysis, Advisory Editor; Statistical Methodology, Advisory Editor.

KOVÁCS, Dr L.G., Periodica Mathematica Hungarica, member, Editorial Board; Publicationes Mathematicae Debrecen, member, Editorial Board.

MCINTOSH, Prof A.G.R., Bulletin of the Australian Mathematical Society, member, Editorial Board; Australian Academy of Sciences, member, Sectional Committee 1; Clifford Analysis Satellite Conference of the International Congress of Mathematicians, Macau, member, Editorial Board; University of Cyprus, member, Selection Committee.

NEEMAN, Prof A., Australian Mathematical Society, member, Selection Committee for Speakers at Annual Meeting.

NEWMAN, Prof M.F., Journal of Symbolic Computation, member, Editorial Board; International Journal of Algebra and Computation, member, Editorial Board; Australian Mathematical Olympiad Committee, Treasurer; Mathematics Challenge for Young Australians, member, Problems Committee; GAP (Groups, Algorithms and Programming), member, Council; Oberwolfach Meeting on Computational Group Theory, 2006, member, Organising Committee.

OSBORNE, Prof M.R., ANZIAM, member, Computational Mathematics Group Committee.

ROBINSON, Prof D.W., Journal of Evolution Equations, member, Editorial Board; Reviews in Mathematical Physics, member, Editorial Board.

TRUDINGER, Prof N.S., Proceedings of The Royal Society of Edinburgh, Series A, member, Editorial Board; Journal of Potential Analysis, member, Editorial Board; Analysis, member, Editorial Board; Bulletin of Australian Mathematical Society, member, Editorial Board; Advances in Mathematical Sciences and Applications, member, Editorial Board; Journal of Mathematical Analysis and Applications, member, Editorial Board; Calculus of Variations and Partial Differential Equations, member, Editorial Board; Nonlinear Analysis Forum, member, Editorial Board; Taiwanese Journal of Mathematics, member, Editorial Board; Nonlinear Differential Equations and Applications, member, Editorial Board; Methods and Applications of Analysis, member, Editorial Board; Series on Partial Differential Equations and Applications (World Scientific-Singapore), member, Editorial Board; Chinese University of Hong Kong, member, Advisory Board for Enrichment Programme for Young Mathematical Talents; Programme on Geometric Partial Differential Equations, National Mathematical Sciences Institute, Singapore, 2004, member, Organizing Committee; Oberwolfach Meeting on Partial Differential Equations, 2005, member, Organizing Committee; Hannan Medal Selection Committee, Chair; Australian Academy of Science, Incoming Chair; Australian Mathematical Society, member, Selection Committee for AustMS Medal.

WANG, Dr X.-J., Journal of Partial Differential Equations, member, Editorial Board; Department of Education, China (based at Nankai University), Yangtze River Fellow.

WILSON, Prof S.R., Computational Statistics and Data Analysis, Associate Editor; Annals of Human Genetics, Associate Editor; Statistical Methods in Medical Research, member, Editorial Board; Behaviour Genetics, member, Editorial Board; International Biometric Society, member, Conference Advisory Committee; Institute of Mathematical Statistics, member, Committee on Memorials; International Statistical Institute, member, Mahalaobis Committee; Engineering and Physical Sciences Research Council, UK, member, Peer Review College; The Australian Family IBD Register Committee, member; UNESCO, Editor, Theme 4.31 Biometrics in Encyclopaedia of Life Support Systems; Wiley, Editor, Section 14: Computation in Encyclopaedia of Biostatistics; ISI, member, Editorial Committee for 6th edition of A Dictionary of Statistical Terms; Statistical Society of Australia, representative, Australian Foundation for Science Meetings; Australian Foundation for Science Meetings, member, Advisors' Committee; Centre for Complex Systems, member, Board; Cancer Research Council, Assessor, grant applications; NHMRC, Assessor, grant applications.

## National Centre for Epidemiology & Population Health

BAMMER, Dr G, member, ACT Department of Health and Community Care Supervised Drug Injection Trial Advisory Committee.

BANWELL, Dr C., DANCE, Dr P., QUINN, Mr C., DAVIES, Ms R., prepared a report for the Construction, Forestry, Mining, Energy Union (CFMEU) on the need for an ACT-based rehabilitation, halfway house and counselling service run by the CFMEU and Building Trades Group (BTG).

BECKER, Prof N., Deep vein thrombosis and air travel: record linkage study with Michael Kortt, John Mathews, Department of Health and Ageing.

BECKER, Prof N., reviewer, National Health & Medical Research Council.

BECKER, Prof N., member, National Influenza Pandemic Action Committee.

BECKER, Prof N., member, Infectious Disease Emergency Response group (Vaccination strategies).

DEAR, Dr K., reviewer, National Health & Medical Research Council.

DEEBLE, Ms Mary, member, Communicable Diseases Network Australia.

DEEBLE, Ms Mary, member, Public Health Laboratory Network.

DEEBLE, Ms Mary and MILLER, Dr Megge, Communicable disease surveillance during the Canberra bushfires for ACT Health.

DOUGLAS, Prof R., Chair of Advisory Board of the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University Townsville.

KJELLSTROM, Prof T., member of Australian Government Department of Health and Ageing advisory group on Environmental Health Indicators.

KJELLSTROM, Prof T., member of Environment Australia advisory group on indoor air pollution exposure from gas appliances.

KJELLSTROM, Prof T., KINGSLAND, Ms S., prepared a report for ACT Health on the health impacts of 2003 bush fire smoke.

MCMICHAEL, Prof AJ., member, National Health and Medical Research Council (NHMRC) Triennium Council 2003 - 2005.

PATEL, Dr M., member World Health Organization –Western Pacific Regional Office (WHO-WPRO) organising committee, and convener and chair of the session on 'Preparedness' at the Kuala Lumpur International SARS Conference in Malaysia, 17-18 June.

PATEL, Dr M., developed and evaluated indicators for Continuous Quality Improvement in field-based training programs in applied epidemiology with Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) Atlanta, World Health Organization (WHO) Lyon, Centers for Disease Control (CDC) Atlanta.

PATEL, Dr M., developed and implemented strategies to strengthen capacity for surveillance, early warning systems and

response to infectious disease outbreaks with Oshitani H, Tee AS, Roces C of the WHO –Western Pacific Regional Office.

PONSONBY, Dr A-L., member, Grant Review Panel (Public Health), National Health and Medical Research Council (NHMRC).

PONSONBY, Dr A-L., organised a workshop to discuss operational definitions for monitoring asthma, Australian Centre for Asthma Monitoring, Australian Institute of Health and Welfare (AIHW).

SIBTHORPE, Dr B., member Working Party to Review Interim Guidelines on Ethical Matters in Aboriginal and Torres Strait Islander Health Research, Australian Health Ethics Committee, National Health and Medical Research Council.

SIBTHORPE, Dr B., member Aboriginal and Torres Strait Islander Health Research Working Committee, National Health and Medical Research Council.

SIBTHORPE, Dr B., member Implementation Working Party, Values and Ethics in Aboriginal and Torres Strait Islander Health Research, National Health and Medical Research Council.

SIBTHORPE, Dr B., member Strategic Research Initiatives Working Committee, National Health and Medical Research Council.

SIBTHORPE, Dr B., member, Strategic Research Initiatives Working Committee Healthy Start to Life sub-committee, National Health and Medical Research Council.

SIBTHORPE, Dr B., member Steering Committee, Service Activity Reporting, Office of Aboriginal and Torres Strait Islander Health, Department of Health and Ageing.

SIBTHORPE, Dr B., Deputy Chair, Indigenous Health Review Panel, National Health and Medical Research Council.

SIBTHORPE, Dr B., member Grant Review Panel, National Health and Medical Research Council.

SIBTHORPE, Dr B., consultancy, Primary Care Performance Indicators for Indigenous-Specific Services and Programs funded by the Office of Aboriginal and Torres Strait Islander Health, Commonwealth Government Department of Health and Ageing.

VANKERKHOFF, Dr L., provided advice on Integrative Science Project to the Department of Natural Resources and Mines.

WOODRUFF, MS R., project with Michael Lindsay, WA Health Department, on Ross River virus disease – developing early warning systems.



## National Graduate School of Management

MATTHEWS, Dr Judy, member of collaborative ANU research team with senior researchers from the Department of Industry Tourism and Resources investigated *Innovation in Australia: Measurement Performance, Systems, Dynamics and Change*, with sponsorship from Department of Industry Tourism and Resources, Agriculture Forestry and Fisheries, Australian Business Foundation, CSIRO and National Office of Information Economy.

MATTHEWS, Dr Judy, presented the lecture course 'Managing People and Organisations' in the Master of Management (Public Strategy) to middle managers from the Department of Industry Tourism and Resources

MATTHEWS, Dr Judy, presented the lecture course 'Managing People and Organisations' in the Master of Management Program to middle managers from the Department of Finance and Administration.

MATTHEWS, Dr Judy, facilitated a cross departmental group research project with senior managers from the Departments of Environment, Education Science and Training, Family and Community Services and Defence on 'Sustainability Frameworks in the Australian Public Service'. Their paper was published in the Canberra Bulletin of Public Administration in December 2003.

MATTHEWS, Dr Judy, facilitated workshops on 'Winning Investment for Australia' with staff from investment attraction agencies for Invest Australia, in Perth and Canberra.

SCOTT-KEMMIS, Don, organised a one-day seminar on Australian Innovation Performance as a contribution to National Innovation Week.

BROGAN, Brian Australian Project Director for ASEAN-Australian Development Cooperation Program's Regional Economic Policy Support Facility (AusAID)

NAILER, Christopher, supervised 31 MBA students in the development of seven international business development plans to companies that agreed to host their projects. Six of these were undertaken for ACT-based companies including Matthew Harding Sculpture & Design, Airservices Australia, NATSEM, CIC Secure, IDP Australia and a domestic Japanese hotel property.

WATSON, Dr H., National evaluation of The National Indigenous English Literacy and Numeracy Program (NIELNS) for the Department of Education, Science and Training. Evaluation of School-based Management in the ACT for the ACT Department of Education, Youth and Family Services. Development of a Communications Strategy and Corporate Plan for the Australian National Audit Office.

## The Graduate School

BALLARD, Dr J, invited as resource person for evaluation of ACT Health Strategy.

BOWEN, Dr G, member, Executive Committee, Australian and New Zealand American Studies Association.

COWLING, Dr A, president, Canberra Branch of Statistical Society of Australia; vice-president, Australasian Region, International Biometrical Society; associate editor, *Biometrics*.

WOOD, Dr J, Department of Employment and Workplace Relations: provided statistical advice on the relationship between changes in award coverage and employment growth by industry for the National Wage Case; Canberra Imaging Group: Statistical analysis of data from Ankle Brachial Index Study; treasurer, International Biometric Society.

# Joint Research Projects undertaken with Universities, CSIRO and other Institutions

## Institute of Advanced Studies

### Centre for Resource and Environmental Studies

Acidity barriers for improving downstream water quality of estuaries in acid sulfate soils by Prof I WHITE with Dr BC.T.Macdonald (CRES ANU), Assoc. Prof. M.D. Melville (University of New South Wales), Prof. T.D.Waite (University of New South Wales) and Dr R.T. Bush (Southern Cross University).

An agro-climatic classification incorporating bioregional boundaries in Australia by Prof M.F. HUTCHINSON and J.L. STEIN with Dr S. MCINTYRE (CSIRO), Prof R.J. HOBBS (Murdoch University), Dr S. GARNETT (Qld Parks and Wildlife) and J. KINLOCH (CSIRO).

Analysis and Modeling of OH Column Abundances by Dr. F.P. MILLS with Dr. S.P. Sander, Dr. R.P. Cageao, and Dr. M. Allen (NASA Jet Propulsion Laboratory, USA) and Prof. Y.L. Yung (California Institute of Technology, USA).

An Australia-wide system of protection for rivers, river reaches and estuaries of high conservation value by J. L. STEIN with Dr. R. Kingsford (NSW Department of Environment and Conservation), Dr. H. Dunn and Dr. P. E. Davies (University of Tasmania), Dr J. Doolan (Victorian Department of Sustainability & Environment), S. Fairfull (NSW Fisheries), Dr R. Muston (Meyrick and Associates), J. Tait (ECONCERN), J. Neville (Only One Planet Consulting).

Augmented sustainability measures for Scotland by Dr J.C.V PEZZEY with Prof. N.D. Hanley (University of Glasgow).

Climatic impacts on fire frequency distribution in Australia by Dr J.J.SHARPLES with Prof. M.F. Hutchinson (ANU) and Prof. A.M. Gill (CSIRO).

Cotter Catchment Fire Remediation Project by Prof R.J. WASSON with Dr B. F. Croke (iCAM, ANU), Prof M. McCulloch (ANU), Mr N Muller (Ecowise) Dr J Olley (CSIRO), Mr B Starr (Land and Water Management consultant, Dr A. Wade (ActewAGL), Dr I. White(CRES, ANU) Dr T. Whiteway (ECOWISE Environmental), Ecowise.

Development of the GROWEST-PLUS plant growth index modelling system by Prof M.F. HUTCHINSON and Dr C. DIETRICH with T. BRINKLEY (BRS) and Dr G. LAUGHLIN (BRS).

Digital elevation model for the Cotter catchment from Airborne Laser Scanning data by Prof. M.F. HUTCHINSON, J.A. STEIN, and J.L. STEIN with T. WHITEWAY (ECOWISE).

Downstream water quality impacts of broadacre soil acidification by Prof IAN WHITE with BC.T.Macdonald (CRES ANU) and Dr Anna Ridley (Victorian Department of Natural Resources).

Economic evaluation of fisheries by Dr. R.Q. GRAFTON with Prof. D. Squires (University of San Diego) and Prof. J.E. Kirkley (College of William and Mary).

Economic growth and environmental performance in Canada by Dr. R.Q. GRAFTON with Prof. K.M. Day (University of Ottawa).

Economics of the Environment and natural resources by Dr. R.Q. GRAFTON with Prof. Vic. Adamowicz (University of Alberta), Dr. H. Nelson (University of British Columbia), Steven Renzetti (Brock University), Diane Dupont (Brock University) and Assoc. Prof R. Hill (University of New South Wales).

The effect of subsistence on collapse and institutional adaptation in population-resource societies by Dr J.C.V. PEZZEY with Dr J.M.Anderies (Arizona State University).

Emissions targets for developing countries by Dr J.C.V. PEZZEY and Mr F. JOTZO with Prof. Kenneth Arrow and Prof. Lawrence Goulder, Stanford University.

Equitable groundwater management for the development of atolls and small islands by Prof IAN WHITE with Mr A.J. Falkland (ECOWISE Environmental), Dr P. Perez (CIRAD, France), Ms A. Dray (CIRAD, France), Mr M. Overmars (SOPAC, Fiji), Mr C. Carpenter (SOPAC, Fiji), Mr T. Metutera (Public Works Department, Republic of Kiribati) and Mr E. Metai (Public Works Department, Republic of Kiribati).

Fine scale digital elevation model for Canada by Prof M.F. HUTCHINSON and J.A. STEIN with Dr D.W. MCKENNEY (Canadian Forest Service).

Hydraulic Properties of Swelling Clay-Gel Soils: Electrolyte and Temperature Effects by Prof IAN WHITE with B.C.T. Macdonald (CRES ANU), Prof. T.D. Waite (University of New South Wales), and D.E.Smiles (CSIRO Land and Water).

The impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia by Dr B.F.W. CROKE with Dr D. Post (CSIRO Land and Water) and Dr M. VAN NOORDWIJK (International Centre for Research in Agroforestry, Indonesia).

The impact of climate change on snow conditions in mainland Australia by Prof. M.F. Hutchinson and Dr J.J. SHARPLES with Dr K. HENNESSY (CSIRO) and Dr Penny WHETTON (CSIRO).

Integrated Water Management in the Lower Richmond Catchment by Prof IAN WHITE with Mr R. Brodie (Bureau of Rural Science) and Dr J. B. Prendergast (Bureau of Rural Science).

Interactions between sulfur, nitrogen, and iron cycles in the sustainable management and use of acid sulfate soils by Prof IAN WHITE with BC.T.Macdonald (CRES ANU), Assoc. Prof. M.D. Melville (University of New South Wales), Dr O.T. Denmead (CSIRO Land and Water) Prof. T.D.Waite (University of New South Wales), Mr M.P. Tunks (Tweed Shire Council) and Mr R.N. Beattie (NSW Sugar Milling Co-operative).

Jervis Bay Biodiversity Monitoring Ecological Burning Experiment, D.B. LINDENMAYER with R.B. Cunningham (CRES), C. McGregor (CRES), M. Crane (CRES), D. Micheal (CRES), A.M. Gill (CSIRO), M. Fortescue (Environment Australia).

Kinship with Country: Pitjatjantjara homelands, Dr. D.B. ROSE and Ms D. JES, Land and Water Australia (Ph.D. Scholarship).

Landscape-scale population dynamics of open forests in the Australian monsoon tropics by Prof. P.A. WERNER with Dr. D.M.J.S Bowman (Charles Darwin University), Dr. B.W. Brook (Charles Darwin University), & Dr. R.J. Williams (CSIRO).

A large scale study of the effectiveness of landscape restoration for biodiversity conservation, D.B. LINDENMAYER with R.B. Cunningham (CRES), C. McGregor (CRES), M. Crane (CRES), D. Micheal (CRES), P. Smith (DIPNAR, NSW).

Long-term Monitoring of Vertebrate Fauna in the Central Highlands of Victoria, D.B. LINDENMAYER with R.B. Cunningham (CRES), C. McGregor (CRES), M. Crane (CRES), D. Micheal (CRES), M. McCarthy (University of Melbourne), J. Dubach (Brookfield Zoo, Chicago) and A. Taylor (Monash University, Melbourne).

Pathogen Budget For Prioritisation of Land Uses and Rectification Actions to Reduce Public Health Risks from Pathogens by Dr B.F.W. CROKE with Prof. N. Ashbolt and C. Ferguson (University of New South Wales).

Photochemical Modeling of the Venus Middle Atmosphere by Dr. F.P. MILLS with Dr. M. Allen (NASA Jet Propulsion Laboratory, USA) and Prof. Y.L. Yung (California Institute of Technology, USA).

Potential impacts of salinity on frogs of temperate south-eastern Australia - an ecological synthesis by Dr D. HAZELL with Dr S. Briggs (NSW National Parks and Wildlife Service, now Dept. Environment and Conservation).

Productivity effects in individual output controls in fisheries by Dr. R.Q. GRAFTON with Prof. D. Dupont (Brock University) and Prof. D. Gordon (University of Calgary).

Productivity measurement in fisheries by Dr. R.Q. GRAFTON with Dr. K.J. Fox (University of New South Wales), Dr. T. Kompas (ANU) and Dr. Nhu Che (Australian Bureau of Agricultural & Resource Economics).

Real time manipulation of major floodgates to mitigate acid sulphate soils discharge, Lower Macleay Catchment, New South Wales. Dr S BEAVIS with Kempsey Shire Council. Funded by the Coastal Acid Sulphate Soils Program (CASSP).

Research into Kinship with the Natural World, Stage 2, Dr D.B. ROSE, with 'National Parks and Wildlife Service, NSW.

Review of the sediment budget for the Ganges- Completed reconnaissance field work in the Ganges River Basin (India) to identify the source of sediment in the river. Prof R.J. Wasson with Prof M. McCulloch (RSES), with Prof. A.K. Singhiri and Dr M.M. Sarin, (PRL, India), Assoc. Prof. R Sinha (IIT Kanpur, India).

The Regulation of Indigenous Rights through Environmental Legislation', Dr D.B. ROSE and Ms J. WEIR, Land and Water Australia (Ph.D. Scholarship).

Social capital and environmental performance by Dr. R.Q.

GRAFTON with Dr. S. Knowles (University of Otago).

Restoring hydrological connectivity of surface and ground waters: Biogeochemical processes and environmental benefits for river landscapes by Prof IAN WHITE with Dr R.T. Bush (Southern Cross University), Assoc. Prof L.A. Sullivan (Southern Cross University), Dr Annabelle Keene (Southern Cross University), Dr Wayne David Erskine (NSW Department of Infrastructure Planning and Natural Resources) and Dr Greg Bowman Erskine (NSW Department of Infrastructure Planning and Natural Resources).

Social divergence and economic performance by Dr. R.Q. GRAFTON with Prof. P.D. Owen (University of Otago) and Dr. S. Knowles (University of Otago).

Sources and dynamics of natural pollutants in the Cotter catchment Prof IAN WHITE with Dr A. Wade (ActewAGL Pty Ltd), Dr B. McPhail (ANU) and Mr N. Mueller (Ecowise Environmental).

Sustainable production of oysters in eastern Australia islands by Prof IAN WHITE with A. Rubio (CRES ANU), P.W. Ford (CSIRO Land and Water) and D. Ogburn (NSW Fisheries).

Targets for greenhouse gas emissions from developing countries by Dr J.C.V. PEZZEY and Mr F. JOTZO with Prof. K. Arrow and Prof. L.H. Goulder (Stanford University).

The Tumut Fragmentation Experiment, D.B. LINDENMAYER with R.B. Cunningham, C. McGregor, M.L. Pope (SFNSW), M. McCarthy (University of Melbourne), H. Nix, H. Possingham (University of Queensland), R. Lacy (Brookfield Zoo, Chicago), R. Peakall (ANU BOZO), J. Fischer, D. Tubelius, H. Tyndale-Biscoe (RSBS, ANU) and A. Taylor (Monash University, Melbourne).

Topographic influence of soil moisture patterns by Dr J.J. SHARPLES with Prof. M.F Hutchinson (ANU) and Dr. A.W. Western (University of Melbourne).

Ultraviolet Characterization and Remote Sensing of Aerosols by Dr. F.P. MILLS with Dr. A. Eldering (NASA Jet Propulsion Laboratory, USA)

Update of monthly climate surfaces and investigation of climate impacts on non-CO2 emissions by Dr J.L. KESTEVEN (ANU/AGO) with Prof M.F.HUTCHINSON and Dr J.J. SHARPLES.

Wild bottlenose dolphins and humans in the waters of Northwest Florida by Prof. P.A. WERNER with Dr. W.E. Jones, Dr. R.R. Carthy, Dr. D.L. Miller, Dr.S. Wood & Prof. M.L. Clarke (University of Florida, USA).

Wild Country Science Project by Prof. M.F. HUTCHINSON, Prof. H.A. NIX, J.A. STEIN and J. L. STEIN with Dr. B. G. Mackey and S.Gilmore (SRES, ANU), Dr. R.G. Leslie (Bureau of Rural Sciences), Prof. H. Possingham (University of Queensland), Prof. R. Hobbs (Murdoch University), V. Young (Wilderness Society) and others.

## Research School of Astronomy and Astrophysics

3D Hydrodynamical Stellar Model Atmospheres, by Dr M. ASPLUND and Dr R Trampedach with Dr A Nordlund (Copenhagen University), Prof RF Stein and Mr R Trampedach, (Michigan State University).

3D Non-LTE Radiative Transfer, by Dr M. ASPLUND with Prof M Carlsson (Oslo University).

The Light Elements in the Early Universe, by Dr M. ASPLUND with Dr P Nissen (Aarhus University), Dr F Primas (ESO), Prof DL Lambert (University of Texas, Austin), Prof VV Smith (University of Texas, El Paso), Ms AE Garcia-Perez and Mr R Collet (Uppsala University).

The First Stars and the Chemical Enrichment of the Universe, by Dr M. ASPLUND, Prof M BESSELL and Prof J NORRIS, with Dr N Christlieb (University of Hamburg), Prof TC Beers (Michigan State University), Dr SG Ryan (Open University) and Dr W Aoki (National Astronomical Observatory of Japan).

Metal-Poor Halo Stars and Damped Lyman-Alpha Systems, by Dr M. ASPLUND with Dr P Nissen (Aarhus University), and Dr M Pettini (Cambridge University).

Chemical Composition of the Sun, by Dr M. ASPLUND with Dr C Allende Prieto, Prof DL Lambert (University of Texas, Austin), Prof AJ Sauval (Observatoire Royal de Belgique) and Prof N Grevesse (Universite de Liege).

Observational Signatures of Stellar Convection, by Dr M. ASPLUND with Dr C Allende Prieto, Prof DL Lambert (University of Texas, Austin), and Dr PS Barklem (Uppsala University).

Born-again giant stars, by Dr M. ASPLUND with Dr F Kerber (ESO).

Search for Young Stellar Groups in the Solar Neighborhood by Prof. M.S. BESSELL with Prof B Zuckerman (UCLA) & Dr I Song (UCLA).

CM Diagrams and Initial Mass Functions of Intermediate Age Clusters by Prof. M.S. BESSELL with Dr H Sung (Seoul National University) and Dr M-Y Chun (SNU).

Survey for Extremely Metal-Deficient Stars by Prof. M.S. BESSELL Prof. J.E. NORRIS and Dr M. ASPLUND with Dr N Christlieb (University of Hamburg), Prof. T Beers (MSU), Dr S. Ryan (Open University), Dr Aoki (NOAJ).

6dF Survey for Halo Stars by Prof. M.S. BESSELL with Prof B Gibson (Swinburne), Dr J Bland Hawthorn (AAO), Prof T Beers (MSU, USA), Dr N Christlieb (Hamburg Observatory).

BVRI Photometry of Young Stars by Prof. M.S. BESSELL with Dr R SHOBBROOK and Prof B Zuckerman (UCLA) & Dr I Song (UCLA).

Magnetised accretion discs by Dr G. BICKNELL with Dr. Z. Kuncic (University of Sydney).

High energy emission from blazars and the interpretation of morphological and spectral features of radio galaxy hot spots by Dr G. BICKNELL with Prof. S.J. Wagner (Landessternwarte, Heidelberg).

Various projects involving high energy gamma-ray observations using CANGAROO by Dr G. BICKNELL with The Gamma-Ray Group of the Institute for Cosmic Ray Research at the University of Tokyo and the High Energy Astrophysics Group at the University of Adelaide.

Star formation and gas depletion in galaxy clusters at high redshift by Prof. R.H. BRIGGS, Dr M COLLESS and Dr R de PROPRIS with Dr J Chengalur (TIFR).

Parkes survey for 21cm line absorption by intervening galaxies at  $z=1$  by Mr B Little and Prof. R.H. BRIGGS with Dr S Ord (Swinburne), Dr L Staveley-Smith (ATNF) and Dr N Kanekar (Groningen).

GBT survey for 21cm line absorption by high redshift galaxies by Mr B Little and Prof. R.H. BRIGGS with Dr W Lane (NRL), Dr N Kanekar (Groningen) and Dr R C Vermeulen (ASTRON).

Technical and scientific basis for LOFAR observations of the Epoch of Reionization by Prof. R.H. BRIGGS with A G de Bruyn (ASTRON).

The HIPARK Survey by Prof. R.H. BRIGGS, Ms J Cooper and Prof KC FREEMAN with Dr J Reynolds (ATNF) Dr L Staveley-Smith (ATNF), Dr B Korbalski (ATNF), Prof B Gibson (Swinburne), Dr M Zwaan (Melbourne), Dr D Barnes (Melbourne).

The influence of metallicity on the gas temperature measured for high redshift Damped Lyman Alpha absorbers by Prof. R.H. BRIGGS with Dr N Kanekar (Groningen) and Dr A Smette (Leige).

The 2dF Galaxy Redshift Survey: a cosmological survey of galaxies by Dr M.M. COLLESS, Dr B A PETERSON and Dr C A JACKSON, Dr S P DRIVER and Dr R De PROPRIS, with Drs J Bland-Hawthorn, I R Lewis, T J Bridges and R D Cannon (AAO), Dr W J Couch (UNSW) and UK and US collaborators.

The Dwarf Spheroidal Companions to M31 by Dr G. DA COSTA with Dr T Armardroff, (NOAO) and Dr N Caldwell (CfA).

The Variable Stars of the Dwarf Spheroidal Companions to M31 by Dr G. DA COSTA with Dr T Armardroff (NOAO), Dr G Jacoby (WIYN), and Dr B Pritzl (NOAO).

The Origin of Globular Cluster Abundance Anomalies - Clues from the Main Sequence by Dr G. DA COSTA, Prof J NORRIS, Ms L STANFORD, Dr B Croke with Dr R Cannon (AAO).

Tidal Structure in Galactic Satellites by Dr G. DA COSTA, Prof K FREEMAN, Mr M COLEMAN with Dr J. Bland-Hawthorn (AAO).

The Dwarf Elliptical Galaxies of the M81 Group by Dr G. DA COSTA and Dr H JERJEN with Dr T Armandroff, NOAO and Dr N Caldwell, CfA.

Nature or nurture? - the Evolutionary History of Dwarf Elliptical Galaxies by Dr G. DA COSTA and Dr H JERJEN with Prof B Binggeli (Basel), Dr M Rejkuba (ESO), and Dr M Zoccali (ESO).

H-Alpha and Infrared Star Formation Rates for the Nearby Field Galaxy Survey by Prof. M. A. DOPITA, Dr LS Kewley, with Prof M Geller (Harvard-Smithsonian Center for Astrophysics, Cambridge, MA) and Dr Rolf A Jansen (Arizona State University, Tempe).

Star Formation Rates in Interacting Starburst Galaxies by Prof. M. A. DOPITA and M Pereira with Dr Lisa S Kewley (Harvard-Smithsonian Center for Astrophysics, Cambridge, MA) and Prof M Capaccioli (Osservatorio Astronomico di Capodimonte, Naples, Italy).

Abundances of HII Regions and Starburst Galaxies using Strong Emission Lines by Prof. M. A. DOPITA with Dr Lisa S Kewley (Harvard-Smithsonian Center for Astrophysics, Cambridge, MA).

The COLA Project: Compact Objects in Low-powered AGN by Prof. M. A. DOPITA with E Corbett (Anglo-Australian Observatory, NSW), Dr R P NORRIS (ATNF, CSIRO), Dr L S Kewley and Dr A L Zezas (Harvard-Smithsonian Center for Astrophysics, Cambridge, MA), Dr PN Appleton and Prof C Struck (Iowa State U), Dr AP Marston (Caltech), Dr V Charamadaris (Cornell University) and Dr T Murphy (IPAC, CIT, Pasadena).

FUSE Observations of NGC1068 by Prof. M. A. DOPITA, Dr GV BICKNELL and B GROVES with Dr GN Cecil (Univ of N Carolina, USA), Dr W Zheng (JHU, USA), Dr Z Tsvetanov (JHU, USA), Dr MG Allen (U Strasbourg, France) & Dr L Binette (UNAM, Mexico).

The High-Velocity Filaments in the Narrow-Line Region of NGC 1068 by Prof. M. A. DOPITA and B GROVES (RSAA) with Dr GN Cecil (Univ of N Carolina, USA), Prof A S Wilson (U Maryland), Dr P Ferruitand Dr E P (Observatoire de Lyon), & Dr L Binette (UNAM, Mexico).

Nebular Diagnostics of Temperature and Abundance, by Prof. M. A. DOPITA with Dr M S Oey (Space Telescope Science Institute, Baltimore), Dr J C Shields (Ohio University) & Dr, R C Smith (Cerro Tololo Inter-American Observatory, La Serena, Chile).

The Radio-FIR Correlation: Is MHD Turbulence the Cause? by Prof. M. A. DOPITA & Mr B, GROVES, with Dr J Cho & Prof A Lazarian (U Wisconsin, USA).

What Excites LINERs: The Brilliant Case of NGC 3998 by Prof. M. A. DOPITA with Dr L Dressel (STScI, USA).

Are Narrow Line Regions in Active Galaxies Dusty and Radiation Pressure Dominated? by Prof. M. A. DOPITA, B GROVESs, Dr R S SUTHERLAND with Dr L Binette (UNAM, Mexico) and Dr G N Cecil (U of N Carolina, USA).

The Millennium Galaxy Catalogue by Dr S DRIVER with Dr J Liske (ROE), Dr N J G Cross (JHU), Mr D Lemon (St Andrews).

Cluster Luminosity Function Studies by Dr S DRIVER with Dr S Phillipp (Bristol), Dr W J Couch (UNSW) and Mr M Pracey, UNSW.

The NGST Interdisciplinary Scientist Investigation by Dr S DRIVER with Prof R A Windhorst, Dr S C Odewahn, Dr R Jansen (ASU), Mr S Cohen and Mr H Yan (ASU), Dr C Conselice (CalTech) and Dr I Waddington (Bristol).

"Moon phases" for extrasolar planets by Dr U.A. DYUDINA, Prof. P. SACKETT, and Mr. D. BAYLISS with Prof. A. Del Genio at NASA GISS (USA), Dr. C. Porco at SWRI (USA), Dr. H. Throop at SWRI (USA), Dr. L. Dones at SWRI (USA).

Red Quasars from the Two Micron All Sky Survey, by Dr P.J. FRANCIS with Dr R Cutri and Dr B Nelson (IPAC).

Gas in High Redshift Galaxy Clusters, by Dr P.J. FRANCIS with Dr B E Woodgate (NASA GSFC), Dr G Williger (Johns Hopkins) and Dr P Palunas (UT Austin).

Imaging Gas at High Redshifts, by Dr P.J. FRANCIS with Dr J Bland-Hawthorn (AAO).

High Redshift Radio Galaxies with Flat Radio Spectra, by Dr P.J. FRANCIS with Dr R L Webster (Melbourne), Dr ME Whiting, Dr S Curran, Dr J Webb (UNSW) and Dr M Murphy (IoA Cambridge).

Studies of Neutral Hydrogen in Dwarf Elliptical Galaxies of the Centaurus A Group, by Prof. K. FREEMAN and Dr H JERJEN, with Dr S Beaulieu (University of Cambridge) and Prof C Carignan (University of Montreal).

HST Studies of The Post-Starburst Galaxy NGC 5102, by Prof. K. FREEMAN, with Dr S Beaulieu (Cambridge University), Prof C Norman (Johns Hopkins University), Prof N Scoville (Caltech), and Dr P Quinn (ESO).

Kinematics of Planetary Nebulae in Nearby Galaxies and in the Intracluster Medium of the Virgo Cluster, by Prof. K. FREEMAN, with Dr M Arnaboldi and Prof M Capaccioli (Osservatorio di Capodimonte, Naples); Prof O Gerhard (University of Basel); Prof R Kudritzki and Dr R Mendez (University of Hawaii); Prof H Ford (Johns Hopkins University); Prof R Ciardullo (Penn State University); Dr J Feldmeier (Case Western Reserve University), and Dr G Jacoby (NOAO).

New Studies of the Planetary Nebulae Population in the Virgo Cluster, by Prof. K. FREEMAN, with Prof S Okamura (University of Tokyo and the Suprime-Cam team), Dr M Arnaboldi (Osservatorio di Capodimonte), and Prof O Gerhard (University of Basel).

Observations with the Planetary Nebulae Spectrograph, by Prof. K. FREEMAN, with a team from Osservatorio di Capodimonte, University of Groningen, University of Nottingham, ESO and Caltech.

The MACHO Project, by Dr S. KELLER, Dr B PETERSON and Prof K FREEMAN, with the MACHO Team (several institutes including University of Pennsylvania, Lawrence Livermore National Laboratory, University of California, University of Washington, McMaster University).

Studies of Unmixed Debris in the Galactic Halo (the Spaghetti Project), by Prof. K. FREEMAN, Prof J NORRIS with Dr H Morrison and Dr P Harding (Case Western Reserve University); Dr M Mateo and Dr R Dohm-Palmer (University of Michigan), and Dr E Olszewski (Steward Observatory).

The AAO Stellar Population Survey, by Prof. K. FREEMAN, Prof J NORRIS with Prof G Gilmore (Cambridge); Prof R Wyse (JHU).

Radial Velocities in the Globular Cluster Omega Centauri, by Prof. K. FREEMAN with Ms R Reijns and Prof T de Zeeuw (University of Leiden) and Dr P Seitzer (University of Michigan).

Scaling Laws for Dark Matter, by Prof. K. FREEMAN with Prof J Kormendy (University of Texas).

Studies of Disk Galaxies, by Prof. K. FREEMAN with Prof P van der Kruit and Drs M Kregel (University of Groningen).

The Structure of NGC 300, by Prof. K. FREEMAN with Dr J Bland-Hawthorn, AAO.

The Parkes Multibeam All-Sky HI Survey (HIPASS), by Prof. K. FREEMAN, with the Multibeam Team (about 30 astronomers, from Australian, US and UK institutions).

Studies of the outer regions of galaxy disks, by Prof. K. FREEMAN, with Dr M Pohlen (IAC).

The RAVE Collaboration: an international program to measure 50 million stellar radial velocity, by Prof. K. FREEMAN with a team of collaborators from Australia, Germany, UK, US, Sweden, France, Italy.

The evolution of the local radio source populations by Dr C. JACKSON with Dr E M Sadler (U of Sydney) and the 2dFGRS team.

The space density of flat spectrum radio quasars by Dr C. JACKSON with Prof J V Wall (University of Oxford), Dr P A Shaver (European Southern Observatory, Garching) and Dr I M Hook, Gemini.

Analysis of the SKA science drivers to potential telescope designs, future directions and the science case for the Australian SKA demonstrators, by Dr C. JACKSON with the Australian and International SKA Science Working Groups.

Deep radio imaging of the Hubble Deep Field South by Dr C. JACKSON with Prof R Norris (CSIRO/ATNF).

Deep radio imaging of the Chandra Deep Field South by Dr C. JACKSON with Prof Dr A Koekemoer et al (STScI) and R NORRIS (CSIRO/ATNF).

A pilot 20 GHz radio survey with the Australia Telescope Compact Array by Dr C. JACKSON with Prof R Ekers, Dr L Staveley-Smith (CSIRO/ATNF) and Dr E Sadler (Sydney).

Radio source counts and galaxy populations at low radio frequencies and flux densities by Dr C. JACKSON with Dr N Kassim (NRL).

The Nature of Nearby High HI Mass-to-Light Ratio Field Galaxies by MR B WARREN, Dr H. JERJEN, Prof K C FREEMAN with Prof L Staveley-Smith (ATNF).

The Local Sphere of Influence: a Deep AAT H-Band Survey of all 10 Mpc Galaxies, by Dr H. JERJEN, Dr S P DRIVER, Dr R de PROPRIIS, with Dr S Ryder (AAO).

Securing the Faint-End of the Galaxy Luminosity Function with the Surface Brightness Fluctuation Method, by Dr H. JERJEN, with Dr B Tully (Institute for Astronomy, University of Hawaii, USA), and Dr N Trentham (Institute of Astronomy, University of Cambridge, UK)

Spectroscopic measurements of an exceptional gravitational lens by Dr H. JERJEN, with Dr R A Cabanac, Dr C Lidman, and Dr A O Janusen (European Southern Observatory).

The 6dF Galaxy Survey by Dr D.H. JONES, Dr M M COLLESS and Mr L A CAMPBELL with Dr W Saunders (AAO), Dr M Read (IoA, Univ Edinburgh), Dr Q A Parker (Macquarie), Dr F G Watson (AAO) and other collaborators in Australia, USA, UK, France and Japan.

The search for High-Redshift Lyman-Alpha Galaxies by Dr D.H. JONES and Mr E A M WESTRA with Dr C E Lidman (ESO Chile), Prof K Meisenheimer (MPIA Heidelberg), Dr R Athreya (NCRA India), Dr E Pompei (ESO Chile), Dr H Hippelein (MPIA Heidelberg) Dr C Wolf (Oxford).

SuperMACHO collaboration by Dr S. KELLER, Prof B Schmidt with Prof C Stubbs Harvard, A Becker, G Miknaitis, R Covarrubias, A Micely U. Washington, A Rest, C. Smith, N Suntzeff, R Hiriart, J Prieto CTIO (Chile), K Cook, S Nikolaev (Lawrence Livermore National Laboratory), A Clochiatti, D Minitti U. Catolica (Chile), D Welch (McMaster).

Djehuty project by Dr S. KELLER with G Bazan, D Dearborn, D Dossa, P Eggleton, A Taylor, J Castor, S Murray, K Cook, P Eltgroth, R Cavallo, S Turcotte, B Pudliner (Lawrence Livermore National Laboratory).

Metallicities of Double-Mode RR Lyrae in the Magellanic Clouds by Dr S. KELLER with S Baird (U. Kansas), H Smith (Michigan State), K Cook (Lawrence Livermore National Laboratory), A Walker (CTIO).

Radial Velocities for Bump Cepheids: a Critical Test of Cepheid Pulsation Models by Dr S. KELLER Dr P WOOD with Dr D Bersier (STScI), P North, G Burki (U. Geneva).

Abundance analysis of AGB stars in the LMC and SMC by Dr J.A. McSAVENEY and Dr P Wood with Dr J Lattanzio (Monash University)

Dynamics of Type II Cepheids by Dr J.A. McSAVENEY with Associate Professor P L Cottrell and Dr K R Pollard (University of Canterbury).

The Most Metal Deficient Stars by Prof. J.E. NORRIS, Prof M S BESSELL and Dr M ASPLUND, with Dr W Aoki (National Astronomical Observatory, Japan), Prof T C Beers (Michigan State University), Dr N Christlieb (Hamburger Sternwarte, Germany), and Dr S G Ryan (Open University, United Kingdom).

Carbon-Rich Metal-Poor Stars by Prof. J.E. NORRIS and Prof M S BESSELL, with Dr H Ando and Dr W Aoki (National Astronomical Observatory, Japan), Prof T C Beers (Michigan State University), and Dr S G Ryan (Open University).

The Origin of Globular Cluster Abundance Anomalies: Magnesium Isotope Ratios in Omega Centauri and other clusters by Prof. J.E. NORRIS, Dr G S DA COSTA and Ms L STANFORD, with Dr J Lattanzio (Monash University) and Ms I Ivans (California Institute of Technology).

In Situ Studies of the Old Populations of the Galaxy by Prof. J.E. NORRIS and Prof K C FREEMAN, with Prof G Gilmore (Cambridge University) and Prof R F G Wyse (Johns Hopkins University).

Studies of Structure in the Galactic Halo by Prof. J.E. NORRIS and Prof K C FREEMAN, with Dr H L Morrison, Case Western Reserve University, Prof M. Mateo, University of Michigan, Dr E. Olszewski and Mr P Harding, University of Arizona.

Blue Horizontal Branch Stars and the Mass of the Galaxy by Prof. J.E. NORRIS, with Dr P Hewett (University of Cambridge) and Dr S J Warren (Imperial College London).

The MAGNUM project by Dr B. PETERSON with Prof Y Yoshii (Institute of Astronomy, University of Tokyo) and Prof Y Kobayashi (National Astronomical Observatory of Japan).

The Tokyo Institute of Astronomy Schmidt Telescope Camera by Dr B. PETERSON with Prof K Kawara (Institute of Astronomy, University of Tokyo).

Studying Stellar Atmospheres via microlensing and transits by Prof P. D. SACKETT with C THURL (RSAA) and Dr P H Hauschildt (Hamburger Sternwarte, Universitaet Hamburg, Germany).

Moon phases for extrasolar planets by Prof. P.D. SACKETT with Dr. U.A. DYUDINA, and Mr. D. BAYLISS with Prof. A. Del Genio at NASA GISS (USA), Dr. C. Porco at SWRI (USA), Dr. H. Throop at SWRI (USA), Dr. L. Dones at SWRI (USA).

Variable Star and Hot Jupiter Searches in Globular Clusters: by Prof. P.D. SACKETT with Mr. David T F WELDRAKE and Prof. K. C FREEMAN, (RSAA), and Terry J Bridges (Queens University, Ontario, Canada).

The High-Z SN Search by Dr B P SCHMIDT with Dr N Suntzeff, Dr C Smith (CTIO); Dr A Clocchiatti (U Catolica); Prof R Kirshner, Dr P Challis, Dr S Jha, Dr T Matheson (Harvard); Dr B Leibundgut, Dr J Spyromilio, Dr J Solleman (ESO); Dr M Phillips (Carnegie); Prof C Stubbs (UW); Dr A Filippenko, Dr R Chornock (Berkeley); Dr J Tonry, Dr B Barris (Hawaii); Dr A Riess (STScI); Dr P Garnavich, Dr S Holland (Notre Dame).

The Essence Project by Dr B P SCHMIDT with Dr N Suntzeff, Dr C Smith, Dr A Rest (CTIO); Dr A Clocchiatti (U Catolica); Prof R Kirshner, Dr P Challis, Dr T Matheson (Harvard); Dr B Leibundgut, Dr J Spyromilio, Dr J Solleman (ESO); Dr M Phillips (Carnegie); Prof C Stubbs, Dr A Becker (UW); Dr A Filippenko, Dr R Chornock, Dr S Jha (Berkeley); Dr J Tonry, Dr B Barris (Hawaii); Dr A Riess (STScI); Dr P Garnavich, Dr S Holland (Notre Dame).

The Southern Edgeworth Kuiper Belt Survey by Dr B P SCHMIDT with Dr T Axelrod (Arizona); Prof C Alcock, Dr J Goldader (U Penn); Dr K Cook, Dr S Marshall (LLNL).

The REACT Gamma Ray Burst Study by Dr B P SCHMIDT, Mr P PRICE with Dr T Axelrod (Arizona), Dr S Kulkarni and Dr F Harrison (CalTech), Dr D Frail (NRAO).

The SNAP Program by Dr B P SCHMIDT with S Perlmutter, (UC Berkeley)

The EU 5th Framework RTN Program by Dr B P SCHMIDT with M SALVO, ANU RSAA, W Hillebrandt; B Leibundgut, ESO; P Ruiz-Lapuente, U Barcelona; P Meikle Imperial College; D Lennon, Isaac Newton Goup of Telescope; P Podsiadlowski, Oxford; C Tout, Institute of Astronomy, Cambridge; M Turatto, Osservatori Astronomico di Padova; R Pain, IN2P3; P Lundqvist, U Stockholm.

Southern All Sky Supernova Survey by Dr B P SCHMIDT, Ms M SALVO with Dr M Ashley (UNSW).

Stellar evolution and nucleosynthesis on the AGB by Dr P.R. WOOD with Dr J Lattanzio (Monash University).

Theoretical models of Mira variables by Dr P.R. WOOD with Prof M Scholz (University of Heidelberg).

Studies of MSX sources in the Magellanic Clouds by Dr P.R. WOOD with Dr M Cohen (Berkeley).

Studies of the variability of AGB stars in the Magellanic Clouds and near the Galactic Centre by Dr P.R. WOOD with Prof H Habing (Leiden), Dr M Cioni (ESO) and Prof A Omont (IAP Paris).

Orbital velocities of Symbiotic Stars by Dr P.R. WOOD with Dr K Hinkle, Dr R Joyce (NOAO) and Dr F Fekel (Tennessee State University).

Pulsation velocities and mass loss in red variables in 47 Tuc by Dr P.R. WOOD with Dr T Lebzelter (Vienna).

High dispersion spectra of variable red giants in the Magellanic Clouds by Dr P.R. WOOD with Dr M Cioni (ESO).

Infrared and optical light curves of LMC red variables Dr P.R. WOOD with Dr K Hinkle, NOAO, Dr M Cioni (ESO).

## Research School of Biological Sciences

### Comparative Genomics

#### Collaborations within the ANU

GRAVES J with Prof. S EASTEAL, JCSMR. Bioinformatics of kangaroo genome sequence.

GRAVES J with Dr J GREADY, JCSMR. Comparative genomics of the prion protein gene family.

GRAVES J with Prof. S WILSON, Math. Bioinformatics of kangaroo genome sequence.

GRAVES J and GRUETZNER F with Dr D ROWELLI, BoZo. Translocation heterozygosity and meiotic chain formation in the platypus.

GRAVES J and GRUETZNER F with Dr D. TREMETHICK, JCSMR. Chromatin modification and X chromosome inactivation in meiosis.

#### Collaborations with Australian universities

GRAVES J with Prof. DW Cooper, Macquarie University. ARC Centre for Kangaroo Genomics (CI and head of gene mapping node).

GRAVES J with Dr M Digby, Melbourne Uni. ARC Centre for Kangaroo Genomics.

GRAVES J with Dr A Georges and Dr S Sarre, Univ Canberra. Sex determination in dragon lizards.

GRAVES J with Dr RM Hope, Univ Adelaide. Globin genes in marsupials.

GRAVES J with Dr C Moran, Uni Sydney. Genome instability in interspecific hybrid mammals.

GRAVES J with Dr K Nicholas, Melbourne Uni. ARC Centre for Kangaroo Genomics—construction and use of EST libraries of tammar wallaby, mapping of milk genes in tammar.

GRAVES J with Prof. MB Renfree, Zoology, Melbourne Uni. ARC Centre for Kangaroo Genomics (CI and head of function node).

GRAVES J with Dr A Ruvinsky, UNE Armidale. Co-editors, forthcoming book on Mammalian Genomics.

GRAVES J with Dr A Sinclair, Royal Children's Hospital. Sex determination in vertebrates (co-authors of forthcoming book).

GRAVES J with Dr M Westerman, La Trobe. Chromosome evolution in marsupials.

GRAVES J with Dr P Woolley, La Trobe. Sex determination and pouch formation in marsupials.

GRAVES J with Dr K Zenger, Univ Sydney. ARC Centre for Kangaroo Genomics – integration of genetic and physical maps of the tammar wallaby.

GRAVES J and Deakin J with Dr K Belov, Australian Museum.

Immunoglobulins and the major histocompatibility locus of marsupials and monotremes.

GRAVES J and KOINA E with Prof. T Speed, WEHI. ARC Centre for Kangaroo Genomics (CI and head of bioinformatics node).

#### Collaborations with other Institutions

GRAVES J with Dr T Ashley, Yale. Meiosis in marsupials and monotremes.

GRAVES J with Dr R Burke, Hofstra, NY and Dr N Valenzuela, Iowa. Sex determination in turtles.

GRAVES J with Dr D Carvalho, Sao Paulo Brazil. Genes on the Y chromosome in American marsupials.

GRAVES J with Dr S Edwards, Harvard. Sex chromosomes in birds and reptiles.

GRAVES J with Dr W Just, Ulm Germany. Sex chromosomes in *Ellobius*, a species with no Y chromosome.

GRAVES J with Dr SJ O'Brien, National Cancer Inst Frederick. Comparative genetics and genomics.

GRAVES J with Dr RJW O'Neill, Connecticut. Genome instability in marsupial species hybrids.

GRAVES J with Dr W Reik, Cambridge UK. Genomic imprinting in marsupials.

GRAVES J with Dr P Waters, Stellenbosch, South Africa. Comparative painting and gene mapping of chromosomes of the Afrotheria.

GRAVES J and DELBRIDGE M with Dr H Hameister Ulm Germany. Evolution of the mammal X chromosome.

GRAVES J and GRUETZNER F with Dr MA Ferguson-Smith and Dr W Rens, Cambridge UK, and Dr M Svartman, NCI Frederick. Comparative chromosome painting, evolution of marsupial and monotreme chromosomes.

GRAVES J and KOINA E with Dr C Disteche, Seattle. X chromosome inactivation in mouse and marsupials.

GRAVES J and MIETHKE P with Dr P Samollow, Southwestern, Texas. Gene mapping in the American marsupial *Monodelphis domestica*.

GRAVES J and WAKEFIELD M with Dr S Deeb, Seattle. Colour vision pigment genes in marsupials and monotremes.

### Central Nervous System Stability & Degeneration

#### Collaborations with Australian universities

PROVIS J and NATOLI R with Dr M Madigan, Save Sight Institute, University of Sydney. FGFR siRNA in primary cultures of primate cone photoreceptors.

PROVIS J with Dr E Cornish, Save Sight Institute, University of Sydney. Localization of FGF ligand expression in primate cone photoreceptors

STONE J and VALTER K with Ms D van Driel, Save Sight Institute, University of Sydney. Distribution of mitochondria in mammalian retina

STONE J and VALTER K with Dr N Barnett, University of Queensland. Electrophysiological changes in the degenerative and ageing retina

STONE J and VALTER K with Prof. D-Y Yu, Lions Eye Institute, Perth. Oxygen levels in the degenerative P23H rat retina.

#### Collaborations with other Institutions

PROVIS J with Prof. AE Hendrickson, University of Washington, Seattle, WA, USA. Mechanisms of primate foveal development.

STONE J and VALTER K with Prof. S Bisti, at Università degli Studi Dell'Aquila, L'Aquila, Italy. Mechanisms of retinal neuroprotection.

STONE J and VALTER K with Prof. LS Cervetto, at Università di Pisa, Pisa, Italy. Mechanisms of retinal neuroprotection.

### Ecosystem Dynamics

#### Collaborations within the ANU

BALL MC and SIEBKE K with Dr AB Nicotra, Division of Botany and Zoology. Hyperspectral remote sensing and image analysis of chlorophyll, carotenoid, and anthocyanin levels in leaves of the snow gum, *Eucalyptus pauciflora*, during winter acclimation and deacclimation.

BARNES B with Dr D GORDON, School of Botany and Zoology. Coliform dynamics.

DEAN C with Dr BG MACKEY, School of Resources, Environment and Society. Landscape-scale modelling of dry woodland in south-central Queensland.

GILMORE A with Drs B POGSON and B FORSTER, Biochemistry and Molecular Biology. Light harvesting and photoprotective energy dissipation in engineered mutants of *Arabidopsis thaliana* and *Chlamydomonas reinhardtii*.

ROXBURGH SH with Dr BG MACKEY, School of Resources, Environment and Society. Landscape-scale modelling of forest composition, fire regimes and carbon dynamics within Australian ecosystems.

SIEBKE K with C PALMER, School of Botany and Zoology. Temperature tolerance of snow scorpionflies.

#### Collaborations with Australian universities

BALL MC and CANNY MJ with Prof. J Wolfe, University of New South Wales. Biophysics of freezing injury in evergreen tree seedlings.

BALL MC and SIEBKE K with Dr P Ralph, University of Technology, Prof. AWD Larkum, University of Sydney and Prof. J Wolfe, University of New South Wales. Heat stress induced photo-bleaching in corals.

BALL MC with Dr B Atwell, Macquarie University. Effects of elevated [CO<sub>2</sub>] on hydraulic architecture of eucalypt seedlings.

BARNES B with Dr H Sidhu, School of Mathematics, UNSW. Dynamical systems theory.

DEAN C with Dr Y Daniel-Burness, University of Tasmania. Three dimensional morphology of mature *Eucalyptus* trees in Tasmania.

GILMORE A with Dr A Salih and Prof. T Larkum, University of Sydney. Analysis of the excited state behaviour and potential interactions between coral fluorescent proteins and zooxanthellar photosystems.



SIEBKE K and BALL MC with Dr D Greer, Charles Sturt University. Sunburn of fruit measured by reflectance spectral and chlorophyll fluorescence imaging.

#### Collaborations with other Institutions

BALL MC with S STUART and Prof. NM Holbrook, Harvard University. Effects of salinity on freeze-induced embolism in mangroves.

BALL MC, MARTIN K and BRUHN D with Drs CE Lovelock and IC Feller, Smithsonian Institution, USA. Interactive effects of salinity and nutrients: linking physiological processes with patterns in mangrove forest structure.

BARNES B with Dr H Bi, NSW State Forests. Application of theoretical self thinning model.

BRUHN D with Drs OK Atkin, The University of York, UK, and M Tjoelker, Texas A&M University, USA. Characterising and modelling the short- and long-term temperature response of plant respiration.

BRUHN D with Drs OK Atkin, The University of York, UK, and M Tjoelker, Texas A&M University, USA. Response of plant respiration to changes in temperature: mechanisms and consequences of variation in the Q10 and acclimation.

BRUHN D with Drs OK Atkin, The University of York, UK, M Tjoelker, Texas A&M University, USA and V Hurry, Umeå University, Sweden. The response of plant respiration to temperature: making sense of variability in Q10 values and acclimation.

BRUHN D, BALL MC and EGERTON JGG with Drs. E Dellwik, TN Mikkelsen, K Pilegaard, Risø National Laboratory, Denmark, WL Kutsch, Christian-Albrechts-University of Kiel, Germany, M Herbst, GSF National Research Center, Germany. Daytime respiration at leaf and ecosystem level.

DAVIES I with Dr GF Midgley, National Botanical Institute Cape Town, South Africa. Long-term movement of Fynbos and succulent Karoo biomes of Southern Africa.

DAVIES I with Dr S Lavorel, Centre d'Ecologie Fonctionnelle et Evolutive, CNRS, France. Landscape patterns in Garrigue and Brolla vegetation of the Garraf National Park, Catalonia, Spain.

DAVIES I with Dr S Lavorel, Centre d'Ecologie Fonctionnelle et Evolutive, CNRS, France. VISTA, European Union.

DAVIES I with Drs G Cary, S Lavorel, R Keane, and R Gardner, National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara, USA. Interaction of climate, landscape pattern and fire.

DAVIES I with Drs J Gignoux, D Hill and A Roche, École Normale Supérieure, Ecologie, and Institut Supérieur d'Informatique, de Modélisation et de leurs Applications, France. General spatialised ecological simulator.

DAVIES I with Prof. H Shugart and Dr D Druckenbrod, University of Virginia, USA. Modelling the responses of Eastern US forests to climate change.

DAVIES I with Prof. JH Connell, University of California, Santa Barbara, USA. Long-term population analysis, interpretation and modelling dynamics of rainforests.

DAVIES ID and ROXBURGH SH with Dr D Gardener and Mr F Ximenes. State Forests NSW. Development of a software tool for monitoring the fate of post-harvest wood products.

DEAN C with Dr V Lemay, University of British Columbia, Canada. Fitting of stem taper formulas.

GILMORE A with Prof. KK Niyogi and Dr X-P Li, University of California, Berkeley, USA. Light harvesting and photoprotective energy dissipation in engineered mutants of *Arabidopsis thaliana*.

GILMORE A with Prof. S Itoh, University of Nagoya, Japan. Fluorescence lifetime analyses of light harvesting and photoprotective energy dissipation in higher plants and in vivo excited state behaviour of fluorescent corals and their zooxanthellar endosymbionts.

GREEN PT with Dr K. E. Harms, Louisiana State University, Louisiana, USA. Non-random mortality in rain forest seedlings and consequences for diversity.

GREEN PT with Prof. J.H. Connell, University of California, USA. Long-term dynamics of Australian tropical and subtropical rain forests.

MCBETH B with Drs AC Spessa and IC Prentice, Max Planck Institute for Biogeochemistry, Germany. Modelling the relationship between fire frequency and vegetation patterns in the tropical savannas of northern Australia: Case studies using NOAA-AHRR data.

RODERICK M and HUME I with Dr T McVicar, CSIRO Land and Water. Estimating pasture productivity using satellite imagery.

RODERICK M with Dr S Schymanski and Prof. Murugesu Sivapalan, Centre for Water Research, University of WA. Optimality in the soil-vegetation-atmosphere system.

RODERICK M with Drs A Holm, University of WA, and S Cridland, Environmental Resource Information Network, ACT. Rangeland monitoring using satellite imagery.

ROXBURGH SH with Dr P Chesson, University of California, Davis, USA. Competition and coexistence in an Australian understorey forest community.

ROXBURGH SH with Drs K Shea, Pennsylvania State University, USA, and JB Wilson, University of Otago, New Zealand. The role of disturbance in maintaining biological diversity.

## Environmental Biology

### Collaborations within the ANU

EDWARDS EJ and EVANS JR with Dr B LOVEYS, Ecosystem Dynamics Group: The influence of elevated CO<sub>2</sub> and nutrient regime on leaf temperature in a C<sub>3</sub>C<sub>4</sub> plant community.

EDWARDS EJ with Dr B LOVEYS and M BALL, Ecosystem Dynamics Group: The effect of nocturnal warming on plant carbon gain.

EDWARDS EJ and EVANS JR with Dr D BRUHN and M BALL, Ecosystem Dynamics Group: Temperature influence on plant respiration in the field.

FARQUHAR GD, ZHOU YP and STUART-WILLIAMS HleQ with Prof J CHAPPELL (RSES): Examination of environmental

influences of tree-ring isotopic composition – oxygen, carbon and hydrogen isotopes.

SCHORTEMAYER M and MEDEK D with Dr K SIEBKE and Dr M BALL, Ecosystem Dynamics Group: Thermotolerance of subantarctic and alpine grasses.

SCHORTEMAYER M with D FORRESTER, SRES, and Prof W Stock, Edith Cowan University: <sup>15</sup>N signatures in mixed plantations of eucalypts and acacias.

#### Collaborations with Australian universities

CERNUSAK L and FARQUHAR GD with Prof. JS Pate and DJ Arthur, University of Western Australia. Studies of isotope dynamics in lupins and eucalypts.

FARQUHAR GD and WONG SC with Dr Chris Lambrides, School of Land and Food Sciences, University of Queensland. Stable isotopes and water-use efficiency in sunflowers.

SCHORTEMAYER M with Mr AI MALIK, Dr TD Colmer and Prof. H Lambers, University of Western Australia, and Dr TL Setter, Department of Agriculture, Western Australia. Waterlogging tolerance of dryland cereal crops.

SCHORTEMAYER M with Prof. H LAMBERS, University of Western Australia. Modelling salt uptake and salinity tolerance of wheat.

SCHORTEMAYER M with Dr S Schmidt, Uni. of Queensland. Photosynthesis-nitrogen relationships along a rainfall gradient in Northern Australia.

#### Collaborations with other Institutions

BUCKLEY TN with Prof. KA Mott, Utah State University. Characterizing differences between the stomatal responses to carbon dioxide in light vs darkness.

BUCKLEY TN with Prof. DW Roberts, Utah State University. Controls on individual and ecosystem leaf area in heterogeneous subalpine conifer forests.

EDWARDS EJ and EVANS JR with Dr Astrid Volder and Dr Roger Gifford (CSIRO Plant Industry Canberra). CRCGA Collaboration: The effect of warming, elevated CO<sub>2</sub> and cutting frequency on soil and ecosystem respiration.

EVANS JR with Prof. William Stock, University of Cape Town, South Africa. Nitrogen discrimination during plant growth under elevated CO<sub>2</sub>.

EVANS JR with Prof. Thomas Vogelmann, University of Vermont, USA. Light absorption and CO<sub>2</sub> fixation profiles through leaves.

FARQUHAR GD with Roderick ML, CRC for Greenhouse Accounting.: Pan evaporation rate and diffuse light.

FARQUHAR GD and TREMMEL I with Prof. E Weis, Wilhelms University of Muenster Schlossgarten, Germany. The role of thylakoid architecture on chloroplast electron transport.

FARQUHAR GD and WONG SC with Dr JWH Yong, National Institute of Education Nanyang Technological University, Singapore. Cytokinin Physiology.

FARQUHAR GD and WONG SC with Dr R Richards, Dr A Condon, Dr G Rebetzke, CSIRO Plant Industry. Isotope discrimination and wheat performance.

FARQUHAR GD with Dr MM Barbour and Dr A Walcroft, Landcare Research, New Zealand. Isotope discrimination in tree rings.

FARQUHAR GD with Dr MM Barbour, Landcare Research, New Zealand, Prof. J Ehleringer, Utah, and Dr JS Roden, Southern Oregon University. Stable isotopes of oxygen in water and organic matter of trees.

FARQUHAR GD and WONG SC with Prof. JE Ong and Dr WK Gong, Centre for Marine and Coastal Studies, University Sains Malaysia. Carbon and oxygen isotopes discrimination tropical mangrove communities.

FARQUHAR, GD and CUNTZ, M with Dr J Ghashgaie and G Tcherkez, Univ. Paris-XI Intra Molecular distribution of carbon isotopes.

GILMORE SR with Dr P McCarthy, Australian Biological Resource Study. Treatment of Rhizogoniaceae (Musci) for Flora of Australia.

KREIDEMANN P with Ian Goodwin, Senior Irrigation Scientist, Dept Primary Industries, Tatura Victoria. Regulated deficit irrigation and partial root zone drying in grape vines.

MASLE J with Dr Upadhyaya and Dr P Ryan, CSIRO and Dr M Udvardi, Max Plank Institute for Molecular Plant Physiology, Germany. The molecular physiology of ammonium transport in rice.

MASLE J and FARQUHAR GD with National Science Foundation Consortium. The Genetics of water-use efficiency.

SCHORTEMAYER M with Dr D Bergstrom, Australian Antarctic Division. Photosynthesis of subantarctic plants.

SCHORTEMAYER, EDWARDS EJ and EVANS JR with Dr Astrid Volder and Dr Roger Gifford (CSIRO Plant Industry Canberra). Cooperative Research Centre for Greenhouse Accounting: The effect of warming, elevated CO<sub>2</sub> and cutting frequency on biomass production by *Phalaris aquatica* swards.

SHAW J with Prof. Ralph Martins, McCusker Foundation for Alzheimer's Disease Research, Department of Psychiatry and Behavioural Science, University of Western Australia. The use of phage display technology in Alzheimer's Disease research.

STUART-WILLIAMS H and FARQUHAR GD with Dr K Grice, Curtin University of Technology. Examining the hydrogen isotopic composition of plant lipids, with a view to understanding better how the composition reflects environmental change.

WONG SC with Prof. CS Hew, School of Biological Sciences, National University of Singapore. On the physiology of orchids.

WONG SC and FARQUHAR GD with Dr IM Turner, Singapore Botanic Gardens. On ecophysiology of tropical rainforests.

## Genomic Interactions

### Collaborations with Australian universities

DJORDJEVIC MA and ROLFE BG with Dr W Reeves, Murdoch University. Analysis of *Sinorhizobium meliloti* grown under acid stress conditions.

DJORDJEVIC MA with Dr C Beveridge, University of Queensland. Analysis of sap from pea plants with aberrant root-shoot signalling controlling the proliferation of lateral shoot branching.

DJORDJEVIC MA with Dr S Djordjevic, Elizabeth McArthur Agricultural Institute and Dr S Cordwell, Australian Proteome Analysis Facility, Macquarie University. Proteomic analysis of cell surface proteins in *Mycoplasma*.

DJORDJEVIC MA with Prof. L Copeland and Ms L Feng, Sydney University. Nutrient deprivation responses in peat grown cells of *Sinorhizobium meliloti*.

DJORDJEVIC MA with Prof. P Gresshoff, University of Queensland. Analysis of sap from soybeans with aberrant root-shoot signalling controlling nodule meristem proliferation.

HOCART CH with Dr V Crane, Biotron, on the structural elucidation of a cancer marker.

NAORA H with Dr IW Prossor, Ms M McNiven and Ms M Brun, The Canberra Hospital. Regulation of apoptosis by nbl expression in patients with chronic lymphocytic leukaemia and in normal controls. Possible implications for chemotherapy sensitivity.

ROLFE BG, WEINMAN JJ and DJORDJEVIC MA with the Australian Proteome Analysis Facility, Macquarie University. Global analysis of protein levels in *Sinorhizobium meliloti*.

SKOTNICKI M with Dr P Selkirk, Macquarie University, Dr S Robinson, University of Wollongong, Dr D Bergstrom, Antarctic Division, Dr J Whinam, Tasmanian Parks and Wildlife. The genetic diversity and climate change response of Antarctic mosses.

SKOTNICKI M with Dr P Selkirk, Macquarie University, Dr J Whinam, Tasmanian Parks and Wildlife, Dr D Bergstrom, Antarctic Division, Dr P McBride, Environment Australia. The genetic diversity and molecular virology of subantarctic plants from Heard and Macquarie Islands.

SKOTNICKI M with Drs P Selkirk and H Nevalainen, Macquarie University. The biodiversity of subantarctic and Antarctic fungal pathogens.

WEINMAN JJ and ROLFE BG with Mr RL Williams, NSW Dept of Agriculture. Investigations of molecular mechanisms causing cold sterility in rice.

WEINMAN JJ and ROLFE BG with Mr RL Williams, NSW Dept of Agriculture. A molecular genetic investigation of microspore development in rice anthers.

### Collaborations with other Institutions

DJORDJEVIC MA and ROLFE BG with Prof. de Bruijn, CNRS Toulouse. Analysis of regulatory effects of tspO mutation upon protein expression in stationary phase in *Sinorhizobium meliloti*.

DJORDJEVIC MA with Dr Kahn, CNRS Toulouse. Analysis of nitrogen regulatory proteins in *Sinorhizobium meliloti* and bacteroid protein expression patterns.

NAORA H with Prof. K Sorimachi, Dokkyo University, Medical School, Japan. Studies on nbl expression in surgically removed cancer tissues.

ROLFE BG and CHEN H-C with Prof. Bauer, Horticulture and Crop Science Ohio. Quorum sensing mechanisms in *Sinorhizobium meliloti*.

ROLFE BG and DJORDJEVIC MA with Dr E Kondorosi and Prof A Kondorosi. Proteome analysis of developing nodule tissue in Medicago.

ROLFE BG and MATHESIUS U with Dr Julia Frugoli (Clemson University, USA) and Prof. D Cook, UCLA Davis, USA. The characterisation of a supernodulation mutant of the legume *Medicago truncatula*.

ROLFE BG and MATHESIUS U with Prof. W D Bauer and Dr M Teplitski, Ohio State University, USA. Plant detection of quorum sensing compounds.

ROLFE BG and WEINMAN JJ with Bio-Care Technology Pty Ltd NSW, Development of rice *Rhizobium* inoculant.

ROLFE BG, WEINMAN JJ and DJORDJEVIC MA with FB Dazzo, MSU, Michigan, USA. Molecular genetic analysis of rice-associating *Rhizobium* strains.

SKOTNICKI M with Dr R. Bargagli, University of Siena, Italy, Drs R Lewis-Smith, P Convey and D Walton, British Antarctic Survey, Cambridge, Dr P Broady, University of Canterbury, New Zealand, Dr Y Frenot, University of Rennes, France and Prof. S Chown, University of Pretoria, South Africa. The genetic diversity and climate change response of Antarctic mosses.

SKOTNICKI M with Prof. E Kitajima, University of Sao Paulo, Brazil. The genetic diversity and molecular virology of subantarctic plants from Macquarie Island.

WEILLER GF and DJORDJEVIC MA with Dr Kahn, CNRS Toulouse. Compiling a data base of *Sinorhizobium meliloti* proteins for the international scientific community.

WEILLER GF with Dr M Fuchs, SAP, Filiale Walldorf, Germany. Genetic programming approach for detecting DNA recombination.

WEILLER GF with Dr M Hoehl, University of Queensland. Characteristic sequence motifs associated with alignment gaps.

WEILLER GF with Prof. R Giegerich, Faculty of Technology, University of Bielefeld, Germany. DNA sequence alignment respecting recombination events.

## Molecular Genetics & Evolution

### Collaborations within the ANU

BALL EE and HAYWARD DC with Dr J W TRUEMAN, Botany and Zoology, Phylogenetics of developmentally important genes in insects.

CAMPBELL HD with Dr KI MATTHAEI, JCSMR. Mouse gene targeting and transgenesis.

CAMPBELL HD with Prof. IG YOUNG, JCSMR. Human and mouse homologues of invertebrate genes.

CAMPBELL HD with Dr CA BEHM, Division of Biochemistry and Molecular Biology, The Faculties. Molecular biology of the *Caenorhabditis elegans* homologues of mammalian genes.

#### Collaborations with Australian universities

BALL EE and HAYWARD DC with Dr DJ Miller and associates Comparative Genomics Centre, Molecular Sciences Building, Jes Cook University, Townsville-molecular control of coral development.

CAMPBELL HD with Dr PR Fisher, La Trobe University, Melbourne. *Dictyostelium discoideum* genes.

CAMPBELL HD with Dr A Yap, University of Queensland. Cell biology of the human FLII protein.

SAINT R with Drs S Gregory, T. Shandala and H. Dalton, School of Molecular and Biomedical Sciences, University of Adelaide. Molecular mechanisms of cell division.

SAINT R with Dr DJ Miller, Comparative Genomics Centre, Molecular Sciences Building, Jes Cook University, Townsville-coral genomics.

#### Collaborations with other Institutions

BALL EE and HAYWARD DC with Patel NH, University of California, Berkeley. Molecular control of grasshopper development.

BALL EE with Technau GM, Johannes Gutenberg University Comparative development of glial cells in grasshopper and *Drosophila*.

CAMPBELL HD with Dr B Powell and Dr A Cowin, Child Health Research Institute, North Adelaide and Prof. D Roop, Baylor College of Medicine, Houston. Mammalian wound healing.

CAMPBELL HD with Dr K-S Chen and Prof. JR Lupski, Baylor College of Medicine, Houston. The human and mouse homologues of the *Drosophila* flightless-I gene.

CAMPBELL HD with Dr MF Crouch, TGR BioSciences, Adelaide. Studies on mammalian genes.

CAMPBELL HD with Prof. MR Stallcup, Department of Pathology, University of Southern California. Studies on the role of FLII in mammalian cells.

CAMPBELL HD with Dr KI MATTHAEI, JCSMR and Dr H Scrable, University of Virginia. Regulable mouse transgenes.

CLARK-WALKER GD with Prof. TD Fox, Cornell University, USA. Translational activation of the mitochondrial ATP6 gene in yeast.

CLARK-WALKER GD with Prof. M Claisse, University of Paris. France. The function of alternative oxidase in the yeast *Debaryomyces occidentalis*.

CLARK-WALKER GD with Dr N Bonnefoy, CNRS, Gif-sur-Yvette, France. Suppressors of lethality due to loss of the mitochondrial genome in *Schizosaccharomyces pombe*.

CLARK-WALKER GD and ZUO X with Dr M-X Guan, Children's Hospital Medical Center, Cincinnati, USA. The role of  $F_1F_0$ -ATP synthase in survival of mammalian cells lacking mitochondrial DNA.

HAYWARD DC, TRUEMAN JW, MALESZKA R and BALL EE with Dr MJ Bastiani, University of Utah and Whiting, M Brigham Young University. Evolution of RXR/USPs in insects.

HAYWARD DC and BALL EE with Dr TS Dhadialla, Dow Chemical, Dr GR Wyatt and Dr VK Walker, Queens University. Molecular control of locust moulting.

SAINT R with Dr A Bejsovec, Duke University. Genetic analysis of RacGAP function in *Drosophila*.

## Molecular Plant Physiology

#### Collaborations within the ANU

ANDREWS TJ with Dr J GREADY, John Curtin School of Medical Research. Application of computational chemistry to studying the catalytic mechanism of Rubisco.

WHITNEY SM and ANDREWS TJ with Dr N DIXON and Dr K OZAWA, Research School of Chemistry. In vitro synthesis of Rubisco.

#### Collaborations with Australian universities

ANDREWS TJ with Dr R Lilley, University of Wollongong and Dr E KRAUSZ, Research School of Chemistry.  $Mn^{2+}$ -chemiluminescence and the mechanism of Rubisco

BADGER MR with Prof. DA Day and Dr H Millar, Department of Biochemistry and Molecular Biology, University of Western Australia. Investigations of alternative oxidase respiration activity in plants using mass spectrometric techniques.

PRICE GD with Ludwig M, Department of Biological Sciences, Macquarie University. Molecular and immunological analysis of carboxysomes.

VON CAEMMERER S and GHANNOUM O with Prof. JP Conroy, University of Western Sydney, Hawkesbury. Mechanisms influencing the growth and distribution of  $C_4$  grasses under rising  $CO_2$  concentrations.

VON CAEMMERER S with Ludwig M, Macquarie University and Dr RT Furbank, CSIRO Plant Industry, Canberra. Construction of transgenic *Flaveria bidentis* (a  $C_4$  dicot) with reduced amounts of mesophyll carbonic anhydrase.

#### Collaborations with other Institutions

ANDREWS TJ, WHITNEY SM and KANE HJ. Full partner laboratory of the European Union Framework 5 consortium undertaking Project MARISCO (Improving Arable Production Systems By Expressing Marine Algal Rubisco In Crop Plants, Contract No. QLK3-CT-2002-01945)

ANDREWS TJ, WHITNEY SM with Dr CS Pike, Dept Biology, Franklin and Marshall College, PA, USA. Study of stress caused by unfolded proteins in plastids of transplastomic tobacco.

BADGER MR and PRICE GD with Dr R Jefferson, Dr A Killian and Mr T Ngyuen, CAMBIA. Secretion of  $\beta$ -glucuronidase in plants, yeast and bacteria.

BADGER MR and PRICE GD with Dr R Jefferson, Dr A Killian, Mr X Fu and Ms S Koerniati, CAMBIA. The use of gene transactivation technologies in breeding and genetic analysis of rice.

BADGER MR and PRICE GD with Dr TW Lane and Dr A Martino, SANDIA National Laboratories, USA. The structure and function of cyanobacterial carboxysome multi-protein complexes and

their role in carbon sequestration in cyanobacteria.

GHANNOUM O with Prof. JP Conroy, University of Western Sydney and Dr Matthew Paul, IACR-Rothamsted, UK. Function of trehalose metabolism in higher plants.

PRICE GD and BADGER MR with Dr T Omata, University of Nagoya, Japan. Analysis of the CO<sub>2</sub> Concentrating mechanism in cyanobacteria.

PRICE GD with Dr D Desai, CSIRO-CMIT, Highett, Melbourne. Development of a cyanobacterial bioreactor.

VON CAEMMERER S with Dr C Raines, Dr T Lawson, Prof. N Baker and K Oxborough, University of Essex, UK. Analysis of guard cell chlorophyll fluorescence in transgenic tobacco with impaired photosynthesis.

VON CAEMMERER S with Dr RT Furbank, CSIRO Plant Industry, Canberra. Analysis of metabolites in transgenic *Flaveria bidentis* (a C<sub>4</sub> dicot) with reduced amounts of Rubisco.

## Photobioenergetics

### Collaborations within the ANU

ÅHRLING K with Dr R BRAMLEY, Research School of Chemistry. Q-Band measurement of the manganese in Photosystem II.

ÅHRLING K with Dr S PETERSON, Research School of Chemistry. Flash-induced relaxation changes of the EPR signal from the Mn cluster in Photosystem II.

CHOW WS and GILMORE A with Dr B POGSON, School of Biochemistry and Molecular Biology. Mechanisms of photoprotection in plants—a genomics and photophysical approach.

HENDRICKSON L and CHOW WS with Dr B FÖRSTER and Dr B POGSON, School of Biochemistry and Molecular Biology. Photoprotection in grapevines and capsicum.

MATSUBARA S and GILMORE A with Dr B POGSON, School of Biochemistry and Molecular Biology. Mechanisms of photoprotection in plants.

RAZEGHIFARD R with Dr R PACE, Department of Chemistry. Oxygen release kinetics of frozen Photosystem II.

RAZEGHIFARD R with Dr R. WEBSTER, Research School of Chemistry. Electrochemical measurements of porphyrin complexes.

WYDRZYNSKI T with Dr R PACE, Chemistry Department, and Prof E KRAUSZ, Research School of Chemistry. Preparation of purified Photosystem II from higher plants and cyanobacteria.

### Collaborations with Australian universities

CHOW WS with Ms A Martyn, Faculty of Agriculture, Food and Natural Resources, The University of Sydney. Light-induced browning of bracts on waratah flowers.

WYDRZYNSKI T with Dr J Beardall, School of Biological Sciences, Monash University, Melbourne. Studies of light acclimation effects on the O<sub>2</sub> evolving reaction.

### Collaborations with other Institutions

ÅHRLING KA with Dr Sally Brooker, Department of Chemistry, University of Otago, Dunedin, New Zealand. Incorporation of Mn-dimer complexes into a synthetic peptide.

ÅHRLING KA with Prof. S Styring, Department of Biochemistry, Lund University, Sweden. Studies of the oxygen evolving centre of Photosystem II during the second turnover of the enzyme.

ÅHRLING KA with Prof. MCW Evans, Department of Biology, University College London. EPR studies of oxygen evolving centre of Photosystem II in the presence of D<sub>2</sub>O.

ANDERSON JM and CHOW WS with Prof G Öquist, Department of Plant Physiology, Umeå, Sweden. Investigations on light stress in photosynthesis.

ANDERSON JM with Prof. B Green, Botany Department, University of British Columbia, Canada. Photosynthetic membranes and their-light-harvesting antennas.

CHOW WS with Prof. Y-I Park, Department of Biology, Chungnam National University, South Korea. Photosynthetic and respiratory electron flow in cyanobacteria.

CHOW WS with Prof. J He, Natural Sciences Academic Group, Nanyang Technological University, Singapore. Recovery of Photosystem II from photoinactivation.

CHOW WS with Prof. DJ Shi, Department of Photosynthesis, Institute of Botany, Chinese Academy of Sciences, China. Photosynthesis and growth of *Nostoc flagelliforme*.

HENDRICKSON L and CHOW WS with Dr RT Furbank, CSIRO Plant Industry. Low temperature inhibition of photosynthetic assimilation in grapevines.

HILLIER W with Prof. RJ Debus, University of California at Riverside, USA. Fourier Transform Infra Red measurements on mutants of Photosystem II.

HILLIER W with Prof. S Furguson-Miller, Department of Chemistry and Biochemistry, Michigan State University, USA. Catalytic steps in the oxygen reduction mechanism of cytochrome c oxidase.

KIM EH, CHOW WS and ANDERSON JM with Prof. P Horton, Department of Molecular Biology and Biotechnology, University of Sheffield, England, and Prof S Jansson, Department of Plant Physiology, University of Umeå, Sweden. Structure/function relationship in *Arabidopsis* mutants lacking the main light-harvesting antenna of Photosystem II.

MATSUBARA S with Prof. U Lüttge, Institut für Botanik, Technische Universität Darmstadt, Germany. The lutein-epoxide cycle in mistletoe.

MATSUBARA S with Prof. CB Osmond, Biosphere 2 Center, Columbia University, USA. Photoprotection in mistletoe.

RAZEGHIFARD R with Dr V Hilser, Department of Human Biological Chemistry and Genetics, University of Texas Medical Branch. Structural studies of the interleukin-4 protein.

RAZEGHIFARD R and WYDRZYNSKI T with Prof. PL Dutton, Department of Biochemistry and Biophysics, University of Pennsylvania, USA. Design and synthesis of photoactive peptides based on photosynthetic reaction centres.

WYDRZYNSKI T with Dr J Eaton-Rye, Department of Biochemistry, University of Otago. Analysis of Photosystem II in cyanobacterial mutants.

WYDRZYNSKI T with Prof. GC Dismukes, Department of Chemistry, Princeton University, and Prof VV Klimov, Institute

for Basic Biological Problems, Russian Academy of Science. The Origin of oxygen on earth – the innovation and evolution of photosynthetic water oxidation.

## Plant Cell Biology

### Collaborations with Australian universities

BLACKMAN LM with E Johnson and Assoc Prof. RL Overall, University of Sydney, and Dr RG White, Division of Plant Industry, CSIRO. Characterisation of the auxin influx carrier from maize.

BLACKMAN LM, with C Faulkner and Assoc Prof. RL Overall, University of Sydney. Identification of plasmodesmata-associated proteins: a proteomics approach.

BLACKMAN LM, with Dr JDI Harper, Charles Sturt University, Assoc Prof. RL Overall and Dr J Marc, University of Sydney. Characterisation of centrin in higher plants.

COLLINGS DA, with Dr JDI Harper, Charles Sturt University, and Drs J Marc and J Gardiner, University of Sydney. Characterisation of the effects of the phospholipase D antagonist 1-butanol on growth and microtubules in *Arabidopsis thaliana*.

COLLINGS DA, with Dr JDI Harper, Charles Sturt University. Characterisation of the organisation and dynamics of peroxisomes during cell division in *Allium* sp.

HARDHAM AR and ROBOLD A with Dr P Scott, Uni. of Queensland. Development of ScFv recombinant antibodies directed towards the adhesive protein of *Phytophthora* zoospores.

HARDHAM AR and SKALAMERA D with Drs D Maclean, A Drenth and S Basnayake, University of Queensland. Isolation of avirulence and pathogenicity genes from *Phytophthora*.

HARDHAM AR, BLACKMAN LM and NARAYAN R with Dr JDI Harper, Charles Sturt University. Centrin and Hsp90 in the *Oomycetes*.

JOHN PCL with Prof. J Hamill, Monash University. Cell cycle control in the initiation of lateral root primordia.

JONES DA with Dr B Kobe, University of Queensland. Structure of plant disease resistance proteins.

JONES DA, HEMMING M, LIM G with Dr B Carroll, University of Queensland, Isolation of the tomato I-3 gene for resistance to the wilt pathogen *Fusarium oxysporum* pv *lycopersici*.

WASTENEYS GO and COLLINGS DA with Ms S Pazhavarical and Dr Tan Nair, University of Western Sydney. Nematode infection and cytoskeletal organization.

### Collaborations with other Institutions

COLLINGS DA, with Dr KC Vaughn, USDA Stoneville Mississippi. Characterisation of the organisation and dynamics of peroxisomes during cell division in *Allium* sp.

JOHN PCL with Prof. BG Forde, University of Lancaster, Lancaster UK. Hormonal and nutritional effects in the initiation of lateral root primordia.

JOHN PCL with Prof. D Inzé, University of Gent, Belgium. Location and activity of plant cyclin dependent kinases.

JOHN PCL with Prof. TI Baskin, University of Massachusetts, Amherst, USA. Modulation of meristem action by cell cycle transgenes.

JONES DA with Prof. JDG Jones, Sainsbury Laboratory, John Innes Centre, Norwich, UK. Function of the Cf-9 and Cf-9B disease resistance proteins.

JONES DA, HEMMING M, LIM G with Mr D McGrath and Dr S Garland, Bowen Horticultural Research Station, Queensland Department of Primary Industry. Isolation of the tomato I-3 gene for resistance to the wilt pathogen *Fusarium oxysporum* pv *lycopersici*.

ROUSE D with Dr DL Jones, Centre for Plant Biodiversity Research, Australian National Herbarium, Canberra. Studies of *Prasophyllum* R.Br. (Orchidaceae) in south-eastern Australia.

WASTENEYS GO and YEOMANS AT with Dr ME Galway, St Francis Xavier University, Canada. Root hair development in *Arabidopsis*.

WASTENEYS GO with Prof. Haruko Kazama, ICU. Ethylene and cell fate determination in cucumber hypocotyl development.

WASTENEYS GO with Prof. Ilse Foissner, University of Salzburg, Austria. The basis for endomembrane motility in *Nitella*.

WASTENEYS GO with Prof. Ilse Foissner, University of Salzburg, Austria and Dr Tobias Baskin, University of Massachusetts, Amherst, USA. Microtubule organization and cell wall deposition in characean algae.

WILLIAMSON RE with Prof. RW Ridge, International Christian University, Tokyo. Light microscopy of *Arabidopsis* cell walls.

## Visual Sciences

### Collaborations within the ANU

MADDESS T with Dr A ANKIEWCZ. Applied Photonics Group RSPHysSE. Binary and ternary textures containing higher order spatial correlations.

REINHARD J with Dr D ROWELL and Ms C EDWARDS (Hons student, co-supervised), Faculty of Science, Botany and Zoology. Social behaviour and speciation processes of *Onychophora* in Southeastern Australia.

ZEIL J with Dr R MAGRATH, Faculty of Science, Botany and Zoology. Size, sex and colour in *Heloeicus cordiformis*.

ZEIL J and HEMMI JM with Dr P BACKWELL, Faculty of Science, Botany and Zoology. The meaning of colour in fiddler crabs.

ZEIL J and Dr P COOPER, Faculty of Science, Botany and Zoology. Foraging and navigation in Australian sugar ants.

### Collaborations with Australian universities

HEMMI JM with Dr A Griffin, Department of Psychology, Macquarie University, Sydney. Image recognition in the tamar wallaby.

IBBOTSON MR with Prof. B Dreher and Dr C Clifford, Sydney University. Processing in the cat visual cortex.

MADDESS T with Dr I Goldberg, University of New South Wales. A ten year retrospective study of the use of contrast thresholds of spatial frequency doubling stimuli to predict glaucoma.

MALESZKA R with B Oldroyd University of Sydney. The genetics of social regulation of reproduction in honey bees

MAROTTE LR and FLETT DL with Dr CA Leamey, University of Sydney. Development of thalamocortical synapses in the somatosensory cortex of the wallaby.

MAROTTE LR with Dr CA Leamey, University of Sydney. Genes regulating cortical development in the wallaby.

MAROTTE LR with Assoc. Prof. KWS Ashwell and Prof. G Paxinos, University of NSW. Chemical atlas of the wallaby brain.

MAROTTE LR with Dr Cheng Gang and Assoc. Prof. KWS Ashwell, University of NSW. Anatomy of the hypothalamus of the developing and adult wallaby.

MAROTTE LR with Assoc. Prof. KWS Ashwell, University of NSW. Expression of developmental markers in the brain of the wallaby pouch young.

MAROTTE LR with Dr R Augusteyn, Latrobe University. Lens weight and age relationship in the wallaby.

MORGAN IG with Dr Meeuwis Boelen, La Trobe University, Bendigo. The role of dopamine in the function of the retinal dark-light switch and the control of eye growth.

MORGAN IG with Dr Mark Gillies and Dr Goff Quin, University of Sydney. The use of OCT to monitor choroidal thickness in chickens.

MORGAN IG with Professor Neville McBrien, University of Melbourne. Development of refractive errors in abnormal light-dark cycles.

MORGAN IG with Dr Kathryn Rose, Prevalence of myopia in rural and urban areas of Vietnam.

MORGAN IG with Dr Kathryn Rose and Professor Paul Mitchell, University of Sydney. Sydney Myopia Study.

MORGAN IG with Dr Kathryn Rose and Professor Paul Mitchell, University of Sydney. Effects of mobile phone use on vision, eye health and hearing in older Australians

SRINIVASAN MV with Professor R Jarvis, Monash, Dr R Kotagiri, Melbourne and Dr S Venkatesh, Curtin. Perceptive and Intelligent machines.

ZEIL J and BALL M (Ecosystem Dynamics) with Assoc. Prof. J Marshall and others, University of Queensland. Prawns in Space (ARC Linkage Project).

ZEIL J and HEMMI JM with Assoc. Prof. J Marshall and Dr S Kleinlogel, University of Queensland. Spectral sensitivities of fiddler crab photoreceptors.

ZEIL J with Dr M Vorobyev, University of Queensland. Spatial statistics of hyperspectral images.

#### **Collaborations with other Institutions**

BLEST AD with Dr CJ Vink, Lincoln University, New Zealand and San Diego State University, California, USA, Dr B Patrick, Otago Museum, Dunedin, New Zealand and Simon Pollard, Canterbury Museum, New Zealand. Systematics and Biodiversity of New Zealand Spiders.

IBBOTSON MR with Dr M Mustari, Yerkes National Primate Centre, Emory University, Atlanta, USA. Processing in the monkey visual cortex.

JES AC with Prof. T Triche, Childrens' Hospital of Los Angeles and Keck School of Medicine, University of Southern California, USA. Analysis of gene expression data from oligonucleotide microarrays.

JES AC and MADDESS T with ObjectiVision, Sydney. Application of multifocal visual evoked potentials in medical diagnostics.

MADDESS T with Prof. Y Nagai, Kokushikan University, Tokyo Japan. Binary and ternary textures containing higher order spatial correlations.

MADDESS T with Prof. ME McCourt, North Dakota State University, Fargo USA. Contrast-contrast effects and isotrigran textures.

MAROTTE LR with Dr J Mai, University of Dusseldorf, Germany. Expression of developmental markers in the brain of the wallaby pouch young.

MAROTTE LR and M Vidovic with Dr S Jhaveri, Massachusetts Institute of Technology, USA. Expression of Brain Derived Neurotrophic Factor and TrkB in the developing retinocollicular system of the wallaby.

MAROTTE LR with Dr S Deeb, University of Washington, USA. The cone visual pigments of the tammar wallaby: sequence, spectral tuning and evolution.

SRINIVASAN MV and ZHANG SW with Prof. J Tautz, University of Wuerzburg, Germany. Honeybee navigation, learning and memory.

WALCOTT B with Dr LC Moore and P Brink, Department of Physiology and Biophysics, Stony Brook University, Stony Brook, NY, USA. Water Transport in the Lacrimal gland.

ZEIL J with Dr N Boedekker and Prof. M Egelhaaf, University of Bielefeld, Germany. Reconstruction of natural optic flow.

ZEIL J with Prof. D Stavenga, University of Groningen. Optics of fiddler crab eyes.

ZEIL J and HEMMI JM with Prof. T Cronin, University of Maryland, USA. Spectral sensitivities of fiddler crab photoreceptors.

ZEIL J with Prof. J Zanker, Royal Holloway, England. Motion vision ecology.

ZHANG SW with Prof. Dr J Tautz, Biozentrum of the Universitaet Wuerzburg. Examined the cognitive ability of bees raised in different temperature in pupa stage.

ZHANG SW and SRINIVASAN MV with Prof. W Ribi, University of Lichtenstein, Lichtenstein. Neuroanatomical correlates of honeybee learning.

#### **Electron Microscopy Unit**

##### **Collaborations within the ANU**

BRINK FJ, PhD project supervised by RL WITHERS and JG THOMPSON (RSC). Crystal structure of metal oxy-fluorides.

HEADY RD is School Research Associate in the School of Resources, Environment and Society with J BANKS, SRES. Studies of Wollemi Pine.

##### **Collaborations with Australian universities**

HEADY RD with G BURROWS, CSU. Branch abscission in Wollemi Pine.

ANUEMU facilities are used by visitors to many departments of the ANU. In addition, they were used by staff and research students from ADFA, the University of Canberra, University of

Western Sydney, Charles Sturt University and the University of Tasmania.

#### Cooperation with other institutions

HEADY RD with Prof PD Evans, Univ British Columbia, Canada. Callitroid thickening in Callitris pine.

HUANG CX with ME McCully, CSIRO Plant Industry. CryoSEM studies of dissolved element distribution and air embolism in roots.

STOWE S with Prof. Nicholas Strausfeld (Univ. Arizona, USA) and Dr David Rowell (BOZO). Onychophoran neuroanatomy and phylogeny.

STOWE S with Prof. D Stavenga (University of Groningen) and J Zeil, K Siebke (RSBS). Optically active microstructure of lepidopteran cuticle.

## Research School of Chemistry

### Biochemical Reactions and Molecular Recognition

Activators and inhibitors of ryanodine receptor calcium ion channels by PROF. C.J. EASTON and DR J.K. ROBINSON with Prof. A. Dulhunty and Dr M. Casarotto, John Curtin School of Medical Research, ANU; and Dr M. Miller, Biotron, Canberra.

Chemistry of scymnol by PROF. C.J. EASTON and MS M. GEBARA COGHLAN with Mr J. Broadbent, McFarlane Laboratories Pty Ltd, Melbourne; and Dr G.W. Simpson, CSIRO Molecular Science, Melbourne.

Chlorine chemistry by PROF. C.J. EASTON and MR P.G. DUMANSKI with Mr R. Faulkner, Australian Vinyls Pty Ltd, Melbourne; and Dr G.W. Simpson, CSIRO Molecular Science, Melbourne.

Cycloaddition reactions of nitrile oxides by PROF. C.J. EASTON with Drs G.P. Savage and G.W. Simpson, Dunlena Pty Ltd and CSIRO Molecular Science, Melbourne.

Free radical reactions of peptides and proteins by PROF. C.J. EASTON, MR B.J.W. BARRATT, MS L.Y.F. CHOW, MR A.J. HERLT, MS I. LI, MS N. LORIMER, MR S.B. McNABB, MR A.J. MORTIMER, DR J.S. SIMPSON, MS Y.-C. TSAI, MR Z. WATTS and DR A. WRIGHT with Mr. M. Taylor, ANUTECH Pty Ltd; Business ACT; Dr M.J. Davies, Heart Research Institute, Sydney; Dr R. O'Hair, University of Melbourne; and Prof. A. Rauk, University of Calgary, Canada.

Lipid chemistry by PROF. C.J. EASTON with Profs. A. Ferrante and A. Poulos, Adelaide Medical Centre for Women and Children.

Lipid modified coordinating ligands by PROF. C.J. EASTON, DRS P.A. COGHLAN and Dr M.R. NAIRN with Dr J. Altin, Division of Biochemistry and Molecular Biology, ANU; and Lipotek Pty Ltd, Canberra.

Supramolecular chemistry of cyclodextrins by PROF. C.J. EASTON, MS L. BARR, MS M.M. CIESLINSKI, MR. R. DAWSON, MR A.J. HERLT, MS N. LORIMER, MR H. ONAGI and DR J.S. SIMPSON with Prof. S.F. Lincoln, Ms J.S. Lock and Mr B.L. May, University of Adelaide.

The development of new generation anti-infective agents by PROFS. M.G. BANWELL and C.J. EASTON, DRS S.A. BENNETT, M.R. NAIRN, J.K. ROBINSON, D.J. SINCLAIR, M.K. SMITH and L. XIA

with Dr P.J. O'Hanlon, GlaxoSmithKline, Harlow, UK.

Towards improved melamine-urea-formaldehyde resins by PROF. C.J. EASTON and MS A. PHILBROOK with Mr G. Ryan and Dr N. Dunlop, Orica Adhesives and Resins, Melbourne, through the UniChe program.

### Computational Quantum Chemistry

Combined experimental/theoretical studies of RAFT polymerisation by DR M.L. COOTE with Prof. T.P. Davis and Dr C. Barner-Kowollik, Centre for Advanced Macromolecular Design, University of New South Wales; and Dr P. Vana, Georg-August-Universität Göttingen, Germany.

Computational chemistry studies of radical reactions by DR M.L. COOTE with Prof. L. Radom with Dr Rodolfo Gomez, University of Sydney.

Solvation of glycol radicals by PROF. L. RADOM, and MR G.P.F. WOOD with Prof. M.S. Gordon, Iowa State University, USA.

Radical addition reactions by PROF. L. RADOM with Prof. H. Fischer, University of Zurich, Switzerland.

Thermochemistry of metal oxides and hydroxides by PROF. L. RADOM and DR M.B. SULLIVAN with Dr B.J. Smith, Walter and Eliza Hall Institute, Melbourne; Prof. J.M.L. Martin, Weizmann Institute, Israel; and Dr L.A. Curtiss, Argonne National Laboratories, USA.

Acidities of alkali metal hydroxides by PROF. L. RADOM, DRS M.B. SULLIVAN and A.P. SCOTT with Prof. S.R. Kass, University of Minnesota, USA.

Reactions catalysed by vitamin B<sub>12</sub> by PROF. L. RADOM with Prof. B.T. Golding, University of Newcastle upon Tyne, UK; Dr D.M. Smith, Institut für Organische Chemie, Munich, Germany; and Dr S.D. Wetmore, Mount Allison University, Canada.

Oxidative damage to proteins by PROFS. L. RADOM, C.J. EASTON, MR G.P.F. WOOD, DRS M.L. COOTE and R. JACOB with Dr M. Davies, Heart Research Institute, Sydney; Associate Prof. R.A.J. O'Hair, University of Melbourne; and Prof. A. Rauk, University of Calgary, Canada.

Cleavage of alkoxy radicals by PROF. L. RADOM and DR D.J. HENRY with Prof. A. Rauk, University of Calgary, Canada; Prof. R.J. Boyd, Dalhousie University, Halifax, Canada; and Prof. S.L. Boyd, Mount St Vincent University, Canada.

Interaction of calcium dications with molecules of biological interest by PROF. L. RADOM and MS I. CORRAL with Profs. M. Yanez and O. Mo, Autonoma University of Madrid, Spain.

Bond dissociation energies by PROF. L. RADOM and DR M.L. COOTE with Prof. A. Pross, Ben Gurion University, Israel.

### Coordination Chemistry and Spectro-electro Chemistry

Characterization of unwarranted deposits in aero-engines by DRS G.A. HEATH, A.J. EDWARDS, L. NORÉN and MR P.A. GUGGER with Dr M. Sterns, Department of Chemistry, ANU; Mr G. Bailey, Australian War Memorial; Dr V. Otiengo-Alego, AFP Forensic Laboratories, Weston; and Mr A. Romeyn, Australian Transport Safety Bureau, Canberra.

Computational modelling of electrochemical responses by



DR P.J. MAHON with Associate Prof. D.K. Cope, North Dakota State University, USA; and Prof. K.B. Oldham, Trent University, Ontario, Canada.

Corrosion analysis and conservation treatments by DRS G.A. HEATH, P.J. MAHON and R.D. WEBSTER with Prof. D.C. Creagh, University of Canberra; and Dr V. Otiengo–Alego, AFP Forensic Laboratories, Weston, ACT.

Paintings and textiles; spectroscopic means of analysis by DRS G.A. HEATH, P.J. MAHON and MS M.E. KUBIK with Dr R. Maxwell, Art History, ANU; Dr M. Sterns, Chemistry, ANU; Ms D. Ward, Australian National Gallery; Prof. D.C. Creagh, University of Canberra; Dr V. Otiengo–Alego, AFP Forensic Laboratories, Weston; and Mr D. Haines, Varian Analytical Instruments, Melbourne.

Redox-modulation of metal cluster compounds by DRS G.A. HEATH, A.J. EDWARDS, P.J. MAHON and MR S.B. LEE with Dr S.P. Best and Mr M. Bondin, University of Melbourne; and Dr G. Foran, Australian National Beamline Facility, KEK, Tsukuba, Japan.

Spectro-electrochemical and theoretical investigation of binuclear and tetranuclear arrays by DR G.A. HEATH with Dr J.E. McGrady and Ms S.Z. Knottenbelt, University of York, UK.

Spectro-electrochemical investigation of organo-metallic redox-switched nonlinear-optical materials by DR G.A. HEATH with Drs M.P. Cifuentes and M.G. Humphrey, Department of Chemistry, ANU; and Dr M.J. Samoc, RSPHYSSE, ANU.

### Organotransition Metal Chemistry

Dinuclear platinum complexes containing  $C_6H_3-5-Me-2-AsPh_2$  as a bridging ligand, including a novel mixed oxidation state (+2.5) compound, Prof. M.A. BENNETT with Prof. S. Bhargava and Mr Steven Privér, RMIT University, Melbourne.

### Disordered Materials

Diffuse scattering from benzil,  $C_{14}H_{10}O_2$  by PROF. T.R. WELBERRY with Prof. W.I.F. David, ISIS, Rutherford Appleton Laboratory, Oxfordshire, UK.

Disorder in 1:1 adducts of hexamethylenetetramine with azelaic acid by PROF. T.R. WELBERRY with Dr K.J. Schenk, Institut de Cristallographie, Université de Lausanne, Switzerland.

Diffuse scattering in zeolites by PROF. T.R. WELBERRY with Dr B. Campbell, Department of Physics and Astronomy, Brigham Young University, Utah, USA.

High-pressure X-ray scattering of oxides with a nanoscaled local structure by PROF. T.R. WELBERRY with Dr J. Kreisel, Laboratoire Matériaux et Génie Physique, ENS de Physique de Grenoble, France; Prof. A.M. Glazer, Clarendon Laboratory, Oxford, UK; and Dr P.A. Thomas, Department of Physics, University of Warwick, UK.

Phonon softening in benzil by DR D.J. GOOSSENS with Dr M.E. Hagen, ANSTO, Sydney.

Structure and magnetism in disordered perovskite oxides, focussing on cobaltates by DR D.J. GOOSSENS and PROF. R.L. WITHERS with Dr M. Jes, ANSTO, Sydney; Dr X.L. Wang, Wollongong University; and Dr K.F. Wilson, University of New South Wales/ANU.

Magnetic and structural properties of  $CeCu_{6-x}Au_x$  and  $BaPrO_3$  by DR D.J. GOOSSENS with Dr R.A. Robinson, ANSTO, Sydney.

Crystal field levels by neutron spectroscopy in  $CeCu_{6-x}Au_x$  by DR D.J. GOOSSENS with Dr T.J. Hicks and Dr S. Harker, Monash University.

### Laser and Optical Spectroscopy

Multi-dimensional spectroscopy of PSII protein sub-assemblies by PROF. E. KRAUSZ with Dr R. Pace, Department of Chemistry, ANU; and Dr M. Seibert, NREL, Golden, Colorado.

EPR and optical spectroscopy of thermophilic PSII from *Synechococcus vulcanus* by PROF. E. KRAUSZ with Dr R. Pace, Department of Chemistry, ANU; Dr J.R. Shen, Riken Institute, Hyogo, Japan; and Associate Prof. S. Peterson Arkshöld, University of Lund, Sweden.

Narrow band hole-burning in active photosystem II by PROF. E. KRAUSZ, MR J. HUGHES and DR B. PRINCE with Dr H. Riesen, University of New South Wales, ADFA, Canberra.

Spectroscopy of new chromium (III) hole-burning materials by PROF. E. KRAUSZ and MR J. HUGHES with Dr H. Riesen, University of New South Wales, ADFA, Canberra.

Development of the new generation MCD metallo-enzyme spectrometer by PROF. E. KRAUSZ with Dr M. Riley, University of Queensland; and Mr A. Stanco, CEO LASTEK Adelaide.

Optical spectroscopy of genetically modified PSII having reaction centres containing chlorophyll b. by PROF. E. KRAUSZ with Prof. W. Vermaas, University of Arizona, Tempe, USA.

Sharp line spectroscopy of chromium (III) cyclams by PROF. E. KRAUSZ with Prof. J.H. Choi, Andong National University, Korea.

Physical and optical properties of self-assembled Si nanocrystals by PROF. E. KRAUSZ with Prof. R. Elliman, RSPHYSSE, ANU; and Prof. S.H. Choi, Kyung Hee University, Korea.

### Liquid State Chemical Physics

Chaos and nonequilibrium statistical mechanics by PROF. D.J. EVANS with Prof. L. Rondoni, Politecnico Di Torino, Italy.

Derivation of potential models for phase equilibria by DR J.P. DELHOMMELLE with Dr P. Millie, Laboratoire Francis Perrin, France.

Fluctuation theorem by PROF. D.J. EVANS, DRS E. MITTAG, E.M. SEVICK and G.M. WANG with Dr D.J. Searles, Griffith University, Brisbane.

Non-equilibrium hard sphere simulations by DR J. PETRAVIC with Dr O.G. Jepps, Department of Chemical Engineering, University of Queensland.

Shear viscosity of a simple fluid over a wide range of strain rates by PROF. D.J. EVANS with Dr I. Borzsák, Hungarian Academy of Sciences, Budapest; and Prof. P.T. Cummings, University of Tennessee, USA.

Transport coefficients of polar liquids and electrolytes by PROF. D.J. EVANS and DR J. PETRAVIC with Dr B. Rousseau, Université Paris-Sud, France.

Transport properties of ionic liquids by DR J. PETRAVIC with

Dr J. Delhommelle, Équipe de Chimie et Biochimie Théoriques, Université Henri Poincaré, Vandœuvre-lès-Nancy, France.

### Nuclear Magnetic Resonance

Defining the structure of a protein involved in the onset of breast cancer by DR M.A. KENIRY with Prof. C.C. Benz and Dr G. Scott, Buck Institute for Age Research, Novato, California. Supported by a travel grant from the International Union Against Cancer.

Multidimensional NMR studies of chaperone proteins by DR M.A. KENIRY with Associate Prof. J. Carver and Dr M. Wilson, University of Wollongong, NSW.

The association of calothrixin with DNA by DR M.A. KENIRY and MS E.A. OWEN with Drs C. Chai, M. Waring and G. Smith, Department of Chemistry, ANU.

### Organic Synthesis

Biosynthetic, structural and metabolic studies on gibberellins by PROF. L.N. MANDER with Dr J. Zeevaart, MSU-DOE Plant Research Laboratory, Michigan State University, USA.

Biosynthetic, structural and metabolic studies on gibberellins by PROF. L.N. MANDER with Dr P. Hedden and Prof. J. MacMillan, Long Ashton Research Station, Bristol, UK.

Biosynthetic, structural and metabolic studies on gibberellins by PROF. L.N. MANDER and MR B. TWITCHIN with Prof. O. Junttila, Department of Plant Physiology and Microbiology, University of Tromsø, Norway.

Biosynthetic, structural and metabolic studies on gibberellins by PROF. L.N. MANDER and MR B. TWITCHIN with Prof. R.P. Pharis, Department of Biology, University of Calgary, Canada.

Biosynthetic, structural and metabolic studies on gibberellins by PROF. L.N. MANDER and MR B. TWITCHIN with Drs M. Koshioka and M. Nakayama, Department of Genetics and Physiology, National Institute of Floricultural Science, Tsukuba, Japan.

Structural and biosynthetic studies on antheridiogens from fern gametophytes by PROF. L.N. MANDER with Dr H. Yamane, Biotechnology Research Center, University of Tokyo, Japan.

Structural and biosynthetic studies on antheridiogens from fern gametophytes by PROF. L.N. MANDER with Dr J. Banks, Department of Botany and Plant Pathology, University of Purdue, USA.

Structural and biosynthetic studies on antheridiogens from fern gametophytes by PROF. L.N. MANDER with Dr J. Nester, Department of Biological Sciences, Sam Houston State University, Texas, USA.

Structural studies on biologically active extractives from Indonesian plant species by PROF. L.N. MANDER and MR A.J. HERLT with Drs R. Rumampuk and P. Tarigan, Kimia Pascasarjana Laboratory, Padjadjaran University, Bandung, Indonesia.

Studies on fruit development by PROF. L.N. MANDER and MR B. TWITCHIN with Dr P.S. Blake, Horticulture Research International, East Malling, UK.

Studies on gibberellin receptors by PROF. L.N. MANDER, DR E.J. BECK, and MR J.R. CROW with Dr P.M. Chandler, CSIRO Division of Plant Industry, Canberra.

Studies on growth inhibition and flowering by PROF. L.N. MANDER and MR B. TWITCHIN with Drs L.T. Evans and R.W. King, CSIRO Division of Plant Industry, Canberra; and Prof. R.P. Pharis, University of Calgary, Canada.

### Organic Synthesis, Methodology and Host-guest Chemistry

New horizons in Diels–Alder chemistry by DR M.S. SHERBURN and DRS R. TRIPOLI and A. PAYNE with Emeritus Scientia Prof. M.N. Paddon-Row and Dr D. Moran, School of Chemical Sciences, University of New South Wales.

### Protein Crystallography and Engineering

Structural studies of the b IL5 receptor by DR D.L. OLLIS, MR J.M. MURPHY and DR P.D. CARR with Prof. I.G. Young, John Curtin School of Medical Research, ANU.

Structural studies of the PII and GlnK proteins by DRS D.L. OLLIS and P.D. CARR with Drs S.G. Vasudevan and Y. Xu, Jes Cook University, Queensland.

Structure function studies with esterases by DRS D.L. OLLIS with Dr J. Oakshot, CSIRO, Department of Entomology, Canberra.

### Protein Synthesis and Evolution

Carbohydrate binding by C-type lectins by DR N.E. DIXON with Drs J.E. Gready, M. Hulett and Mr Y.-M. Hyun, John Curtin School of Medical Research, ANU.

Cleavage of DNA by chromium(V) complexes by DR N.E. DIXON and MS P.E. LILLEY with Prof. P.A. Lay and Dr A. Levina, School of Chemistry, University of Sydney.

Crystallisation of the DnaB helicase and DnaB•DnaC complex by DRS N.E. DIXON, P.M. SCHAEFFER, MS K.V. LOSCHA and MR M. MULCAIR with Drs A. Oakley and M.C.J. Wilce, University of Western Australia.

Expression, isolation and crystallisation of the *Bacillus subtilis* DnaC helicase and DnaI proteins by DR N.E. DIXON and MS K.V. LOSCHA with Prof. R.G. Wake, and Drs D.B. Langley and J.M. Guss, School of Molecular and Microbial Biosciences, University of Sydney.

*In vitro* protein synthesis by DRS N.E. DIXON, M.J. HEADLAM, K. OZAWA and PROF. G. OTTING with Drs J. Liggins, S. Whitney and Prof. T.J. Andrews, Research School of Biological Sciences, ANU; Prof. R. Dean, University of Canberra; Dr K. Rogers, Heart Research Institute, Sydney; Dr A.V. Kralicek, HortResearch, Auckland, New Zealand; and Dr M. Pavlov and Prof. M. Ehrenberg, University of Uppsala, Sweden.

Mass spectrometry of protein-protein and protein-DNA complexes by DRS N.E. DIXON, P.M. SCHAEFFER, MS K.V. LOSCHA and MS A.-Y. PARK with Dr J.L. Beck, Mr R. Gupta, Mr S.J. Watt and Prof. M.M. Sheil, Department of Chemistry, University of Wollongong.

Mechanisms of termination of DNA replication by DRS N.E. DIXON, P.M. SCHAEFFER and MR M. MULCAIR with Dr D.C. Neylon, Department of Chemistry, University of Southampton, UK; Dr A.V. Kralicek, HortResearch, Auckland, New Zealand; and Dr T.M. Hill, School of Medicine and Health Sciences, University of North Dakota, USA.

Properties of proteins circularized by intein-mediated reactions by DRS N.E. DIXON, P. PROSELKOV, N.K. WILLIAMS, MS A.-Y. PARK, MR B. BANCIA and PROF. G. OTTING with Dr J.M. Matthews, School of Molecular and Microbial Biosciences, University of Sydney; Dr J.L. Beck, Mr S.J. Watt and Prof. M.M. Sheil, Department of Chemistry, University of Wollongong; and Dr E. Liepinsh, Department of Medical Biochemistry and Biophysics, Karolinska Institute, Stockholm, Sweden.

QOR quinone reductase structure and mechanism by DRS N.E. DIXON, P. PROSELKOV and R.D. WEBSTER with Dr J.-I. Mano, Faculty of Agriculture, Yamaguchi University, Japan.

Spectroscopic studies of the proofreading exonuclease subunit of DNA polymerase III by DR N.E. DIXON and MS A.-Y. PARK with Drs G. Schenk, Department of Chemistry; and Prof. G.R. Hanson, Centre for Magnetic Resonance, University of Queensland.

Structural genomics of integrin proteins by DRS N.E. DIXON, P.M. SCHAEFFER, MR P. WU and PROF. G. OTTING with Drs B. Mabbutt, H. Stokes and Mr A. Robinson, Department of Chemistry, Macquarie University; and Dr Zs. Dosztányi, Institute of Enzymology, Budapest, Hungary.

Structure and mechanism of action of proline aminopeptidase by DRS N.E. DIXON, P.M. SCHAEFFER and MS P.E. LILLEY with Prof. H.C. Freeman and Dr J.M. Guss, School of Molecular and Microbial Biosciences, University of Sydney.

Structure of a circularised protein by DRS N.E. DIXON and P. PROSELKOV with Drs K. Alexandrov and A. Niculae, Department of Physical Biochemistry, Max-Planck-Institute for Molecular Physiology, Dortmund, Germany.

Structure of DnaG primase by DRS N.E. DIXON, P. PROSELKOV, P.M. SCHAEFFER, MR B. BANCIA, MS K.V. LOSCHA and PROF. G. OTTING with Drs A. Oakley and M.C.J. Wilce, University of Western Australia; and Dr E. Liepinsh, Department of Medical Biochemistry and Biophysics, Karolinska Institute, Stockholm, Sweden.

Structures and functions of the *Escherichia coli* replicase by DRS N.E. DIXON, M.J. HEADLAM, K. OZAWA, P. PROSELKOV, MR S. JERGIC, MS A.-Y. PARK and PROF. G. OTTING with Drs C.M. Elvin, K. Kongsuwan and G. Wijffels, CSIRO Division of Livestock Industries, Brisbane; Drs A. Oakley and M.C.J. Wilce, University of Western Australia; and Drs R. Rothnagel and B. Hankamer, Institute for Molecular Biosciences, University of Queensland.

Structures of complexes of the proofreading exonuclease subunit of DNA polymerase III by DRS N.E. DIXON, P.D. CARR, D.L. OLLIS, M.A. KENIRY, PROF. G. OTTING and MS A.-Y. PARK with Drs G. Pintacuda and E. Liepinsh, Department of Medical Biochemistry and Biophysics, Karolinska Institute, Stockholm, Sweden.

Structures of the *Escherichia coli* DnaB helicase protein and the DnaB•DnaC complex by DRS N.E. DIXON, P.M. SCHAEFFER and MS K.V. LOSCHA with Prof. J.M. Carazo, Drs L.E. Donate, M. Barcéna and Ms Y. Robledo, Centro Nacional de Biotecnología, Universidad Autónoma, Madrid, Spain.

## Solid State Inorganic Chemistry

A low temperature electron diffraction study of structural

disorder and its relationship to the Kondo effect in ThAsSe by PROF. R.L. WITHERS with Dr R. Vincent, University of Bristol, UK; and Prof. J. Schoenes, Technical University, Braunschweig, Germany.

Atomic ordering in the doped, rare earth, cobaltates  $Ln_{1-x}Sr_xCoO_{3-d}$  by PROF. R.L. WITHERS with Drs D. Goossens and M. Jes, Australian Nuclear Science and Technology Organisation, Menai, NSW.

Constrained refinement techniques for problem crystal structure refinements by PROF. A.D. RAE with Drs K.J. Haller and Ms W. Somphon, Suranaree University of Technology, Nakhon Ratchasima, Thailand.

Local crystal chemistry, induced strain and short range order in the cubic pyrochlore  $(Bi_{1.5-a}Zn_{0.5-b})(Zn_{0.5-g}Nb_{1.5-d})O(7-1.5a-b-g-2.5d)$  (BZN) by PROFS. R.L. WITHERS, T.R. WELBERRY, DRS, Y. LIU, L. NORÉN and MR F. BRINK with Dr A.K. Larsson, RSPHysSE, ANU, and Dr H. Rundlöf, Studsvik Neutron Research Laboratory, Sweden.

Refinement of crystal structures showing twinning and disorder by PROF. A.D. RAE with Dr S.W. Ng, University of Malaya, Kuala Lumpur, Malaysia.

Structural studies on the Fresnoite type compound  $Ba_2VSi_2O_8$  by PROF. R.L. WITHERS with Dr T. Höche, Humboldt-Universität zu Berlin, Germany; Dr S. Esmailzadeh, Stockholm University, Sweden; and Dr H. Schirmer, Friedrich Schiller Universität, Germany.

The effects of local strain on the crystal chemistry of solid solutions by PROFS. R.L. WITHERS and T.R. WELBERRY with Dr A. Pring, South Australian Museum; and Dr N. Ishizawa, Tokyo Institute of Technology, Japan.

## Solid State Molecular Science

The interface between complex fluids and solids by DR P.A. REYNOLDS, PROF. J.W. WHITE, DR M.J. HENDERSON, DR J. ZANK and MR K. BARANYAI with Dr S.A. Holt, Rutherford Appleton Laboratory, Oxford, UK; and Dr D. Tunaley, Orica Ltd, Australia.

Conformation of proteins at interfaces by PROF. J.W. WHITE and DR M.J. HENDERSON with Dr S.A. Holt, Rutherford Appleton Laboratory, Oxford, UK.

Kinetics of template action in silicalite synthesis by PROF. J.W. WHITE with Dr L. Iton, Argonne National Laboratory, Chicago, USA.

Millisecond X-ray reflectometer for ChemMatCARS by PROF. J.W. WHITE and DR M.J. HENDERSON with Dr R. Garrett, ANSTO, Sydney; and Dr J. Viccaro, University of Chicago, USA.

Nanostructure of milk membrane and proteins by PROF. J.W. WHITE with Dr S.A. Holt, Rutherford Appleton Laboratory, UK; and Dr B. Cox, Dairy Research Corporation, Melbourne.

Structure of high internal phase emulsions by PROF. J.W. WHITE, DRS P.A. REYNOLDS, M.J. HENDERSON, J. ZANK and MR K. BARANYAI with Drs R. Goodridge, C. Such, Orica Ltd, Australia; and Mr. A. Fontaine, FIUPSO, France.

Structure of polymer surfactant films by PROF. J.W. WHITE with

Dr J. Penfold, Rutherford Appleton Laboratory, Oxford, UK.

Structure of templated silicate films by PROF. J.W. WHITE and DR P.A. REYNOLDS with Drs M. Trau and J. Ruggles, University of Queensland, Brisbane.

X-ray small angle scattering from whole blood and haemoglobin by PROF. J.W. WHITE with Dr C. Garvey, Department of Biochemistry, University of Sydney.

Titania and zirconia composite thin films by PROF. J.W. WHITE and DR M.J. HENDERSON with Prof. A.R. Rennie, NFL, Studsvik, Uppsala Universitet, Sweden; and Mr N. Rosier, FIUPSO, France.

Structure of inorganic catalyst films by PROF. J.W. WHITE with Dr J. Bartlett, ANSTO, Sydney.

Structure of polymer clay-composites by PROF. J.W. WHITE with Dr E. Gilbert, ANSTO, Sydney.

Structure of polymer composites by PROF. J.W. WHITE with Dr D. Martin, Department of Chemical Engineering, University of Queensland.

The following collaborators visited the group during 2003 to conduct X-ray reflectometry experiments:

Dr W. Fullagar University of Queensland; Dr V. Jes Hon. Visiting Fellow, RSC; Dr C. Garvey University of Sydney; Dr K. Latham RMIT University, Melbourne; Drs V. Luca and M. Jes, ANSTO, Sydney; Dr D. Martin, University of Queensland; Dr A. Whittaker, University of Queensland; Dr G. Warr, University of Sydney; Dr J. Ruggles, University of Queensland; Prof. R. Amal, University of NSW, and Dr Y. Chen, RSPHysSE, ANU.

## Structural Biology and Biophysics by NMR

Application of an intein-based system for protein cyclization by PROF. G. OTTING, DRS N.E. DIXON, P. PROSELKOV and N.K. WILLIAMS with Dr J. Matthews, University of Sydney; Dr E. Liepinsh, Karolinska Institute, Stockholm, Sweden; and Drs A. Sharipo and I. Line, University of Latvia, Riga, Latvia.

Determination of the three-dimensional structure of complexes between the R3H domain and mononucleotides by PROF. G. OTTING with Drs E. Liepinsh and G. Pintacuda, Karolinska Institute, Stockholm, Sweden; and Drs A. Sharipo and A. Leonchiks, University of Latvia, Riga, Latvia.

Determination of the three-dimensional structure of human CLP and its interaction with 5-lipoxygenase by PROF. G. OTTING with Drs E. Liepinsh and O. Rådmark, Karolinska Institute, Stockholm, Sweden.

Determination of the three-dimensional structure of pig Cox-17 by PROF. G. OTTING with Drs E. Liepinsh and R. Sillard, Karolinska Institute, Stockholm, Sweden.

Determination of the three-dimensional structure of the complex between the N terminal domain of the *E. coli* arginine repressor and DNA by PROF. G. OTTING with Drs G. Pintacuda and E. Liepinsh, Karolinska Institute, Stockholm.

Determination of the three-dimensional structure of WIF-1 and a Kunitz-type protease inhibitor by PROF. G. OTTING with Dr E. Liepinsh, Karolinska Institute, Stockholm, Sweden; and Prof. L. Patthy, Hungarian Academy of Sciences, Budapest, Hungary.

NMR resonance assignments from measurements of cross-

correlated relaxation by PROF. G. OTTING with Prof. G. Bodenhausen, Ecole Normale, Paris, France; Prof. C. Griesinger, Max-Planck-Institute, Göttingen, Germany; Prof. I. Bertini, University of Florence, Italy; Prof. R. Kaptein, University of Utrecht, Netherlands; and Dr J. Boyd, Oxford University, UK.

Protein-labelling with paramagnetic ions by PROF. G. OTTING and DR S.A. BENNETT with Dr G. Pintacuda, Karolinska Institute, Stockholm.

## Synthesis and Mechanism

Biotransformations by PROF. M.G. BANWELL and MR D.W. LUPTON with Dr G.M. Whited, Genencor International Inc, Palo Alto, California, USA.

Studies in alkaloid synthesis by PROF. M.G. BANWELL and MR M.O. SYDNES with Dr C. Burns, Cytopia Pty Ltd, Melbourne.

The development of chemoenzymatic methods for the selective elaboration of polyfunctionalised therapeutic agents to oligomers with improved efficacy by PROF. M.G. BANWELL and MR M.P. FRIEND with Dr J. Lambert, Biota Chemistry Laboratories, Melbourne.

The development of new generation anti-infective agents by PROFS. M.G. BANWELL, C.J. EASTON, DRS S.A. BENNETT, M.R. NAIRN, J.K. ROBINSON, D.J. SINCLAIR, M.K. SMITH and L. XIA with Dr P.J. O'Hanlon, GlaxoSmithKline, Harlow, UK.

The development of novel carbohydrate-like drugs by PROF. M.G. BANWELL, DRS M. BONNET, J. RENNER and P. GUAN with Drs R.H. Don and V. Ferro, Progen Industries Ltd, Brisbane.

The synthesis of sialic acid analogues by PROF. M.G. BANWELL and MR X.H. MA with Dr J. Lambert, Biota Chemistry Laboratories, Melbourne.

The total synthesis of biologically active marine alkaloids from the Great Barrier Reef by PROF. M.G. BANWELL, DRS M.J. COSTER and N.L. HUNGERFORD with Associate Prof. M.J. Garson, Department of Chemistry, University of Queensland; and Dr C. Burns, Cytopia Pty Ltd, Melbourne.

The total synthesis of biologically active natural products by PROF. M.G. BANWELL and MR S. CHAND with Dr G.P. Savage, CSIRO Molecular Science, Melbourne; Prof. C. Parish, John Curtin School of Medical Research, ANU; and Prof. G. Dannhardt, Institute of Pharmacy, University of Mainz, Germany.

## Theoretical Chemical Physics

Chemical reaction dynamics by PROF. M.A. COLLINS with Associate Prof. D.H. Zhang, National University of Singapore; Dr M. Brouard, University of Oxford, UK; and Dr J.F. Castillo, Universidad Complutense de Madrid, Spain.

Nonadiabatic dynamics and coupled potential energy surfaces by PROF. M.A. COLLINS with Prof. D. Yarkony, Johns Hopkins University, USA; and Associate Prof. D.H. Zhang, National University of Singapore.

Quantum scattering of hydrogen and methane on a nickel surface by PROF. M.A. COLLINS with Dr C. Crespos and Prof. G. J. Kroes, University of Leiden, Netherlands.

## Electrochemistry

Corrosion of copper in potable water systems by DR R.D. WEBSTER with Dr A.G. Christy, Department of Geology, ANU; Dr A. Lowe and Mr M. Stoll, Department of Engineering, ANU; and Dr V. Otieno Alego, AFP Forensic Laboratories, Weston, ACT

Electrochemistry of mixed valence triruthenium complexes by DR R.D. WEBSTER with Dr L.Y. Goh, National University of Singapore

## CSIRO Student Research Scheme

KRAUSZ, Prof. E., Supervisor, CSIRO student scheme.; Ms Gurleen Hans (Year 12) Canberra High School, Mr Andrew Tuckwell (Year 12) Canberra High School.

## Externally Funded Research Collaborations

To develop new anti-infective agents that are active against organisms such as *Staphylococcus aureus* by PROFS. M.G. BANWELL and C.J. EASTON with Dr Peter O'Hanlon, GlaxoSmithKline (GSK), Harlow, UK, and facilitated through ANUTECH Pty Ltd.

## Research School of Earth Sciences

### Earth Chemistry

Siderophile element systematics and Pb isotopic compositions of the Hawaiian plume, by Dr V.C. BENNETT with Prof. M. Garcia (University of Hawaii).

Pb isotopic compositions of melt inclusions, by Dr V.C. BENNETT with Dr. Adam Kent (Oregon State University).

Sr isotopic compositions in the early Earth, by Dr V.C. BENNETT with Prof. D. DePaolo and K. Weaver (University of California, Berkeley).

Hf and Nd compositions of lunar samples, by Dr. V. BENNETT and Dr. M. NORMAN with Dr. Y. Amelin (Canadian Geological Survey).

Geochemistry, classification and petrogenesis of granites from the New England Batholith, Eastern Australia, by Dr C. BRYANT with Prof B.W. Chappell (Macquarie University).

Dating zircons from the two youngest caldera-forming ignimbrites of the Yellowstone volcanic field, using the laser ICP-MS, by Dr I.H. CAMPBELL and Dr C. ALLEN with Dr Michael Palin (University of Otago).

Double-dating [U/Pb and (Th = U)/He] of detrital zircons in sedimentary provenance studies, by Dr I.H. CAMPBELL and Dr C. ALLEN with Prof. P. Reiners (Yale University).

Dating detrital zircons from sandstones collected adjacent to Stawell gold mine in Victoria, by Dr I.H. CAMPBELL and Dr. C. ALLEN with Dr R. Squire and Dr C. Wilson (University of Melbourne).

Dating detrital zircons from sandstones collected from the Ashburton Basin in Western Australia, by Dr I.H. CAMPBELL and Dr. C. ALLEN with Dr K. Sircombe (Tectonics Special Research Centre, University of Western Australia).

The use of Ce<sup>4+</sup>/Ce<sup>3+</sup> in zircon as a means of determining the

oxidation state of felsic rocks, by Dr I.H. CAMPBELL with Dr Michael Palin (University of Otago).

Ore-fluid pathways around the mesothermal gold deposits in the Laverton region, WA using alkali elements and stable isotopes (ARC SPIRT grant), by Dr I.H. CAMPBELL and Ms A. STOLTZE with Placer Granny Smith Pty Ltd.

Origin and composition of Ore-forming fluids in the giant Golden Mile gold deposit, Kalgoorlie (ARC SPIRT grant), by Mr C. HEATH and Dr I.H. CAMPBELL with Kalgoorlie Consolidated Gold Mines.

Noble gas studies in diamonds, by Dr M. HONDA with Dr. D. Phillips (University of Melbourne), Noble gas studies in diamonds.

Noble gas studies in diamonds, by Dr M. HONDA with Dr J.W. Harris (University of Glasgow) and Dr P. Cartigny (University of Paris).

Stellar nucleosynthesis, by Dr T.R. IRELAND with Dr J. Lattanzio (Monash University).

The history of the early solar system, by Dr T.R. IRELAND with Prof. K. McKeegan (UCLA) and Prof. E. Zinner (Washington University, St Louis, USA).

SHRIMP geochronological projects in Greenland, by Dr A.P. NUTMAN with Dr F. Kalsbeek, Dr A.A. Garde and Dr P.R. Dawes (Geological Surveys of Denmark and Greenland).

Archaean crustal evolution in Greenland, by Dr A.P. NUTMAN with Dr C.R.L. Friend (Oxford Brookes University, UK).

Archaean crustal evolution in India, by Dr A.P. NUTMAN with Dr B. Chadwick (University of Exeter, UK).

Precambrian evolution of South America, by Dr A.P. NUTMAN with Prof. U.G. Cordani and Dr. M. Basei (University of Sao Paulo, Brazil).

Evolution and extent of a Caledonian eclogite province in East Greenland, by Dr A.P. NUTMAN with Dr J.A. Gilotti (University of Iowa, USA).

Searching for suites of well-preserved zircons of different ages for Sr isotope studies of their inclusions, by Dr A.P. NUTMAN and Dr. V.C. Bennett with Dr. D. DePaolo (University of California – Berkeley, USA).

Archaean gold mineralisation in the Nuuk district, W. Greenland, by Dr A.P. NUTMAN with Nunaminerals A/S (a prospecting company associated with the Greenland Homerule Government).

The tectonothermal evolution of the Broken Hill area, by Dr A.P. NUTMAN with Dr G. Gibson (Geoscience Australia, GA).

The evolution of the Lachlan Fold Belt as recorded in zircon preserved in igneous and sedimentary rocks, by Dr I.S. WILLIAMS with Prof. B.W. Chappell (Macquarie University).

Metamorphism in central Australia, by Dr I.S. WILLIAMS with Dr I.S. Buick (La Trobe University) and Dr M. Hand (Adelaide University).

Hf isotopes in zircon to study magma genesis in south-eastern Australia, by Dr I.S. WILLIAMS with Prof. J. Hergt, Dr J. Woodhead and Mr R. Kemp (all of the University of Melbourne).

Using granites to date deformation in the Wyangla region, by Dr I.S. WILLIAMS with Dr P. Lennox (University of New South Wales).

A study of the buried East European Craton, by Dr I.S. WILLIAMS with Dr J. Wiszniewska (Polish Geological Institute).

Dating eclogite from Canada using fine zircon grains discovered in thin sections of metamorphic minerals, by Dr I.S. WILLIAMS with Prof. S. Bowring and Dr J. Baldwin (Massachusetts Institute of Technology).

A study of metamorphic rocks from Papua New Guinea, by Dr I.S. WILLIAMS with Dr R. Findlay and Mr G. Kopi (Geological Survey of Papua New Guinea).

## Earth Environment

Comparison of different proxies of past ocean chemistry, by Dr E. CALVO and Dr C. PELEJERO with Dr. W. Howard (Cooperative Research Centre for Antarctic and Southern Ocean Studies, University of Tasmania).

Geochemistry of sediments from Gulf of Carpentaria, by Dr E. CALVO and Dr C. PELEJERO with Prof. Chivas (School of Geosciences, University of Wollongong).

Development of stable isotopic studies on biomarkers, by Dr E. CALVO and Dr C. PELEJERO with Dr. Grice (Petroleum and Environmental Organic Geochemistry Centre, Curtin University).

Molecular biomarker analysis from marine sediments and the setting up of carbon and nitrogen isotopes analysis, by Dr E. CALVO and Dr C. PELEJERO with Dr. Graham A. Logan (Geoscience Australia).

Culturing diatoms and coccolithophorae algae, by Dr E. CALVO and Dr C. PELEJERO with Dr. Simó and Dr. Marrasé (Marine Sciences Institute CMIMA-CSIC, Barcelona, Spain).

Isotopic studies of siliceous sponges from Antarctica, by Dr E. CALVO and Dr C. PELEJERO with Prof. Gili (Marine Sciences Institute CMIMA-CSIC, Barcelona, Spain).

Geochemistry of phreatic overgrowths on Mediterranean speleothems, by Dr E. CALVO and Dr C. PELEJERO with Dr. Fornós (Universitat de les Illes Balears, Mallorca, Spain).

LA-ICP-MS analysis of foraminifera, by Dr E. CALVO and Dr C. PELEJERO with Dr. Cacho (Universitat de Barcelona, Spain) and Dr. Skinner (Cambridge University, UK).

Determination of long-term erosion rates under contrasting vegetation and physiographic conditions in the Blue Mountains, NSW, by Prof. J. CHAPPELL with Mr M. Wilkinson and Dr G. Humphries (School of Earth Sciences, Macquarie University).

Determination of semi-arid landscape evolution, Barrier Range, western NSW, by Prof. J. CHAPPELL with Assoc.-Prof. M. Melville and Mr A. Fisher (School of Biology, Environment and Earth Science, University of New South Wales).

Yangtze River: sediment fluxes from source to sink, by Prof. J. CHAPPELL with Prof. Wang Pinxian (Laboratory of Marine Geology; Tongji University, Shanghai China).

Determination of chemical changes during granite weathering, by Prof. J. CHAPPELL with Dr A. Heimsath and Mr B. Burke (Dartmouth University, Hanover New Hampshire USA).

Accuracy of laser ablation ICPMS analysis of geological standard glasses using 213 nm and 193 nm wavelengths, by Dr S. EGGINS with Dr. L. Danyushevsky (CODES, University of Tasmania).

Uranium uptake and open-system U-series dating of molluscs, by Dr S. EGGINS and Prof. R. GRÜN with Dr. C. Murray-Wallace (School of Geosciences, University of Wollongong) and Prof. J. Wehmiller (University of Delaware).

Mg and Ca distribution in tests of the planktonic foraminifera *Orbulina universa*, by Dr S. EGGINS with Mr. Aleksey Sadekov (Department of Palaeontology, University of Moscow, Russia) and Prof. P. DE DECKKER (Department of Geology, ANU).

LA-ICPMS elemental and isotopic analysis of siliceous marine sponges, by Dr S. EGGINS with Dr. M. Ellwood and Dr. M. Kelly (National Institute of Water, Hamilton, New Zealand).

The neotectonic evolution of the Cape Liptrap region, Victoria, by Dr D. FABEL with Assoc. Prof. J. Webb (Department of Earth Sciences, La Trobe University).

Cosmogenic nuclide-base boundary conditions for numerical ice sheet models: a simulation of the Fennoscandian Ice Sheet through a glacial cycle (US National Science Foundation project: OPP-0138486), by Dr D. FABEL with Dr J. Harbor and Dr A. Stroeven (Sweden).

Cosmogenic nuclide-based boundary conditions for numerical ice sheet models: a simulation of the Fennoscandian Ice Sheet through a glacial cycle (Vetenskapsrådet, Sweden, funded project: G-AA/GU 12034-301), by Dr D. FABEL and Prof. K. LAMBECK with Drs A. Stroeven, J. Harbor, A. Hubbard, C. Hättestrand, and J.-O. Näslund (Sweden).

Burial dating of marine sediments using the relative decay of cosmogenic  $^{10}\text{Be}$  and  $^{26}\text{Al}$ , by Dr D. FABEL with Prof. T. Gardiner (Department of Geosciences, Trinity University, San Antonio, Texas, USA).

Cosmogenic exposure dating of Baltic Ice Lake drainage deposits, by Dr D. FABEL with Prof. S. Björk (Lund University, Sweden).

Quantifying the El Niño-Indian Ocean Dipole system using high-resolution coral palaeoclimate archives (ARC Discovery Project), by Dr M. GAGAN with Dr J. Lough (Australian Institute of Marine Science, AIMS) and Dr G. Meyers (CSIRO Division of Marine Research).

Honours thesis research by Ms K. Lilley is a core project of the AUSCORE (AUSTRALIAN COral REcords) initiative and is designed to document extremes in climate variability in the Great Barrier Reef region., by Dr M. GAGAN and Ms. K. Lilley with Drs J. Lough, P. Isdale, and D. Barnes (Australian Institute of Marine Science).

Continuing development of 'Stable-isotope microanalytical facility for palaeoclimate systems and global change research' (ANU MEC funded), by Dr M. GAGAN with Dr. P. DE DECKKER and Dr B. OPDYKE (Department of Geology, ANU), Dr I. Goodwin and Dr R. Drysdale (School of Geoscience, University of Newcastle) and Prof. R. Henderson (School of Earth Sciences, Jes Cook University).

Reconstruction of Southern Ocean palaeoceanography from deep-sea sediment cores, by Dr M. GAGAN with Dr W. Howard and Mr A. Moy (University of Tasmania).

Quantifying the El Niño-Indian Ocean Dipole system using high-resolution coral palaeoclimate archives (ARC Discovery Project grant), by Dr M. GAGAN and Ms N. Abram and Mr D. Qu with Dr W. Hantoro and colleagues (Indonesian Institute of Sciences).

Reconstructing tropical palaeoclimates of the southwestern Pacific, by Dr M. GAGAN with Drs T. Correge, G. Cabioch, and Luc Ortlieb (Institute for Research and Development, New Caledonia).

Reconstruction of Australian palaeoclimates and megafauna extinction using carbon-isotope signatures in emu and Genyornis eggshell, by Dr M. GAGAN with Prof. G. Miller (University of Colorado), Dr M. Fogel (Carnegie Institution of Washington) and Dr B. Johnson (Bates College).

High-resolution AMS measurements of nuclear bomb-test C-14 in Indian Ocean corals, by Dr M. GAGAN with Ms N. Grumet and Prof R. Dunbar (Stanford University), Drs W. Beck (University of Arizona), and Dr T. Guilderson (Lawrence Livermore National Laboratory).

Extraction of late Quaternary climatic histories from raised coral terraces, by Dr M. GAGAN and Ms R. Berdin with Dr A. Srinigan (University of the Philippines).

Using the geochemistry of Indonesian corals to study marine pollution histories, by Dr M. GAGAN with Dr H. Kawahata, Dr A. Suzuki, and Ms M. Inoue (Tohoku University).

Stable isotopes in marsupials: reconstruction of environmental change in Australia (ARC Discovery Project grant, by Prof. R. GRÜN and Dr. M. GAGAN with Dr. R. Wells (Flinders University) and Dr. D. Bowman (Northern Territory University).

The thermal stability of paramagnetic centres from cores of the Otway basin, by Prof. R. GRÜN with Prof. A. Gleadow (Department of Earth Sciences, University of Melbourne).

Dating of the Cuddie Springs site, by Prof. R. GRÜN and Dr. S. EGGINS with Dr. P. White (Dept. of Anthropology) and Dr. J. Field, Dept. of Archaeology (University of Sydney).

Dating South Australian sites with faunal remains, including Naracoorte Cave and the Rocky River Site on Kangaroo Island, by Prof. R. GRÜN with Dr. R. Wells (Flinders University).

Dating of a range of sites in South Africa, including the newly discovered human site of Cornelia, by Prof. R. GRÜN with Dr J. Brink (Bloemfontein).

Uranium uptake of bones, by Prof. R. GRÜN and Dr. S. EGGINS with Dr. A. Pike (Research Laboratory for Archaeology and the History of Art).

The calibration of amino acid racemisation in bones, cave bear evolution and dating human material from Sidron, by Prof. R. GRÜN with Prof. Trinidad de Torres (Escuela Tecnica Superior de Ingenieros de Minas de Madrid).

The onset of dune formation in the Stretzlecki Desert, by Prof. R. GRÜN with Prof. R. Twidale (University of Adelaide), and Prof. Helmut Wopfner, Prof. U. Radtke and Dr Alexandra Hilgers (Universität zu Köln).

Using corals to reconstruct the mid-Holocene climate of the Western Pacific Warm Pool north of Papua New Guinea, as part of Project TROPICS (Tropical River-Ocean Processes in Coastal Settings), by Ms H. McGREGOR and Dr M. GAGAN with Dr G. Brunskill, Dr J. Lough and Dr D. Barnes (Australian Institute of Marine Science).

Reconstruction of prehistoric ways of life (sedentary vs. nomadic) using isotopic techniques, especially using LA-MC-ICPMS for high-time resolved Sr isotopic data in tooth enamel, by Dr W. MÜLLER with Dr. S. Blau (Flinders University).

Single-grain IR laser  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of individual white micas from the Iceman's intestine, by Dr W. MÜLLER with Dr. J. Wartho (Curtin University).

Rb-Sr microsampling dating of fibrous minerals in strain shadows around pyrite, by Dr W. MÜLLER with Dr. D. Durney (Macquarie University).

The application of stable isotopes to the Iceman, by Dr W. MÜLLER with Dr H. Fricke (Colorado College, USA).

Various aspects of Iceman research, by Dr W. MÜLLER with Prof. A. Halliday (ETH Zurich, CH), Dr. P. Tropper (Univ. Innsbruck, A), and Dr E. Egarter-Vigl (Bolzano, Italy).

U-series dating of cyclic seismogenic fault cements to establish earthquake recurrence intervals, by Dr W. MÜLLER with Dr P. Eichhubl (Stanford University, USA).

$^{18}\text{O}$  analysis of tooth enamel phosphate, by Dr W. MÜLLER with Dr S. Grimes (Royal Holloway Univ. of London).

In-situ Sr isotopic analysis of alpine speleothems by laser ablation-MC-ICPMS, by Dr W. MÜLLER with Dr C. Spötl (University of Innsbruck, Austria).

Accurate reconstruction of Pb burden in a medieval mining community using LA-ICPMS analysis of teeth, by Dr W. MÜLLER with Prof. K. W. Alt (University of Mainz, Germany).

U-series dating of cave bear teeth, by Dr W. MÜLLER with Prof. G. Rabeder (University of Vienna, Austria).

Palaeomagnetic dating of regolith, by Dr B. PILLANS with CSIRO, Geoscience Australia, University of Canberra, and several mining companies including Newmont and Perilya.

Regolith dating, by Dr B. PILLANS with Prof. A. Chivas (University of Wollongong) and Prof. R. Bourman (University of South Australia).

Fieldwork at Fowlers Gap, NSW, as part of collaborative research into the age, preservation and geomorphology of archaeological material in arid Australian environments, by Dr E. RHODES with Dr T. Fanning (Macquarie University).

OSL dating of samples from Rottneest Island, by Dr E. RHODES, Prof. R. GRÜN, Prof. M. MCCULLOCH and Prof. J. CHAPPELL with Dr P. Hearty (Jes Cook University) and Dr C. Dortch (Perth).

Dating of dunes from Victoria, by Dr E. RHODES with Prof. R. Twidale (Adelaide University).

Dating of dune and lake shoreline samples from Western Australia, by Dr E. RHODES with Dr Karl-Heinz Wyrwoll (University of Western Australia).

The chronology of glaciation in Ireland, by Dr E. RHODES with Prof. E. Colhoun (University of Newcastle).

Fieldwork at Taforalt, Oujda, Morocco (part of UK NERC-funded EFCHED project), by Dr E. RHODES with Prof. R. Hedges (University of Oxford, UK), Dr C. Willis and Dr J-L. Schwenninger.

Dating of Pyreneen glaciation, denudation, incision and terrace formation, by Dr E. RHODES with Dr C. Lewis (Los Alamos National Laboratory, Arizona, USA) and Dr C. Sancho Marcen (University of Zaragoza, Spain).

Pleistocene glacial and sea level history of the isles of Scilly, UK, by Dr E. RHODES with Dr J. Scourse (University of Wales, Bangor, UK) and Dr D. McCarroll (University of Wales, Swansea).

Dating of fluvial and aeolian samples from the Lachlan River, NSW, by Dr E. RHODES with Dr J. Kemp (University of Northumbria, UK).

Statistical analysis using Bayesian methods of luminescence dates from an early pre-Clovis site in Virginia, USA, by Dr E. RHODES with Dr J. Feathers (University of Washington, USA).

Soil Texture, by Dr J.G. WYNN with the CRC for Greenhouse Accounting.

## Earth Materials

Determining Fe oxidation states in silicate glasses by Mössbauer spectroscopy, by Dr A.J. BERRY with Dr S.J. Campbell (Australian Defence Force Academy, University of New South Wales).

X-ray absorption spectroscopy of metal ions in silicate melts, by Dr A.J. BERRY with Dr G.J. FORAN, Australian Nuclear Science and Technology Organisation (ANSTO).

High-pressure synthesis of novel perovskite materials, by Dr A.J. BERRY with JES, Dr M., Australian Nuclear Science and Technology Organisation (ANSTO).

<sup>17</sup>O nuclear magnetic resonance studies of ringwoodite, by Dr A.J. BERRY with Drs S. Wimperis (University of Exeter, UK) and Dr S.E. Ashbrook (University of Cambridge, UK).

The chemical state of metals in fluid and melt inclusions, by Dr A.J. BERRY with Dr S.R. Sutton and Dr M. Melville (University of Chicago, USA).

The oxidation state of sulfur in quenched silicate melts, by Dr A.J. BERRY with Dr N. Métrich (CEA-CNRS, France).

Synthesis of novel phosphides at high pressure, by Dr A.J. BERRY with Dr S.J. Clarke (University of Oxford).

Dating of fault rocks in the Sydney Basin, by Prof. S.F. COX, with Dr R. Offler and Mr K. Ruming (University of Newcastle).

Yilgarn mesothermal gold systems (ARC Linkage grant and AMIRA funding), by Prof. S.F. COX and Dr S. MICKLETHWAITE with Newmont Australia, KCGM Ltd, Goldfields St Ives Gold, Placerdome, Anglogold Ltd.

Structural study of the Minotaur gold deposit, by Prof. S.F. COX, Mr S. ZASIADCZYK, and Dr S. MICKLETHWAITE with Gold Fields Ltd (St Ives Gold Ltd).

Modeling of fluid flow in fault networks, by Prof. SF COX with Dr S. Miller (ETH-Zurich).

Archaean asteroid impact fallout units, Pilbara craton, Western Australia, by Dr A. GLIKSON with Dr A. Hickman, Dr. I. Williams and Dr. M. Van Kranendonk, Geological Survey of Western Australia (GSWA).

Origin of the Shoemaker Impact Structure, Nabberu Basin, Western Australia, by Dr A. GLIKSON with Dr F. Pirajno, Geological Survey of Western Australia (GSWA).

New Australian impact structures, by Dr A. GLIKSON with Dr R. lasky, Geological Survey of Western Australia (GSWA).

Environmental effects of the late Devonian Woodleigh impact event, by Dr A. GLIKSON with Dr. S. Golding and Dr. T. Uysal (Department of Earth Science, University of Queensland).

The palaeobiology and geochemistry of early Proterozoic black shales, Hamersley Basin, Western Australia, by Dr A. GLIKSON with Dr M.V. Glikson (Department of Earth Science, University of Queensland).

The genesis of highly undersaturated, intraplate magmas (research funding from the Humboldt Foundation, Germany), by Prof. D.H. GREEN with Prof. G.P. Brey, Dr M. Seitz and Dr D. Röhnert (Institut für Mineralogie und Petrologie, Goethe University of Frankfurt).

Experimental studies of the genesis of island arc magmas under the influence of melt-fluxing by CO<sub>2</sub> + H<sub>2</sub>O, by Prof. D.H. GREEN with Prof. M.W. Schmidt (ETH, Zürich).

The petrogenesis of the Horoman Peridotite, Hokkaido - particularly on evidence for complex mantle recycling of the peridotite and late-stage channelling by volatile-rich magmas, by Prof. D.H. GREEN with Assoc. Prof. K. Niida (University of Hokkaido) and Dr T. Morishita (Kanazawa University).

Trace element distribution in high temperature metamorphic minerals present during partial melting, by Dr J. HERMANN with Prof. I. Buick and Ms A. Storkey (La Trobe University, Melbourne).

Evidence for carbonatite and silicate melt involvement in the genesis of micro-diamonds in subducted continental crust, by Dr J. HERMANN with Dr A. Korsakov (Geophysics and Mineralogy, Novosibirsk, Russia).

Constraints on subduction zone fluids from high pressure ultramafic rocks, by Dr J. HERMANN with Prof. M. Scambelluri (University of Genova, Italy).

Primary melt inclusions in andalusite from anatectic graphitic metapelites - implications for the Al<sub>2</sub>SiO<sub>5</sub> triple point, by Dr J. HERMANN with Prof. B. Cesare (University of Padova, Italy).

Zircon metasomatism in a subduction zone garnet peridotite, by Dr J. HERMANN with Prof. V. Trommsdorff (ETH-Zürich, Switzerland).

High-temperature measurements of elastic wave speeds and their seismological implications, by Prof. I. JACKSON with Dr. G. Gwanmesia (Delaware State University) and Prof. Liebermann (Stony Brook University).

Diffusion in olivine, by Prof. I. JACKSON with Dr. Bejina (University of Toulouse).

Episodicity during Orogenesis, by Prof. G. LISTER with Prof. R. Companoni (Turin University, Italy) and Prof. J. Bertrand (CRNS Laboratories, Chambéry, France).



Himalaya Project, Prof. G. LISTER with Professor A. Yin (UCLA, USA), Mr A. Webb (UCLA, USA), and Dr C. Dubey (University of New Delhi, India).

Ore deposits in metamorphic terranes (jointly funded by CSIRO, Exploration and Mining, and RSES), by Dr J. MAVROGENES and Dr C. McFARLANE with CSIRO Exploration and Mining.

Analysis of fluid inclusions, by Dr J. MAVROGENES with Dr T. ULRICH (Department of Geology, ANU) and colleagues (at Jes Cook University node of the Predictive Mineral Deposits CRC).

Crustal thickness maps, by Ms M. MILLER with Dr W. Mooney (the US Geological Survey, Menlo Park, California).

Three-dimensional visualization and modeling using tomography, by Ms M. MILLER with Mr P. White (Dynamic Graphics, Inc., Alameda, California).

Bulk sound and shear wave speed inversion of the northwest Pacific margin, by Ms M. MILLER with Dr A. Gorbатов (JSTEC, Japan).

X-ray absorption spectroscopy of metal ions in silicate melts, by Dr H. O'NEILL with Dr G.J. FORAN, Australian Nuclear Science and Technology Organisation (ANSTO).

High pressure synthesis of novel perovskite materials, by Dr H. O'NEILL with JES, Dr M. (ANSTO).

## Earth Physics

GeoWulf: An Inference Engine for Complex Earth Systems (ARC-MEC LIEF Project), by Dr. J. BRAUN with Prof. A. Gleadow (University of Melbourne), Prof. S. O'Reilly (Macquarie University), Dr. M. Dentith (University of Western Australia), Dr. B. Minty, (Geoscience Australia), and Dr. C. Beaumont (Dalhousie University).

Active Faults and Geomorphology of the Flinders and Mt Lofty Ranges, by Dr. J. BRAUN with Dr. P. Cummins (Geoscience Australia) and Prof. M. Sandiford (University of Melbourne).

Active Faults and Geomorphology of the Flinders and Mt Lofty Ranges, by Dr. J. BRAUN with Dr. P. Cummins (Geoscience Australia) and Prof. M. Sandiford (the University of Melbourne).

Extension of Terra (computer code for modelling three-dimensional flow in the Earth's mantle) to use tracers and lithospheric plates to investigate the chemical and isotopic evolution of the mantle, by Dr. G. F. DAVIES with Prof. H-P. Bunge (University of Munich) and Dr J. Baumgardner (Los Alamos Scientific Laboratory).

Turbulent flow in wakes in the coastal marine environment and in airflows around hills and buildings, by Prof. R. W. GRIFFITHS with Prof. J. Middleton (University of New South Wales, Department of Aviation).

Laboratory modelling of the surface solidification in shear flows and lava flows (funded by ARC and NSF research grants), by Prof. R. W. GRIFFITHS and Dr R.C. KERR with Prof. K.V. Cashman (Department of Geological Sciences, University of Oregon).

The dynamics of the emplacement of large andesitic lava flows on Tongariro volcano, New Zealand, by Prof. R. W. GRIFFITHS and Dr R.C. KERR with Dr N. Stevens (Institute of Geological

and Nuclear Sciences, New Zealand).

The role of internal gravity waves in ocean outflows from gulfs and marginal seas, by Prof. R.W. GRIFFITHS with Dr A.A. Bidokhti (Department of Geophysics, University of Tehran, Iran).

Three-dimensional patterns of circulation and thermal evolution in the mantle wedge above subduction zones, by Prof. R.W. GRIFFITHS with Prof. C. Kincaid (Graduate School of Oceanography, University of Rhode Island, USA).

The role of plumes in the global overturning circulation in the oceans, by Dr G.O. HUGHES and Prof. R.W. GRIFFITHS with Prof. W.H. Peterson (EMS Environment Institute, Penn. State).

Experimental modelling of the sheared mantle plumes, by Dr R.C. KERR with Dr. C. Meriaux (Institut de Physique du Globe de Paris).

Surface wave tomography, by Prof. B.L.N. KENNETT and Mr S. Fishwick with Dr E. Debayle (University of Strasbourg, France), Dr M. Ritzwoller (University of Colorado) and Dr K. Yoshizawa, (University of Hokkaido, Japan).

Issues in seismic wave propagation, particularly propagation of high frequency waves in subduction zones from deeper earthquakes, by Prof. B.L.N. KENNETT with Dr T. Furumura (Earthquake Research Institute, University of Tokyo, Japan).

Looking Back to See the Future (ARC Discovery Project), by Prof. K. LAMBECK with Assoc. Prof. R. Coleman (University of Tasmania).

A study of Roman archaeological sites for extracting sea level and tectonic information, by Prof. K. LAMBECK with Drs M. Anzidei (INGV) and F. Antonioli (ENEA, Rome).

A study of ancient well levels in Caesaria, Israel, by Prof. K. LAMBECK with Dr D. Sivan (Haifa, Israel).

A study of Glacial Rebound and Crustal Stress in Finland, by Prof. K. LAMBECK and Dr A. PURCELL for Posiva-Finland.

Operating and analysing a Superconducting Gravimeter at Mt Stromlo to monitor dynamic processes inside the Earth, by Dr H. MCQUEEN and Prof. K. LAMBECK with Professor T. Sato (National Astronomical Observatory of Japan).

Nonlinear inversion applied to seismic source studies within the Australian continent, by Dr. M. SAMBRIDGE continued collaboration with Dr. P Cummins (Geoscience Australia).

Aspects of global heterogeneity and its influence on seismic travel times, by Dr. M. SAMBRIDGE with Mr. T. Nicholson (University of British Columbia, Canada) and Dr. O. Gudmundsson (Danish Lithospheric centre).

Uncertainty estimation in reservoir simulation, by Dr. M. SAMBRIDGE with Prof. Mike Christie and Dr. S. Subbey (Heriot Watt University, UK).

Dr. M. SAMBRIDGE with Dr. E. DeBayle (CNRS and Universite Louis Pasteur, Strasbourg, France), Surface waveform inversion with variable parameterisations.

Tomography in irregular parameterisations and visualization of tomographic models, by Dr. M. SAMBRIDGE with Dr. A. Gorbатов (JSTEC, Japan).

Densification and establishment of GPS geodetic monitoring networks in Papua New Guinea, for 'Caught in a vice: Modelling

crustal deformation in Papua New Guinea' (ARC Discovery Grant project), by Mr R. STANAWAY and Dr. P. TREGONING with PNG University of Technology, National Mapping Bureau, Geological Survey of PNG and Rabaul Volcanological Observatory.

The influence of double-diffusive processes on the melting of ice in the Arctic Ocean, by Prof. J.S. TURNER with Prof. G. Veronis (Yale University).

The production of vortex rings and the application to the propulsion of aquatic animals, by Prof. J.S. TURNER with Prof. P.F. Linden (University of California, San Diego).

#### PRISE

Dating ophiolite succession in Oman, by Dr R. ARMSTRONG with Prof. D. Gray (University of Melbourne).

Tectonic and geochronological investigation of the Koaka Belt, Namibia, by Dr R. ARMSTRONG with Prof. D. Gray (University of Melbourne) and Dr B. Goscombe (Geological Survey of Western Australia).

Geochronology of the Vredefort impact structure, by Dr R.A. ARMSTRONG with C. Lana, Prof. W.U. Reimold and Dr R. Gibson (University of the Witwatersrand, South Africa).

The ages of basement rocks, the Kunene Complex and the provenance and correlation of Proterozoic sediments in southern Angola, by Dr R.A. ARMSTRONG with Prof. S. McCourt (University of Durban-Westville, South Africa) and Prof. A.B. Kampunzu (University of Botswana).

The absolute age and duration of Bushveld Complex mafic magmatism, by Dr R.A. ARMSTRONG with S. Kamo (Royal Ontario Museum, Canada), Prof. A. Wilson (University of Natal, South Africa).

The age and geochemistry of the UG2 reef, Bushveld Complex, by Dr R.A. ARMSTRONG with Prof. A. Mitchell (University of Durban-Westville, South Africa).

The evolution of the Cape Fold Belt, South Africa, by Dr R.A. ARMSTRONG with Prof. M. de Wit (University of Cape Town, South Africa).

The provenance and history of diamond-bearing sediments from the Orange River, southern Africa, by Dr R.A. ARMSTRONG with Dr. J. Ward (De Beers Exploration, South Africa).

Geochemistry and geochronology of the Bushmanland Sequence, South Africa, by Dr R.A. ARMSTRONG with Prof. D. Reid, R. Baillie (University of Cape Town, South Africa).

Geochronological studies of Botswana, by Dr R.A. ARMSTRONG with T.J. Majaule, B.K. Paya (Geological Survey of Botswana) and Dr R. Mapeo and Prof. A.B. Kampunzu (University of Botswana).

Tectonic evolution of central Mozambique, by Dr R.A. ARMSTRONG with B. Bene (Eduardo Mondlane University, Mozambique / University of Natal, South Africa).

U-Pb geochronology and provenance studies in eastern Namaqualand, by Dr R.A. ARMSTRONG with G. Moen (Council for Geoscience, South Africa), Prof. N. Beukes and H. van Niekerk (Rand Afrikaans University, South Africa).

The geochronology of Archaean and Early Proterozoic granites and associated sediments from the Bastar Carton, Central India,

by Dr R.A. ARMSTRONG with J. Mukhopadhyay (Presidency College, India) and Prof. N. Beukes (Rand Afrikaans University, South Africa).

Further studies on the history of volcanism in the Pongola Group, by Dr R.A. ARMSTRONG with N. Nhleko (Geological Survey of Swaziland/ Rand Afrikaans University) and Prof. N. Beukes (Rand Afrikaans University, South Africa).

Geochronology of the Cape Granites, South Africa, by Dr R.A. ARMSTRONG with Prof. R. Scheepers (Stellenbosch University, South Africa).

Development of a geochronological database for southern Africa, by Dr R.A. ARMSTRONG with Dr B. Eglinton (University of Saskatchewan, Canada).

Geochronology, stratigraphy and tectonics of critical lithologies in the Namaqual-Natal Belt, by Dr R.A. ARMSTRONG with Dr P. Mendonidis (Vaal Traingle Technikon, South Africa), Dr G. Grantham, P. Macey, G. Moen and T. Cloete (Council for Geoscience, South Africa).

Geochronology and stratigraphy of the Korean peninsula, by Dr R.A. ARMSTRONG with Dr D-L. Cho (Korea Institute of Geology, Mining and Materials, South Korea).

Geochronology and provenance studies of various sequences in Brazil and Namibia, by Dr R.A. ARMSTRONG with Prof. F. Chemale (Rio Grande do Sul University, Brazil).

Isotopic studies on the eastern margin of the São Francisco Craton and the Araçuaí Belt, Brazil, by Dr R.A. ARMSTRONG with Dr C. Noce (Universidade Federal de Minas Gerais, Brazil).

SHRIMP U-Pb dating of basement rocks to the Katangan Sequence, Zambian Copperbelt, by Dr R.A. ARMSTRONG with D. Broughton, Colorado School of Mines, USA).

The geochronology of the Morila Gold Mine, Mali, by Dr R.A. ARMSTRONG with K. Kenyon (Anglogold Limited, South Africa).

The source of sediments and maximum age constraints on deposition and mineralisation of the Crixas gold deposit, Brazil, by Dr R.A. ARMSTRONG with K. Kenyon (Anglogold Limited, South Africa).

Geochronology of selected granites from the Democratic Republic of the Congo and Zambia, by Dr R.A. ARMSTRONG with Prof. L. Robb (University of the Witwatersrand, South Africa).

The geochemistry and geochronology of granite-greenstone belts in NE Botswana, by Dr R.A. ARMSTRONG with Z. Bagai, Prof. A. Le Roex (University of Cape Town, South Africa) and Prof. H. Kampunzu (University of Botswana).

U-Pb geochronology of the Alpine Gran Paradiso orthogneisses (Savoy, Aosta Valley, Piemont), by Dr R.A. ARMSTRONG with Prof. J-M. Bertrand (CNRS, France).

Dating of lavas from the Soutpansberg succession and the Pietersburg greenstone belt, South Africa, by Dr R.A. ARMSTRONG with Dr. G. Brandl (Council for Geoscience, South Africa).

Deciphering the structure and tectonic history of the Air region (SE Taureg shield) in Niger, by Dr R.A. ARMSTRONG with Dr. Jean-Paul Liégeois (Africa Museum, Belgium).

SHRIMP U-Pb geochronology of the migmatites and granulites of the Snieznik Mountains, Poland, by Dr R.A. ARMSTRONG with Dr. M Bröcker (Universität Münster, Germany).

U-Pb dating of zircons and titanites from granitoid rocks from the Hutti-Maski Greenstone belt, India, by Dr. R.A. ARMSTRONG with A. Rogers and Prof. M. Meyer (Institut für Mineralogie und Lagerstättenlehre, Aachen, Germany).

Metamorphic evolution of the jadeite-bearing felsic gneisses from the Eclogite Zone, Tauern Window, Eastern Alps, Austria, by Dr R.A. ARMSTRONG with J. Konzett, C. Miller and M Thöni (University of Innsbruck, Austria).

Tectonics of the Neoproterozoic – Early Palaeozoic margin in eastern Australia, by Mr C.M. FANNING with Assoc. Prof. C. Fergusson, (University of Wollongong) and Prof. R. Henderson, (Jes Cook University).

The timing of Carboniferous-Permian volcanic rocks in the Tamworth belt NSW, by Mr C.M. FANNING with Prof. J. Roberts, (University of NSW).

The timing and protolith history of Cenozoic volcanic rocks from Chile, by Mr C.M. FANNING with Dr K. Knesel, (University of Queensland).

The geochronology of granitic rocks in north-west Queensland, by Mr C.M. FANNING with Dr M. Rubenach (Jes Cook University).

Changes in provenance of sandstones in the Snake River plain and environs with the passing of the Yellowstone hot-spot, by Mr C.M. FANNING with Prof. P. K. Link (Idaho State University, USA).

The Baja-BC conundrum, by Mr C.M. FANNING with Dr B.J. Mahoney (University of Wisconsin-Eau Claire, USA).

Geochronology and tectonic evolution of the southern Patagonian batholith and outboard accreted terranes, by Mr C.M. FANNING with Prof. F. Hervé (University of Chile, Chile).

Evolution of the north Patagonian massif and the Sierras Pampeanas, by Mr C.M. FANNING with Dr R.J. Pankhurst (British Geological Survey and the NERC Isotope Geosciences Laboratory, UK) and Dr C.W. Rapela, (Universidad de la Plata, Argentina).

Evolution of the Antarctic Peninsula, by Mr C.M. FANNING with Dr I. Millar (British Antarctic Survey, UK).

Evolution of Corsica and beyond, by Mr C.M. FANNING with Dr A. Cocherie & Dr P. Rossi, (Bureau de Recherche Géologique et Minière, France).

Timing of events in the New England region, North America, by Mr C.M. FANNING with Dr J.A. Aleinikoff (US Geological Survey, USA).

Geochronology of granites in the Ross Sea and the timing of metamorphism in Marie Byrd Land, Antarctica, by Mr C.M. FANNING with Dr C. Smith-Siddoway, (Colorado College, USA).

U-Pb reference zircons, by Mr C.M. FANNING with Dr K. Shiraishi and Dr K. Misawa (National Institute for Polar Research, Japan).

The geochronology and tectonic evolution of the East Antarctic Craton, Transantarctic Mountains, by Mr C.M. FANNING with Dr J. Goodge, (Southern Methodist University, USA).

Geochronology and tectonic evolution of Dronning Maud Land, by Mr C.M. FANNING with Dr J. Jacobs (University of Bremen, Germany).

Geochronology and trace element geochemistry of zircons from Alpine eclogites, by Mr C.M. FANNING with Prof. D. Gebauer and Dr A. Liati (ETH Zürich, Switzerland).

Detrital zircon provenance of Palaeozoic basins in North Sea region, by Mr C.M. FANNING with Dr A. Morton (HM Associates, UK).

Sierras Pampeanas and the evolution of the Argentine PreCordillera, by Mr C.M. FANNING with Prof. C. Casquet and Dr C.Galindo (Universidad Complutense, Spain).

Detrital zircon provenance of the Polish Sudetes, by Mr C.M. FANNING with Prof. A. Zelazniewicz, (Polish Academy of Sciences, Poland).

Late Jurassic magmatism & transgression of the Austral Basin in the Aysén Region, southern Chile, by Mr C.M. FANNING with Dr M. Suárez (Servicio Nacional de Geología y Minería, Santiago, Chile).

Geochronology and tectonic evolution of the Cordilleras Betic, by Mr C.M. FANNING with Dr E. Puga, (Universidad de Granada, Spain).

Timing of mineralisation in the Collahuasi and Atacama regions, by Mr C.M. FANNING with Prof. F. Munizaga and Dr V. MaksaeV (University of Chile, Chile).

Major and trace element analysis of sulphide ores by laser ablation ICPMS, by Dr M. NORMAN with Mr. P. Robinson and Mr. D. Clark (Centre for Ore Deposit Research, University of Tasmania).

Magmatic Processes and the Nature of the Hawaiian Plume: A Geochemical and Isotopic Study of the Submarine Southwest Rift Zone of Mauna Loa Volcano, Hawaii, by Dr M.D. NORMAN with M.O. Garcia (University of Hawaii, USA), J.M. Rhodes (University of Massachusetts, USA), D. Weis (University of British Columbia, Canada), D. Wanless and K. Kolysko (University of Hawaii, USA), H. Guillou (CEA/CNRS, France), M. Kurz and D. Fornari (Woods Hole Oceanographic Institution, USA), V. Bennett (ANU), F. Trusdell and S. Schilling (US Geological Survey, USA), M. Chapman (Morehead State University, USA), and M. Vollinger (University of Massachusetts, USA).

Identifying impact events within the lunar cataclysm from 40Ar-39Ar ages of Apollo 16 impact melt rocks, by Dr M.D. NORMAN with Prof. R.A. Duncan (Oregon State University, USA).

Mineralogy and petrology of unbrecciated lunar basaltic meteorite (LAP02205), by Dr M.D. NORMAN with Dr K. Righter and Dr A.D. Brandon (NASA Johnson Space Centre, USA).

Geochemical proxies for paleo-fO<sub>2</sub> in the mantle during partial melting, by Dr M.D. NORMAN with Dr C.-T. Lee (Rice University, USA).

Age and origin of the primitive lunar crust, by Dr M.D. NORMAN with L. Borg (University of New Mexico, USA), L. Nyquist and

D. Bogard (NASA Johnson Space Centre, USA).

Composition of the continental crust, by Dr M.D. NORMAN with Dr R.P. Rapp (State University of New York at Stony Brook, USA) and Prof. N. Shimizu (Woods Hole Oceanographic Institution, USA).

Melt inclusions in picrites from Padloping Island, north western Canada, by Dr G. YAXLEY with Dr D. Kamenetsky and Mrs M. Kamenetsky (University of Tasmania).

The geochemistry and petrogenesis of carbonatites from Antarctica, by Dr G. YAXLEY with Dr D. Kamenetsky and Dr G. Nichols (University of Tasmania).

High pressure phase and melting relationships of gabbroic compositions, by Dr G. YAXLEY with Prof. A. Sobolev (Max Planck Institut für Chemie, Mainz, Germany).

Partial melting of carbonated-bearing eclogite at high pressures, by Dr G. YAXLEY with Prof. G. Brey (Universität Frankfurt).

The distribution of Li amongst mantle phases and its use as an indicator of metasomatic activity, by Dr G. YAXLEY with Dr A. Woodland and Dr M. Seitz (Universität Frankfurt).

Trace element partitioning variations with pressure and temperature in a suite of garnet peridotite xenoliths from Greenland, by Dr G. YAXLEY and Dr H. O'NEILL with Dr M. Bizzaro (Danish Geological Museum, Copenhagen).

## Research School of Information Sciences and Engineering

### Computer Sciences Laboratory

KeY Project Verifying Java Programs by Dr Jeremy DAWSON with Professor Peter Schmidt (University of Karlsruhe, Karlsruhe, Germany), Dr Bernhard Beckert (University of Karlsruhe, Karlsruhe, Germany) 2003-2003

Expressive Power and Complexity of Temporal Logics for Model-Checking by Dr Rajeev GORÉ with Dr Jen Davoren (University of Melbourne, Melbourne, Australia), Dr Stéphane Demri (University of Cachan, Cachan, France) 2002-2003

Logics for Hybrid Systems by Dr Rajeev GORÉ with Dr Jen Davoren (University of Melbourne, Melbourne, Australia) 2003-2003

Verification of JavaCard Programs by Dr Rajeev GORÉ with Dr Bernhard Beckert (University of Karlsruhe and University of Koblenz-Landau, Karlsruhe and Koblenz, Germany), Dr Marieke Huisman (INRIA Sophia-Antipolis, Sophia, France) 2002-2003  
\*\* Note: As of Aug 2003, Dr Beckert has affiliations with both universities.

Resolution Calculi for Logics of Knowledge and Belief by Dr Rajeev GORÉ with Dr Linh Anh Nguyen (Polish Academy of Science, Warsaw, Poland) 2003-2003.

Algebra and Substructural Logics by Dr Tomasz KOWALSKI with Professor Hiroakira Ono (Japan Advanced Institute of Science and Technology, Ishikawa, Japan), Professor Peter Jipsen (Chapman University, Orange, USA) 2003-2005.

Kernels and Distances for Structured Data by Professor John LLOYD with Mr T. Gärtner (Fraunhofer Institut, Sankt Augustin, Germany), Dr Peter Flach (University of Bristol, Bristol, United Kingdom) 2002-2003.

Machine Learning for the Smart Personal Assistant by Professor John LLOYD with researchers in the Co-operative Research Centre for Smart Internet Technology, 2003-2003.

Kernel Methods by Dr Alex SMOLA, Dr S.V.N. VISHWANATHAN with Dr Chiranjib Bhattacharya (Indian Institute of Science, Bangalore, India), Dr Adam Kowalczyk (Telstra Research Laboratories, Melbourne, Australia), Dr Bernhard Schölkopf (Max-Planck-Institute, Tübingen, Germany), Professor John Shawe-Taylor (Royal Holloway College, London, United Kingdom) 2002-2003.

Computer Vision by Dr Alex SMOLA with Dr Bernhard Schölkopf (Max-Planck-Institute, Tübingen, Germany), Dr Bill Triggs (INRIA, Grenoble, France), Professor John Shawe-Taylor (Royal Holloway College, London, United Kingdom) 2002-2003.

Bioinformatics by Dr Alex SMOLA, Dr S.V.N. VISHWANATHAN with Dr David Kreil (Cambridge University, Cambridge, United Kingdom), Dr Eleazar Eskin (University of California San Diego, San Diego, USA) 2003-2003.

Kernels and Graphical Models by Dr Alex SMOLA with Dr Thomas Hofmann (Brown University, Providence, USA).

Japan-Australia Project Advanced Reasoning Systems by Dr John SLANEY, Dr Rajeev GORÉ, Dr Yannick PENCOLÉ with Professor Ken Satoh (National Institute of Informatics, Tokyo, Japan), Professor Abdul Sattar (Griffith University, Griffith, Australia) 2003-2003.

Extension of PDDL Language to Handle Axioms by Dr Sylvie THIÉBAUX with Dr Jörg Hoffmann (University of Freiburg, Freiburg, Germany), Professor Bernhard Nebel (University of Freiburg, Freiburg, Germany).

### Department of Telecommunications Engineering

Space-time modelling for Rayleigh fading channels with non-isotropic scatterer distributions by Dr Thushara ABHAYAPALA with David Smith (UTS, Sydney, Australia).

Collaborative research, development and commercialisation agreement (Phase 6) by Prof. Rod KENNEDY, Dr Thushara ABHAYAPALA with (Fox Television Stations Inc, California, USA), (Philips Laboratories, New York, USA).

Iterative equalisation by Prof. Rod KENNEDY with Prof. Zhi Ding (University of California, California, USA)

Broadband Beamforming by Dr Thushara ABHAYAPALA with Dr Darren Ward (Imperial College, London, United Kingdom)

### Department of Systems Engineering

Control of Multiple Autonomous Agents by Professor Brian ANDERSON with Professor A S Morse, and Mr J Lin (Yale University) 2002-.

Cautious Controller Tuning by Professor Brian ANDERSON with Professor R Bitmead (University of California, San Diego) and Professor M Gevers (Catholic University of Louvain, Louvain-la-Neuve, Belgium) 1999-2003.

Safe Controller Re-Design by Professor Brian ANDERSON, Dr Alexander LANZON, with Professor Michel Gevers (Catholic University of Louvain, Louvain-la-Neuve, Belgium), Dr Andrea Lecchini (University of Cambridge, Cambridge, UK), 2002-2003.

Sensor Network Localisation by Professor Brian ANDERSON with Professor A S Morse, and Mr T Eren (Yale University) 2002-2003.

System Identification by Professor Brian ANDERSON with Professor M Gevers (Catholic University of Louvain, Louvain-la-Neuve, Belgium) and Dr X Bombois (Tech University of Delft, The Netherlands) 1999-2003.

System Multirealisation by Professor Brian ANDERSON with Dr S Su (University of New South Wales, Sydney, Australia) and Dr T Brinsmead (University of Newcastle, Newcastle, Australia) 2002-2003.

Collaboration in Mobile Robotics and Vision by Dr David AUSTIN with Professor Henrik Christensen (Royal Institute of Technology, Stockholm, Sweden) 2001-2005.

Hybrid Motion/Force Control by Dr Roy FEATHERSTONE with Professor Oussama Khatib (Stanford University, Stanford, USA) 1996-2003.

Image Based Rendering and New View Synthesis by Professor Richard HARTLEY with Dr P Anandan (Microsoft Research, Redmond, USA), Dr Richard Szeliski (Microsoft Research, Redmond, USA) 2002-2003.

Learning for Adaptive Visual Assistants (LAVA) by Professor Richard HARTLEY with Professor John Shawe-Taylor (Royal Holloway College, London, United Kingdom), Professor Cordelia Schmidt (Rhone Alpes, Grenoble, France), Dr Bill Triggs (INRIA, Grenoble, France) 2002-2004.

Critical Configurations for 3D Reconstruction from Images by Professor Richard HARTLEY, with Dr Fredrik Kahl (Lund University of Technology, Lund, Sweden) 2002-2003.

Dr Dhammika JAYALATH with Dr. Chandra Athaudage (Research Fellow, ARC Special Research Centre for Ultra-Broadband Information Networks, Dept of Electrical and Electronic Engineering, University of Melbourne, Victoria, Australia).

Dr Dhammika JAYALATH with Prof. Chintla Tellambura (Associate Professor, Dept of Electrical and Computer Engineering, Electrical and Computer Engineering Research Facility, University of Alberta, Edmonton, Alberta, Canada T6G 2V4).

Dr Dhammika JAYALATH with Dr. W. Anil Chandana Fernando (Lecturer in Signal Processing, Dept of Electronic and Computer Engineering, Brunel University, Uxbridge, Middlesex UB8 3PH, UK).

On the Formulation and Solution of Robust Performance Problems, Dr Alexander LANZON with Dr Michael Cantoni (University of Melbourne, Melbourne, Australia) 1999-2003.

Robust Control of Energy Momentum Wheels supported on Active Magnetic Bearings by Dr Alexander LANZON, with Professor Panagiotis Tsiotras (Georgia Institute of Technology, Atlanta, USA) 2001-ongoing.

An approach to compute the complete stability domain for a class of LTI parameter dependent systems, by Dr Alexander LANZON with Dr Xiping Zhang (Georgia Institute of Technology, Atlanta, USA) and Prof. Panagiotis Tsiotras (Georgia Institute of Technology, Atlanta, USA) 2001-ongoing.

A Joint Identification and Control Redesign Scheme by Dr Alexander LANZON, with Dr Paresch Date (Brunel University, London, United Kingdom) 2001-ongoing.

A quantitative analysis describing the effects of weight changes in H-infinity control, by Dr Alexander LANZON, Professor Brian ANDERSON with Dr Xavier Bombois (Delft University of Technology, Delft, The Netherlands) 2002-ongoing.

Selection of a single uniquely specifiable H-infinity controller in the chain-scattering framework, by Dr Alexander LANZON, Professor Brian ANDERSON with Dr Xavier Bombois (Delft University of Technology, Delft, The Netherlands) 2002-ongoing.

Optimisation Algorithms for Grasping Problems in Robotics and for Computer Vision by Professor John MOORE with Professor Uwe Helmke (University of Wuerzburg, Wuerzburg, Germany) 2002-2004

Optimisation Methods for Design and Analysis of Digital Systems, by Prof. John MOORE with Dr Weyong Yan (Curtin University of Technology), Prof. K Teo (Hong Kong Polytechnic University) 2001-2003.

Projective Algorithms for Solving Linear Matrix Inequalities by Dr Robert ORSI, Professor John MOORE with Dr Mustapha Ait Rami (University of Wuerzburg, Wuerzburg, Germany).

Rank Constrained Linear Matrix Inequalities by Dr Robert ORSI, Professor John MOORE with Professor Uwe Helmke (University of Wuerzburg, Wuerzburg, Germany).

Online reliability analysis by Dr Jochen TRUMPF with Ilona Papst and Prof. Dr Peter C. Mueller (University of Wuppertal, Wuppertal, German) 2003.

Observers for descriptor systems by Dr Jochen TRUMPF with Prof. Dr Uwe Helmke (University of Wuerzburg, Wuerzburg, Germany) 2003-.

Observability subspaces and pole shifting by Dr Jochen TRUMPF with Prof. Dr Paul A. Fuhrmann (Ben-Gurion University, Beer-Sheva, Israel) 2003-2003.

Reduced order filtering by Dr Jochen TRUMPF with Dr Jonathan Manton (University of Melbourne, Melbourne, Australia) 2003-

Smart Cars Project by Professor Alexander ZELINSKY with Mr Lars Nilsson (Volvo Technology, Gothenburg, Sweden), Mr Magnus Riibe (Volvo Technology, Gothenburg, Sweden) 2002-2003.

## Research School of Pacific and Asian Studies

### Department of Anthropology

People, Land Management and Ecosystem Conservation by Prof. H BROOKFIELD with the United Nations University, Tokyo, Japan.

Production of the web-based periodical PLEC News and Views, and the web-based information service PLECserv by Prof. H BROOKFIELD and Ms H PARSONS with the United Nations University, Tokyo, Japan.

Chaos Theory in Anthropology by Prof. M MOSKO with Prof. F Damon, University of Virginia.

Privatization of electricity in Indonesia by Dr K ROBINSON with the Faculty of Economics, University of Indonesia for the Asian Development Bank.

Chanted tales from Highland New Guinea: a comparative study of oral performance traditions and their role in contemporary land politics by Dr A RUMSEY with Dr L R Goldman, University of Queensland and Mr D Niles, Institute of Papua New Guinea Studies.

### Department of Archaeology and Natural History

Asian Fore-Arc project fieldwork (an initiative of the Centre for Archaeological Research, RSPAS) undertaken in Batanes Islands, northern Philippines by Prof. P BELLWOOD in cooperation with the National Museum of the Philippines and Archaeological Studies Program, University of the Philippines. Funded by ARC Discovery grant.

Constructing high-resolution chronologies from lake sediments by Dr S HARBERLE with Henk Heijnis, ANSTO, Sydney.

Glacial environments of New Guinea by Prof. G HOPE with Dr J Peterson, Monash University, Dr Prentice, University of New Hampshire, UNSW, Dr Hantoro, LIPI Geoteknologi, Bandung, Dr D Fink, ANSTO.

Peatlands of montane NSW by Prof. G HOPE with Dr P Kodela, Royal Botanical Gardens, Sydney, Dr R Good, New South Wales National Parks, Dr A Wade, Ecowise Services, ACT, Ms S Sharp, Wildlife and Conservation, ACT.

Sphagnum and Australasian peatlands by Prof. G HOPE with Dr J Whinam, Tasmanian Department of Primary Industry.

Fluvial change in Fiji by Prof. G HOPE with Prof. P Nunn, University of South Pacific, Dr J Olley, CSIRO.

Pre and post colonial fortified settlements in the Los Palos district of East Timor by Dr S O'CONNOR with Dr P Lape, University of Washington.

Tei as features of the living sacred landscape in East Timor by Dr S O'CONNOR with Dr S Pannell, Rainforest CRC, Jes Cook University, Cairns.

A new look at Pleistocene occupation in northern Australia with particular emphasis on what happened during the Last Glacial Maximum by Dr S O'CONNOR with Dr P Veth, Research Unit, AIATSIS.

Reconstructing past vegetation communities at Carpenter's Gap, central Kimberley, WA by Dr S O'CONNOR with Dr L Wallis, Heritage Unit, Environment ACT.

DNA recovery from prehistoric human teeth from Island Melanesia by Prof. M Spriggs with C Stringer, British Museum of Natural History.

A field school by Prof. M SPRIGGS, with Vanuatu National Museum, at the Mangaasi Site, NW Efate Island, Vanuatu for National Museum staff and fieldworkers, 7th and final season. Funded by the Pacific Biological Foundation.

Pioneers of the Pacific, an EU-funded project directed by Prof. R Foley of University of Cambridge. Prof. M SPRIGGS and Dr G SUMMERHAYES are external advisers to this project.

Analysis and dating of shell artefacts from Buka, North Solomons by Prof. M SPRIGGS with S Wickler, Tromso Museum, Norway.

Dating of the Pamwak site, Manus Province, PNG, by Prof. M SPRIGGS with Dr C Fredericksen, Charles Darwin University, NT.

Cornish language manuscripts project by Prof. M SPRIGGS with Prof. P Payton, University of Exeter, UK.

William Scawen (1600-1689), Cornish antiquary and writer, by Prof. M SPRIGGS with Dr M Stoye, University of Southampton.

Palaeoenvironmental research in the Philippines by Dr J STEVENSON with Dr V Paz and Dr F Siringan, University of the Philippines.

Palaeobotanical research by Dr J STEVENSON with Dr D Madulid, National Museum of the Philippines.

Paleoenvironmental research in Taiwan by Dr J STEVENSON with Dr Liew Ping-mei and Dr Hsieh Meng-long, National Taiwan University, Prof. Lee Teh-quei and Dr Li Kuang-ti Academia Sinica, Dr Shaw Cheng-long, National Museum of Prehistory.

Developing diatom records for the Philippines by Dr J STEVENSON with J Finn, ANU, and Dr D Penny, University of Sydney.

Obsidian sourcing program by Dr G SUMMERHAYES with Dr R Torrence, Division of Anthropology, Australian Museum, Sydney.

Southwest Pacific cultural heritage program by Dr G SUMMERHAYES with the National Museum and Art Gallery of Papua New Guinea, Port Moresby, Papua New Guinea.

### Department of Human Geography

Poverty in Papua New Guinea, by Dr B ALLEN with Dr J Gibson, Department of Economics, University of Waikato, New Zealand.

Health and the environment at Tari, Papua New Guinea, by Dr B ALLEN with J Vail and E Lowes, guest editors of a special edition of the Papua New Guinea Medical Journal.

Information for rural development and planning in Papua New Guinea by Dr R M BOURKE with Mr V Kambori and Mr J Leleng, PNG Department of National Planning.

Information for rural development and planning in Papua New Guinea by Dr R M BOURKE with Dr G Wiles, Dr S Bang and Ms N Omat, PNG National Agricultural Research Institute.

Food security for Papua New Guinea by Dr R M BOURKE with Dr A Hartemink, International Soil Reference and Information Centre, Wageningen and Dr S Bang, PNG National Agricultural Research Institute.

Sustainability of agriculture in Bougainville Province by Dr R M BOURKE with Mr P Koles, Mr G Wayen, Bougainville Provincial Government and Mr T Betitis, PNG Oil Palm Research Association.

Evaluation and distribution of sweet potato cultivars in Momase Region, PNG, by Dr R M BOURKE with Australian Centre for International Agricultural Research Canberra and World Vision, Melbourne.

Papua New Guinea economy by Dr R M BOURKE with Economic Analytical Unit, Department of Foreign Affairs and Trade, Canberra.

Feminizing the economy by Prof. K GIBSON with Prof. J Graham, University of Massachusetts.

Reluctant subjects: post-capitalist politics of class and community by Prof. K GIBSON with Prof. J Graham, University of Massachusetts.

Community economies project by Prof. K GIBSON with Dr J Cameron, School of Environmental Planning, Griffith University and Prof. J Graham, Department of Geosciences, University of Massachusetts.

Subjectivation and governmentality: beyond globalization by Prof. K GIBSON with Prof. R Le Heron and Dr W Larner, University of Auckland.

### Department of International Relations

Cosmopolitan militaries project by Dr L ELLIOTT with scholars from University of Oxford, University of Aberdeen, Cambridge University, Columbia University, London School of Economics, University of Manchester, University of Wales Aberystwyth, Kings College London, Italian national Research Council, Australian Defence Force Academy.

Sources of insecurity project by The Globalism Institute, RMIT with Dr H RAE.

Network for human and global security project by School of History and Politics, University of Adelaide with Dr H RAE.

Tax, trade and credit, 1870–2000 by Dr L SEABROOKE with Dr J M Hobson, University of Sydney.

### Department of Linguistics

Languages of Nusa Tenggara, Indonesia by Dr I W ACKA with Dr Artawa and Dr Aron Mbeti, Udayana University.

Austronesian voice system: an eastern Indonesian perspective by Dr I W ACKA with M Shibatani, Rice University.

Language contact between Austronesian and non-Austronesian languages in eastern East Timor by Dr J BOWDEN with J Hajek, University of Melbourne.

The Waimaha language of East Timor by Dr J BOWDEN with J Hajek, University of Melbourne and N Himmelmann, Ruhr-Universität Bochum, Germany.

PARADISEC (Pacific and Asian digital archive of language and music recordings) by Prof. A PAWLEY with other participants from the University of Sydney, the ANU, and the University of Melbourne. (Reserve listed for an ARC Linkage grant)

Loanword typology project of the Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany with Dr M ROSS.

Topics in the history of the Rukai language by Dr M ROSS with Dr E Zeitoun, Institute of Linguistics, Academia Sinica, Taipei.

The Online Mon-Khmer Etymological Database by Dr P SIDWELL with retired Mon-Khmer specialists in various countries.

Norfolkese project by Prof D TRYON with Prof. P Muhlhäuser, University of Adelaide.

Encounters Project by Prof. D TRYON with the University of New Caledonia: CREDO, Marseille.

### Department of Political and Social Change

The socio-economic aspects of the oil palm industry by Dr C BARLOW, leader of the International Oil Palm Study Group, with the Indonesian Oil Palm Research Institute, Medan, the Universitas Sumatera Utara, Medan, the Malaysian Palm Oil Board, Kuala Lumpur, and many other Indonesian, Malaysian and West African bodies.

Production, labour and politics since the adoption of the 1997 Constitution in Thailand by Dr A BROWN with Prof. K Hewison, Southeast Asia Research Centre, City University of Hong Kong.

The dynamics and management of internal conflicts in Asia. Prof. H CROUCH is a participant in this East West Centre's project, including its Aceh Study Group.

Searching for peace in Northeast Asia, Southeast Asia and the Pacific by the European Centre for Conflict Prevention's project, with contributor Prof. H CROUCH.

Participation by Prof. H CROUCH with the International Crisis Group's Jakarta office.

The Georgetown Southeast Asia Survey, January–May 2003 includes Dr G FEALY who is a member of the academic panel for Georgetown University.

Regime change and regime maintenance in Asia and the Pacific project by Dr R MAY with various institutions in Australia and overseas.

Papua New Guinea election studies, 1997, 2002 by Dr R MAY with Department of Political and Administrative Studies, University of Papua New Guinea.

Asia Pacific security outlook by Dr R MAY with Japan Center for International Exchange, Tokyo, and East-West Center, Hawaii.

Economic development at state level in India by Dr R SHAND with Dr S Bhide, Institute of Social and Economic Change, Bangalore, India.

## Division of Economics

International food safety regulation and processed food exports from developing countries by Prof. P ATHUKORALA with University of Melbourne.

Research information system, India by Prof. P ATHUKORALA with Thammasat University Thailand and the International Food Policy Research Institute, Washington DC.

The Korean forex market by Prof. C G FANE with Prof. C Ahn and Dr E-H Suh, Gyeongsang National University, Korea.

Welfare measurement in computable general equilibrium models by Prof. C G FANE with Dr H Ahammad, Australian Bureau of Resource and Agricultural Economics.

Characterizing global investors risk appetite for emerging market debt during financial crises by Dr R FRY with Dr M Dungey, ANU, Ms B Gonzalez-Hermosillo, International Monetary Fund, and Prof. V L Martin, University of Melbourne.

Unanticipated shocks and systemic influences: the impact of contagion in global equity markets in 1998 by Dr R FRY with Dr M Dungey, ANU, Ms B Gonzalez-Hermosillo, International Monetary Fund, and Prof. V L Martin, University of Melbourne.

Empirical modelling of contagion: a review of methodologies by Dr R FRY with Dr M Dungey, ANU, Ms B Gonzalez-Hermosillo, International Monetary Fund, and Prof. V L Martin, University of Melbourne.

Contagion in real estate markets during the Asian financial crisis by Dr R FRY with Dr S Bond, Department of Land Economy, University of Cambridge, and Dr M Dungey, ANU.

Contagion – a panel analysis by Dr R FRY with Dr D Baur, European Joint Research Centre.

Country risk project by Dr R FRY with Dr N Fiess, World Bank.

Philippine development issues by Prof. H HILL with Prof. A Balisacan, University of the Philippines.

Impact of reforms on rural poor in India by Prof. R JHA with Prof. R Ray, University of Tasmania.

DFID project on nutrition by Prof. R JHA with Prof. R Gaiha, University of Delhi, and Dr K Imai, University of London.

Consumption approach to environmental sustainability by Prof. R JHA with Dr B Murthy, University of Delhi, Macarthur Fund Project.

Pro-poor fiscal policy by Prof. R JHA with United Nations Research Institute for Sustainable Development (UNRISD).

Pricing issues in telephony by Prof. R JHA for Network Economics Consulting Group Ltd.

Testing for fiscal sustainability in the Asia-Pacific region by Prof. R JHA for Korea Research Foundation.

Targeting of poverty alleviation programs in Indonesia by Dr J MAXWELL with Mr A Perdana, Centre for Strategic and International Studies, Jakarta

The cross-border and global consequences of demographic change by Prof. W McKIBBIN with Dr Bryant, Brookings Institution, USA.

The consequences of China's WTO accession for its neighbors

by Prof. W McKIBBIN with Prof. Wing Thye Woo, University of California, USA.

The economic costs of a war in Iraq by Prof. W McKIBBIN with Dr A Stoeckel, Centre for International Economics, Canberra.

Changes in equity risk perceptions: global consequences and policy responses by Prof. W McKIBBIN with Prof. D Vines, Oxford University, UK, and Centre for Economic Policy Research, London.

Climate change policy by Prof. W McKIBBIN with Prof. P Wilcoxon, Syracuse University, USA.

European enlargement by Prof. W McKIBBIN with Prof. R Neck, Klagenfurt University, Germany.

Modeling climate change issues by Prof. W McKIBBIN with Prof. C Carraro, Fondazione Eni Enrico Mattei, Venice, Italy.

Wealth accumulation, wealth distribution and social welfare reform in China by Dr X MENG with Prof. Shi Li, Institute of Economics, the Chinese Academy of Social Sciences.

Impact of One Child Policy on pension reform in China by Dr X MENG with Prof. Fang Cai, Institute of Population Studies, the Chinese Academy of Social Sciences.

Food for chools project in Bangladesh by Dr X MENG with J Ryan, Food Policy Research Centre, Washington DC and ANU.

Understanding Indonesian economic reforms: 1983–2000 by Dr B P RESOSUDARMO with Dr A Kuncoro, Department of Economics, University of Indonesia.

Push or pull, the relationship between development, trade and resource endowment by Dr M WEN with S King, Melbourne University.

## Division of Pacific and Asian History

Capacity building in relation to the protection of suspects and detainees in China by Dr B BAKKEN for a scholar exchange programme between Scandinavia and Australia.

Policing in China project by Dr B BAKKEN with The Open University of Hong Kong.

Transformations in collective identity in the South Pacific by Dr C BALLARD with the Centre de Recherche et de Documentation sur l'Océanie of the French Centre National de la Recherche Scientifique.

Locating the Commonwealth: community, environment and local governance regimes in reform era Indonesia by Dr C BALLARD with Dr C Warren and Dr J McCarthy, Murdoch University, Dr A Lucas and Dr J Schiller, Flinders University, Dr G Acciaoli University of Western Australia and Dr L Visser, University of Amsterdam.

Papuaweb ([www.papuaweb.org](http://www.papuaweb.org)) a research and documentation project by Dr C BALLARD in conjunction with Mr M Cookson, PAH, and Dr J Mansoben, Universitas Cenderawasih and Dr A Sumule, Universitas Papua, Papua, Indonesia.

Qing dynasty history and the Yuan Ming Yuan by Prof. G R BARMÉ with Ms L Conner, New York, USA.

Digital encyclopaedia project by Prof. G R BARMÉ with colleagues at the Long Bow Group in Boston and the East Asia Center, Indiana University, USA.



The Cultural Revolution documentary film project by Prof. G R BARMÉ with Dr C Hinton and Mr R Gordon, Long Bow Group, Boston, Prof. E Perry, Harvard University, Prof. A Walder, Stanford University, Prof. A Nathan, Columbia University, as well as other academics in Sweden and Australia.

20th-century Chinese intellectual history by Prof. G R BARMÉ with Dr G Davies, Monash University (joint ARC project).

the Chinese internet and intellectual activity in contemporary China by Prof. G R BARMÉ with Dr G Davies, Monash University.

Regimes of law and order in Indonesia, 1930–1960, in cross-institutional research programme 'Indonesia Across Orders: the Transformation of Indonesian Society, 1930–1960' by Dr R CRIBB with Dr T Lindblad, University of Leiden, Dr F Colombijn, Free University of Amsterdam, Dr R Saptari, International Institute of Social History, Amsterdam, Dr E Erman, Indonesian Institute of the Sciences, Dr P Keppy, Netherlands Institute of War Documentation, and Dr H Meijer, Netherlands Institute of War Documentation and coordinated by Netherlands Institute of War Documentation, Amsterdam.

Wild man from Borneo: species, race, representation by Dr R CRIBB with Prof. H Tiffin, Queen's University at Kingston, Canada, and Dr H Gilbert, University of Queensland.

A history of Papua New Guinea by Prof. D DENOON with Dr A Kituai, University of Papua New Guinea.

History of the decolonisation of Papua New Guinea by Prof. D DENOON with representatives from DFAT.

A study of health services in PNG by Prof. D DENOON with Dr M Lewis, Sydney University Medical School.

Tatau / tattoo: embodied art and cultural exchange, c. 1760–2000 by Dr B DOUGLAS with Dr E Govor and an international team based at Goldsmiths College, University of London.

The concluding volumes of J Needham et al, Science and Civilisation in China. Prof. J M D ELVIN in collaboration with the Needham Research Institute.

The environmental history of two Chinese lakes, Erhai and Chaohu by Prof. J M D ELVIN with Prof. J Dearing and Drs D Crook and R Jones, Liverpool University, UK, and Dr Shen Ji and colleagues of the Institute of Limnology, Nanjing University, PRC.

The ambiguous allure of the West: aesthetics and power in the making of Thai identities by Dr P JACKSON with Dr R Harrison, School of Oriental and Asian Studies, University of London.

Dictionary of Pacific Islands biography by Prof. B V LAL with scholars around the world.

British documents on the end of empire project. Prof. B V LAL is editing a Fiji volume for the Institute of Commonwealth Studies, University of London.

An historiographical text on the Pacific Islands to mark the 125<sup>th</sup> anniversary of the arrival of Indian people in Fiji by Prof. B V LAL with Dr D Munro, Victoria University of Wellington, New Zealand.

Overseas Chinese water frontier in Southeast Asia, 1700–1900 by Dr T LI with Prof. C Trocki, Queensland University of Technology and Dr N Cooke, ANU.

Social sciences translation and publication project in Vietnam by Prof. D MARR with Prof. Phan Huy Le, Hanoi National University, Advisory Group.

The Mekong River region by Prof. G McCORMACK with the President and Vice-President of Osaka Foreign Studies University, Prof. Akagi and Prof. Nishimura.

Multiculturalism in an age of globalisation by Prof. T MORRIS-SUZUKI with Prof. T Iyotani, et al., Hitotsubashi University, Tokyo, Japan.

Americanisation and East Asia by Prof. T MORRIS-SUZUKI with Prof. T Nakano, Tokyo University of Foreign Studies and others.

Asia-Pacific Network of Asian studies by Prof. T MORRIS-SUZUKI with 25 representatives from 15 countries.

Asian civil rights network by Prof. T MORRIS-SUZUKI with Prof. S Kang, Tokyo University, Prof. A Sugita, Hosei University Japan, and Dr J Yonetani, University of New South Wales.

Border controls and migration in the Asia-Pacific by Prof. T MORRIS-SUZUKI with Prof. A Kaur, University of New England.

### Gender Relations Centre

Gender and sexuality in exploratory voyages in Oceania by Prof. M JOLLY with Centre de Recherches et de Documentation sur l'Océanie, Marseille.

Gender and cloth in Oceania by Prof. M JOLLY with University of Auckland and British Museum.

Gender liminality and homoeroticism in the Pacific by Prof. M JOLLY with University of California, Los Angeles

### Pacific Manuscripts Bureau

Administration of an on-going archival copying project by Mr E MAIDMENT with the Mitchell Library, National Library of Australia, Alexander Turnbull Library, University of Auckland Library, University of Hawaii Library, University of California Library, San Diego, and Yale University Library.

Preservation microfilm projects by Mr E MAIDMENT with materials in the Hallstrom Collection at the University of New South Wales Library, The New Hebrides Magazine at the Mitchell Library, The Fiji Agricultural Journal at the CSIRO Black Mountain Library, the British Solomon Islands Protectorate Agricultural Gazette held at the Queensland Herbarium Library, the Jack Golson Papers on cultural policy in PNG held by the South Australian Museum, the Micronesian Collection at the Hawaiian Mission Children's Society Library in Honolulu, and Fr Fran Hezel's papers on the history of Catholic Missions in Micronesia at the Micronesian Seminar in Pohnpei.

### Resource Management in Asia Pacific Project

Local assessments for the Millennium Ecosystem Assessment by Dr S FOALE with the University of Papua New Guinea.

Modelling of social and environmental impacts on fish communities in Lihir Island, PNG by Dr S FOALE with CSIRO and The University of Melbourne.

Constructing high-resolution chronologies from lake sediments by Dr S HABERLE with ANSTO, Sydney.

On-farm reservoir management project in West Timor by Dr P PEREZ with CIRAD, France, Center for Soil and Agroclimate Research and Development, Indonesia and the Indonesian Institute of Sciences.

Land and water management in upland areas of Thailand by Dr A WALKER with Centre de Coopération Internationale en Recherche Agronomique pour le Développement and the Thai Land Development Department.

Institutional Dimensions of Global Change by Dr M WASSON with Dartmouth College USA, Harvard University USA, Japan Environmental Agency, Bogor Agricultural University Indonesia, and Law Faculty National University of Singapore.

### State, Society and Governance in Melanesia Project

The new middle-class in the Pacific by Dr S RATUVA with the East–West Center, Hawaii.

Ethnic conflict in Fiji by Dr S RATUVA with the Life and Peace Institute.

Case studies on complex power-sharing as a response to secessionist disputes. Mr A REGAN is a participant in this multi-researcher project by University of Cambridge and European Centre for Minority Rights (Germany).

### Strategic and Defence Studies Centre

Asia–Pacific–Indian Ocean security and strategic affairs, part of the Graduate Program in Strategy and Defence course led by Prof. R BABBAGE in partnership with Curtin University of Technology, Monash University, United Nations University, Tokyo, and National Chengchi University, Taipei.

## Research School of Physical Sciences and Engineering

### Applied Mathematics

Geostatistical analysis of tomographic data by Dr C.H. ARNS with Prof. D. Stoyan (University of Freiberg, Germany).

Velocity–dispersion in porous media by Dr C.H. ARNS with Prof. P. Callaghan (University of Wellington, New Zealand).

Nanometric surface ripples by Dr T. ASTE with Prof. U. Valbusa (University of Genoa, Italy).

Glass dynamics and granular matter by Dr T. ASTE with Prof. A. Coniglio (University of Naples, Italy).

Dynamical maps on three-valent networks by Dr T. ASTE with Prof. N. Rivier (University of Strasbourg, France).

Characterization of collective dynamics in financial markets and complex systems by Dr T. ASTE with Prof. R.N. Mantegna (University of Palermo, Italy).

High-frequency dynamics of financial markets (Fondo Speciale per lo Sviluppo della Ricerca di Interesse Strategico) by Dr T. ASTE and Dr T. DI MATTEO with R.N. Mantegna, M. Marsili, M. Bernaschi, E. Scalas, G.M. Gallo, M. Gallegati, V. Marinari and G. Susinno (Italian Ministry of Education Research and Technology).

Relationships between the structure of social networks and productivity by Dr T. DI MATTEO and Dr T. ASTE with Prof. M. Gallegati (Universita' Politecnica delle Marche, Italy).

Fundamental studies of surfactant and polymer adsorption by Dr V. CRAIG with Dr R. Atkin (Bristol University, UK); Dr E. Wanless (University of Newcastle); Prof. S. Biggs (University of Leeds, UK) and Dr P. Hartley (CSIRO Molecular Science).

The influence of roughness on boundary slip by Dr V. CRAIG with Dr E. Bonaccorso and Prof. H-J. Butt (Max-Planck Institute for Polymer Research, Germany).

Dynamic atomic force microscope and QCM studies of adsorbed polymer layers by Dr V. CRAIG with Prof. S. Biggs (University of Leeds, UK) and Dr S. Notley (Royal Institute of Technology, Sweden).

Calibration of colloid probe cantilevers using the dynamic viscous response of a confined liquid by Dr V. CRAIG with Prof. S. Biggs (University of Leeds, UK) and Dr S. Notley (Royal Institute of Technology, Sweden).

Determination of couples solvent mass in quartz crystal microbalance measurements by Dr V. CRAIG with Dr M. Plunkett (Ytekemiska Institutet, Sweden).

Hofmeister effects in pH measurements by Dr V. CRAIG and Dr D.R.M. WILLIAMS with Dr M. Boström (Linköping Universitat, Sweden); R. ALBION (Department of Chemical Engineering) and Prof. B. Ninham (Institute for Physical and Theoretical Chemistry, Regensburg, Germany).

Shear dependent boundary slip in Newtonian liquids by Dr V. CRAIG and Dr D.R.M. WILLIAMS with Dr C. Neto (University of Ulm, Germany).

Multiscaling behaviours in financial markets by Dr T. DI MATTEO and Dr T. ASTE with Dr M.M. Dacorogna (Converium Ltd Zurich, Switzerland).

High frequency data dynamics in financial markets by Dr T. DI MATTEO and Dr T. ASTE with Dr E. Scalas (Universita' del Piemonte Orientale, Alessandria, Italy).

EU project COST P10 "Physics of Risk" by Dr T. DI MATTEO, Dr T. ASTE and Prof. S.T. HYDE with Prof. P. Richmond (Trinity College, Dublin, Ireland).

Wet granular materials by Dr M.M. KOHONEN with Prof. S. Herminghaus (University of Ulm, Germany).

Thin film coalescence by Dr M.M. KOHONEN with Dr N. Maeda (University of California, Santa Barbara, USA).

Modulated structures by Dr A-K. LARSSON with Dr J. Garcia-Garcia (Stockholm University, Sweden).

Dewetting of thin liquid films by Dr C. NETO with Prof. K. Jacobs (Saarland University, Germany).

Characterisation of magnetic nanoparticles by Dr C. NETO with M. Bonini and Prof. P. Baglioni (University of Florence, Italy).

Interaction forces between nucleoside-functionalised lipids by Dr C. NETO with Dr D. Berti and Prof. P. Baglioni (University of Florence, Italy).

Topology and intelligent data analysis by Dr V. ROBINS with Prof. E. Bradley (University of Colorado at Boulder, USA).

Signatures of spatial morphology in disordered media by Dr V. ROBINS with Dr K.R. Mecke (University of Stuttgart and Max-Planck-Institut für Metallforschung, Germany).

### Atomic and Molecular Physics Laboratories

Low energy electron-molecule scattering by Prof. S.J. BUCKMAN with Dr M.J. Brunger and Prof. P.J.O. Teubner (Flinders University).

Electron scattering from molecular radicals by Prof. S.J. BUCKMAN with Dr M.J. Brunger and Prof. W. Lawrance (Flinders University).

Electron scattering from metal vapours by Prof. S.J. BUCKMAN with Prof. P.D. Burrow (University of Nebraska, USA) and Prof. K. Bartschat (Drake University, USA).

Electron-molecule scattering by Prof. S.J. BUCKMAN with Prof. H. Tanaka (Sophia University, Japan) and Prof. H. Cho (Chungnam National University, Korea).

Positron interactions by Prof. S.J. BUCKMAN with Dr A. Hill (CSIRO); Prof. B. Lohmann (Griffith University); Prof. P.J.O. Teubner and Dr M.J. Brunger (Flinders University) and Dr J. Mitroy (Charles Darwin University).

Positron scattering from atoms and molecules by Prof. S.J. BUCKMAN with Prof. C. Surko (University of California, USA).

Rainbows in scattering of electrons from molecules by Prof. S.J. BUCKMAN and Prof. L.T. CHADDERTON with Prof. S.A. Cruz (Metropolitan Autonomous University of Mexico, Mexico).

(e,2e) experiments on water by Dr S.J. CAVANAGH with Prof. B. Lohmann (Griffith University).

Atomic force microscopy of fission fragment irradiated quartz, fullerite, apatite and natural opal by Prof. L.T. CHADDERTON with Prof. G. Espinosa and Prof. S.A. Cruz (Metropolitan Autonomous University of Mexico, Mexico).

Phase changes in transition metal dichalcogenides due to GeV heavy ion and MeV fullerene ion bombardments: transmission electron microscopy and surface force microscopy by Prof. L.T. CHADDERTON with Dr A. Dunlop (École Polytechnique, Palaiseau, France).

Radiation effects on polymers and semiconductors by Prof. L.T. CHADDERTON with Dr D. Fink (Hahn-Meitner Institute, Berlin, Germany).

GeV ion tracks in alkali and alkali earth halides by Prof. L.T. CHADDERTON with Dr C. Trautmann (GSI, Germany).

Annealing of fission tracks in apatite: Kinetics, effects of pressure and applications in geothermometry by Prof. L.T. CHADDERTON with Dr R. Jonckere (University of Freiberg, Germany) and Dr A. Wendt (British Antarctic Survey, UK).

Studies of plasma effects, and electronic and nuclear vicinage in the stopping of swift clusters in solids by Prof. L.T. CHADDERTON and Prof. E. GAMALY (AM) with Prof. S.A. Cruz (Metropolitan Autonomous University of Mexico, Mexico).

Theory and practice of organic radical formation and motion in GeV ion-irradiated polymers by Prof. L.T. CHADDERTON and Prof. E. GAMALY (AM) with Prof. S.A. Cruz (Metropolitan Autonomous University of Mexico, Mexico).

Studies of ultrafast coherent dynamics of localised modes in many-body systems by Prof. L.T. CHADDERTON and Dr S.Y. KUN (TP/NPG) with Prof. W. Greiner (University of Frankfurt, Germany) and Prof. S. Haas (University of Strasbourg, France).

Radioactivity in the fine structure of precious opal; exploration and artificial opal synthesis by Prof. L.T. CHADDERTON and Dr A. STEWART (AM) with Dr B. Senior (Senior and Associates, Canberra) and Dr R. Jonckere (University of Freiberg, Germany).

(NASA) laboratory measurements of molecular photoabsorption cross sections in the ultraviolet for planetary atmospheres applications by Dr S.T. GIBSON and Prof. B.R. LEWIS with Prof. G. Stark (Wellesley College, USA) and Dr P.L. Smith (Harvard-Smithsonian Center for Astrophysics, USA).

(NFS) molecular photoabsorption cross sections in the ultraviolet: Laboratory measurements for atmospheric analyses by Dr S.T. GIBSON and Prof. B.R. LEWIS with Prof. G. Stark (Wellesley College, USA) and Dr P.L. Smith (Harvard-Smithsonian Center for Astrophysics, USA).

Thermosphere ionosphere, mesosphere, energetic and dynamics (TIMED) mission by Dr S.T. GIBSON and Prof. B.R. LEWIS with Dr J-H. Yee (Johns Hopkins University, USA).

Convergent close-coupling theory of double ionization by photon and electron impact by Dr A. KHEIFETS with Prof. I. Bray (Murdoch University).

Electron impact double ionization of the helium atom by Dr A. KHEIFETS with Prof. A. Lahmam-Bennani (University of Paris – Orsay, France) and Dr A. Dorn (University of Freiburg, Germany).

Theoretical and experimental studies of double photoionization of He and H<sub>2</sub> by Dr A. KHEIFETS with Dr L. Avaldi (Consiglio Nazionale delle Ricerche, IMIP, Italy) and Prof. R. Dörner (University of Frankfurt, Germany).

Theory of electron correlations in solids by Dr A. KHEIFETS with Dr F. Aryasetiawan (Research Institute for Computational Sciences, Tsukuba, Japan).

Analysis of REMPI spectra by Prof. B.R. LEWIS and Dr S.T. GIBSON with Prof. M.L. Ginter (University of Maryland, USA); Dr J.S. Morrill (Naval Research Laboratory, USA) and Dr R.A. Copeland (SRI International, USA).

Coupled-channel calculations of linewidths for the *b* state of N<sub>2</sub> by Prof. B.R. LEWIS and Dr S.T. GIBSON with Prof. H. Lefebvre-Brion (Université de Paris-Sud, Orsay, France) and Prof. J.-M. Robbe (Université de Lille, France).

Review of molecular oxygen by Prof. B.R. LEWIS and Dr S.T. GIBSON with Prof. M.L. Ginter (University of Maryland, USA) and Dr J.S. Morrill (Naval Research Laboratory, USA).

High resolution XUV laser spectroscopy of isotopic nitrogen by Prof. B.R. LEWIS and Dr K.G.H. BALDWIN (LPC) with Prof. W. Ubachs and Prof. W. Hogervorst (Vrije Universiteit Amsterdam, The Netherlands).

Development of ultra-high resolution VUV laser sources by Prof. B.R. LEWIS, Dr K.G.H. BALDWIN (LPC) and Dr M. KONO with Prof. B.J. Orr (Macquarie University).

Investigation into (e,3e) and (e,2e) processing using time-of-flight techniques and toroidal electrostatic analysers by Dr J.C.A. LOWER with Dr A. Dorn (Max-Planck-Institute for Nuclear Physics, Germany).

Application of position sensitive detectors to nano-second timing experiments by Dr J.C.A. LOWER with Prof. H. Schmidt-Böcking (University of Frankfurt, Germany).

Electron excitation of atoms by Prof. R.P. MCEACHRAN with Dr R. Srivastava (Roorke University, India) and Prof. A.D. Stauffer (York University, Canada).

Positron excitation of krypton and xenon by Prof. R.P. MCEACHRAN with Prof. A.D. Stauffer (York University, Canada) and Dr L.A. Parcell (Macquarie University).

Low energy transport properties in zinc by Prof. R.P. MCEACHRAN with Dr R. White (Jes Cook University) and Prof. K. Bartschat (Drake University, USA).

Photochemical modeling of the venus middle atmosphere by Dr F.P. MILLS with Dr M. Allen (NASA Jet Propulsion Laboratory, USA) and Prof. Y.L. Yung (California Institute of Technology, USA).

Ultraviolet characterization and remote sensing of aerosols by Dr F.P. MILLS with Dr A. Eldering (NASA Jet Propulsion Laboratory, USA).

Analysis and modeling of OH column abundances by Dr F.P. MILLS with Dr S.P. Sander, Dr R.P. Cageao and Dr M. Allen (NASA Jet Propulsion Laboratory, USA).

The electron-hydrogen vibrational excitation cross section by Dr R.E. ROBSON with Prof. M.A. Morrison (University of Oklahoma, USA) and Dr R. White (Jes Cook University).

Fluid equations for weakly ionised plasmas by Dr R.E. ROBSON with Prof. Z. Petrovic (Institute of Physics, Belgrade, Serbia).

Metastable helium Bose-Einstein condensation by Dr A.G. TRUSCOTT and Dr K.G.H. BALDWIN (LPC and Centre for Quantum-Atom Optics) with Prof. M. Leduc (Ecole Normale Supérieure, Paris, France) and Dr W. Vassen (Vrije Universiteit Amsterdam, The Netherlands).

Comparison of electron and neutron scattering at high momentum transfer by Dr M. VOS with Dr T. Abdul-Redah (ISIS, UK and University of Kent, UK); Prof. Dr C.A. Chatzidimitriou-Dreismann and Dr C. Kleiner (Technical University, Berlin, Germany) and Dr J. Mayers (ISIS, UK).

Electronic structure of alloys by Dr M. VOS with Dr A. Ernst and Dr K. Kouzakov (Max Planck Institute Mikrostrukturphysik, Germany).

Electron correlations in solids by Dr M. VOS, Dr A. KHEIFETS and Prof. E. WEIGOLD with Dr F. Aryasetiawan (National Institute of Advanced Industrial Science and Technology, Japan) and Dr M. Usuda (Synchrotron Radiation Research Center, Japan).

Electron momentum spectroscopy of atoms and molecules by Prof. E. WEIGOLD with Dr M.J. Brunger (Flinders University).

Correlations in the helium asymptotic wavefunction by Prof. E. WEIGOLD with Prof. H. Schmidt-Böcking (University of Frankfurt, Germany).

(e,2e) processes with polarized electrons and targets by Prof. E. WEIGOLD and Dr J.C.A. LOWER with Dr J. Berakdar (Max Planck Institut für Mikrostruktur Physik, Germany) and Dr S. Mazevet (Los Alamos Laboratory, USA).

## Electronic Materials Engineering

DFB lasers by Dr M. BUDA with Dr T.G. van de Roer and Prof. G.A. Acket (Eindhoven University of Technology, The Netherlands).

Ultrafast photodetector materials by Ms C. CARMODY, Dr H.H. TAN and Prof. C. JAGADISH with Mr A. Gaarder, Dr S. Anand and Dr S. Marcinkevicius (Royal Institute of Technology, Stockholm, Sweden).

Self assembled monolayers on semiconductor surfaces by Ms C. CARMODY and Prof. C. JAGADISH with Dr B. Raguse and Dr V. Braach-Maksyvytis (CSIRO Telecommunications and Industrial Physics).

Synthesis of C and BN nanotubes using mechano-thermal process by Dr Y. CHEN with Dr J. FITZ GERALD (Research School of Earth Sciences).

Microanalysis of BN nanotubes by Dr Y. CHEN with Dr J. Zou (University of Queensland).

Mossbauer analysis of nanotubes by Dr Y. CHEN with Prof. G. Le Caer (University of Rennes, France).

Mossbauer study of metal catalysts for nanotube growth by Dr Y. CHEN with Prof. S. Campbell (ADFA, University of New South Wales).

Cathodoluminescence studies of semiconductor epitaxial layers and quantum structures by Ms V. COLEMAN, Ms P. LEVER, Ms K. STEWART, Ms S. MOKKAPATI, Mr S. BARIK, Dr P.N.K. DEENAPANRAY, Dr H.H. TAN, Prof. J.S. WILLIAMS and Prof. C. JAGADISH with Prof. M.R. Philips (University of Technology, Sydney).

Ion beam processing of zinc oxide by Ms V. COLEMAN, Dr P.N.K. DEENAPANRAY, Dr H.H. TAN, Dr S.O. KUCHEYEV, Prof. J.S. WILLIAMS and Prof. C. JAGADISH with Prof. M. Yano and Prof. M. Inoue (Osaka Institute of Technology, Japan).

Analysis of semiconductor and insulating thin films by XPS by Dr P.N.K. DEENAPANRAY, Dr L. FU and Prof. C. JAGADISH with Dr B. Gong and Prof. R. Lamb (University of New South Wales).

Silicon based photonic devices and structures by Prof. R.G. ELLIMAN with Prof. J. Linnros (Royal Institute of Technology, Stockholm, Sweden); (Dr J. Valenta (Charles University Prague, Czech Republic) and Prof. E. KRAUSZ (Research School of Chemistry).

Optical and physical properties of semiconductor nanocrystals by Prof. R.G. ELLIMAN with Prof. S-H. Choi (Kyung Hee University, Korea).

Light emission from silicon nanocrystals: The effect of impurities by Prof. R.G. ELLIMAN with Prof. G. Ross (INRS-Energie et Matériaux, Canada).

Mechanical properties of silicon nanostructures by Prof. R.G. ELLIMAN with K.R. Virwani and A.P. Malshe (University of Arkansas, USA) and D.K. Sood (Royal Melbourne Institute of Technology).

Ion beam mixing of metallic thin films on ceramic substrates by Prof. R.G. ELLIMAN with Dr A. Balogh and Mr W. Berkey (Darmstadt University of Technology, Germany).

Optical gain in silicon nanocrystals by Prof. R.G. ELLIMAN and Mr N. SMITH with Prof. P. Fauchet, Mr J. Ruan (University of Rochester, USA) and Prof. A. Polman (FOM Institute, Amsterdam, The Netherlands).

Heavy-ion beam analysis of materials by Prof. R.G. ELLIMAN and Dr T.D.M. WEIJERS with Dr H. Timmers (ADFA, University of New South Wales) and Dr S. Butcher (Macquarie University).

Optoelectronic devices by Dr L. FU, Dr H.H. TAN, Dr M. BUDA and Prof. C. JAGADISH with Dr F. Karouta (Eindhoven University of Technology, The Netherlands).

Optical spectroscopy of semiconductor quantum structures and devices by Mr Q. GAO, Ms P. LEVER, Ms C. CARMODY, Ms V. COLEMAN, Ms K. STEWART, Ms S. MOKKAPATI, Mr S. BARIK, Dr L. FU, Dr P.N.K. DEENAPANRAY, Dr M. BUDA, Dr H.H. TAN and Prof. C. JAGADISH with Mr P. Reece, Dr B.Q. Sun, Dr M. Zhang and Prof. M. Gal (University of New South Wales).

Optical spectroscopy of quantum dots by Ms P. LEVER, Dr H.H. TAN and Prof. C. JAGADISH with Prof. J. Wolter (Eindhoven University of Technology, The Netherlands).

Surface analysis using a free electron laser by Dr M. PETRAVIC with A/Prof. B.V. King (University of Newcastle) and Dr M.J. Pelin and Dr J.F. Moore (Argonne National Laboratory, USA).

Synchrotron-based photoemission and NEXAFS studies of composition changes on III-N-V surfaces under low energy ion bombardment by Dr M. PETRAVIC and Dr P.N.K. DEENAPANRAY with Dr B. Kim and Ms K-J. Kim (PAL, Pohang, Korea).

Synchrotron-based photoemission and NEXAFS studies of composition changes on hydrogenated semiconductor surfaces by Dr M. PETRAVIC and Dr P.N.K. DEENAPANRAY with Dr B. Kim and Ms K-J. Kim (PAL, Pohang, Korea).

Formation of dilute GaAs<sub>x</sub>N<sub>1-x</sub> and Ga<sub>x</sub>Mn<sub>1-x</sub>As alloys by ion implantation by Dr M. RIDGWAY with Dr O. Dubon (University of California at Berkeley, USA) and Dr K.M. Yu (Lawrence Berkeley National Laboratory, USA).

Laser Annealing of ion-implanted semiconductors by Dr M. RIDGWAY with Prof. M. Rao (George Mason University, USA).

EXAFS characterisation of amorphous semiconductors by Dr M. RIDGWAY, Dr C.J. GLOVER and Dr S. KLUTH with Dr G. Azevedo (Laboratorio Nacional de Luz Sincrotron, Brazil); Dr K.M. Yu (Lawrence Berkeley National Laboratory, USA) and Dr G.J. Foran (ANSTO).

EXAFS characterisation of semiconducting and metallic nanocrystals by Dr M. RIDGWAY, Dr C.J. GLOVER and Dr S. KLUTH with Dr G. Azevedo (Laboratorio Nacional de Luz Sincrotron, Brazil) and Dr G.J. Foran (ANSTO).

Implantation-induced amorphisation of tertiary semiconductors by Dr M. RIDGWAY, Dr S. KLUTH and Dr C.J. GLOVER with Prof. W. Wesch (Friedrich-Schiller University, Germany).

Pd-defect and Pd-dopant characterisation with perturbed angular correlation by Dr M. RIDGWAY and Prof. A.P. BYRNE (NP) with Dr R. Vianden (University of Bonn, Germany).

Nanocavity evolution in Si under ion irradiation by Dr M. RIDGWAY and Prof. J.S. WILLIAMS with Prof. H. Bernas, Dr M.-O. Ruault and Dr F. Fortuna (CNRS, France).

Tuning of detection wavelength of quantum dot infrared photodetectors by Ms K. STEWART, Dr L. FU, Dr M. BUDA, Dr H.H. TAN and Prof. C. JAGADISH with Dr A. Stiff-Roberts and Prof. P. Bhattacharya (University of Michigan, USA).

Thermionic cooling in semiconductors by Dr H.H. TAN and Prof. C. JAGADISH with Prof. R. Lewis (University of Wollongong).

Heavy ion stopping in solids by Dr T.D.M. WEIJERS and Prof. R.G. ELLIMAN with Prof. H.J. Whitlow (University of Lund, Sweden); Dr H. Timmers and Mr S. Shrestha (ADFA, University of New South Wales) and A/Prof. D.J. O'Connor (The University of Newcastle).

Defects and electron microscopy of semiconductors by Dr J. WONG-LEUNG, Dr P.N.K. DEENAPANRAY and Prof. C. JAGADISH with Prof. B.G. Svensson, Dr M. Linnarsson, Dr A. Kuznetsov, Dr A. Hallen, Mr M. Janson and Dr P. Leveque (Royal Institute of Technology, Stockholm, Sweden).

Electron microscopy study of defects in ion implanted semiconductors by Dr J. WONG-LEUNG, Dr H.H. TAN, Ms C. CARMODY, Prof. J.S. WILLIAMS and Prof. C. JAGADISH with Dr J. Zou (University of Sydney); Dr J. FITZ GERALD (Research School of Earth Sciences) and Prof. D.J.H. Cockayne (Oxford University, UK).

## Laser Physics Centre

Metastable helium Bose-Einstein condensation by Dr K.G.H. BALDWIN and Centre for Quantum-Atom Optics with Prof. M. Leduc (Ecole Normale Supérieure, Paris, France) and Dr W. Vassen (Vrije Universiteit Amsterdam, The Netherlands).

High resolution XUV laser spectroscopy of isotopic nitrogen by Dr K.G.H. BALDWIN and Prof. B.R. LEWIS (AMPL) with Prof. W. Ubachs and Prof. W. Hogervorst (Vrije Universiteit Amsterdam, The Netherlands).

Development of ultra-high resolution VUV laser sources by Dr K.G.H. BALDWIN and Prof. B.R. LEWIS (AMPL) with Prof. B.J. Orr (Macquarie University).

Optical Beams in nonlocal nonlinear media by Dr W. KROLIKOWSKI with Prof. O. Bang (Technical University, Denmark); Prof. J. Wyller (Norway Agricultural University, Norway) and Prof. J. Rasmussen (Riso National Laboratory, Denmark).

Localised structure in second harmonic generation by Dr W. KROLIKOWSKI with Prof. M. Saffman (University of Wisconsin, USA).

Modulational instability in photorefractive media by Dr W. KROLIKOWSKI with Prof. M. Saffman (University of Wisconsin, USA).

Photorefractive solitons by Dr W. KROLIKOWSKI with Prof. C. Denz (University of Münster, Germany).

Discrete solitons by Dr W. KROLIKOWSKI with Prof. F. Lederer (University of Jena, Germany).

Highly oriented nanostructures of nonlinear optical materials for applications in polarized light emitting diodes and optical devices by Prof. B. LUTHER-DAVIES with Dr H.B. Schulz (Potsdam University, Germany).

Centre of Excellence for Ultrahigh Bandwidth Devices for Optical Systems by Prof. B. LUTHER-DAVIES and Prof. W. KROLIKOWSKI with University of Sydney; Macquarie University; UTS; Swinburne University of Technology; NSW State Government through Department of State and Regional Development; CSIRO; Osaka University, Japan; University of Central Florida, USA; Lucent Technologies, USA and Institut Fresnel, France.

Production of bulk samples of novell chalcogenide glasses by Prof. B. LUTHER-DAVIES and Ms A. SMITH with Prof. K. Richardson (University of Central Florida, USA).

Quantum computing using the nitrogen-vacancy centre in diamond by Prof. N.B. MANSON and Dr M. SELLARS with Prof. M. Scully and Prof. P. Hemmer (T & M University, USA); Dr D. Pulford (DSTO, Canberra) and Prof. S. Prawer (University of Melbourne).

100-W laser system for ultra-fast pulsed laser deposition by Dr A. RODE with Dr J. Giesecus and Mr M. Duering (Fraunhofer Institute for Laser Technique Aachen, Germany).

Boron nitride nanostructures formed by the high repetition-rate laser ablation by Dr A. RODE with Dr D. Golberg and Prof. Y. Bando (National Institute for Material Science, Tsukuba, Japan).

Magnetic properties of laser-deposited carbon nanofoam by Dr A. RODE with Dr J. Giapintzakis (Foundation for Research and Technology-Hellas and Institute of Electronic Structure and Lasers, Crete, Greece) and Dr D. Tomanek (Michigan State University, USA).

Sub-picosecond laser deposition of optical films by Dr A. RODE with Prof. B.N. Chikov (Laser Zentrum Hannover e.V., Germany).

Recording and reading of three-dimensional memory in glasses by Dr A. RODE with Prof. H. Mizawa and Dr S. Juodkasis (University of Tokyushina, Japan).

Crystal structure of the second order nonlinear optical addition complex  $AsI_3 \cdot 3S_8$  by Dr A. SAMOC and Dr M. SAMOC with Dr E.R. KRAUSZ and Dr A.C. WILLIS (Research School of Chemistry).

Nonlinear optical properties of soluble oligomers of PPV by Dr A. SAMOC, Dr M. SAMOC and Prof. B. LUTHER-DAVIES with Dr M.S. Wong (Baptist University, HongKong).

Third-order optical nonlinearities of oligomers, dendrimers and polymers derived from solution Z-scan studies by Dr A. SAMOC, Dr M. SAMOC and Prof. B. LUTHER-DAVIES with Dr M. HUMPHREY (Department of Chemistry, Faculty of Science).

Synthesis and third-order nonlinear optical properties of end-functionalized oligophenylenevinylenes by Dr A. SAMOC, Dr M. SAMOC and Prof. B. LUTHER-DAVIES with Dr M.S. Wong (Baptist University of HongKong).

Nonlinear optics and nanophotonics by Dr M. SAMOC with Prof. P.N. Prasad (State University of New York at Buffalo, USA).

Nonlinear properties of evaporated films of disperse red by Dr M. SAMOC with Prof. M.O. Tjia (Bandung Institute of Technology, Indonesia).

Diode laser frequency stabilisation via locking to spectral hole by Dr M. SELLARS with Prof. R. Cone and Dr G. Pryde (Montana State University, USA).

Investigation of EIT and slow light by Dr M. SELLARS with Prof. P. Hemmer (Texas A & M University, USA).

## Nuclear Physics

Cosmogenic isotope exposure ages for tropical glaciation by Dr T.T. BARROWS with Dr M. Prentice (University of New Hampshire, USA) and Prof. G. HOPE (ANU).

Direct dating of fossil bone using cosmogenic  $Cl-36$  by Dr T.T. BARROWS with Dr L. Reed and R. Wells (Flinders University) and Prof. D. RIDE (ANU).

Improving estimates of climate change using nearest analog methods and artificial neural networks by Dr T.T. BARROWS with Dr S. Juggins (University of Newcastle, UK).

Quantifying climate change in the eastern Pacific Ocean by Dr T.T. BARROWS with Dr J.I. Martinez (Universidad EAFIT, Colombia).

Ion implanter for radioisotopes by Prof. A.P. BYRNE with Dr H. Timmers and A/Prof. D.H. Chaplin (ADFA, University of New South Wales).

Superalloyed Fermi decays by Prof. A.P. BYRNE with A/Prof. P.H. Barker (University of Auckland, New Zealand).

PAC studies of materials by Prof. A.P. BYRNE and Dr M.C. RIDGWAY (EME) with Dr R. Vianden (Universität Bonn, Germany).

Quantum tunnelling in nuclear fusion by Dr M. DASGUPTA with Dr K. Hagino (Kyoto University, Japan) and Prof. N. Rowley (Strasbourg University, France).

Fusion with radioactive  $^{14}O$  by Dr M. DASGUPTA and Prof. D.J. HINDE with Prof. S. Kubono (University of Tokyo, Japan).

Deep sub-barrier fusion by Dr M. DASGUPTA and Prof. D.J. HINDE with Dr K. Hagino (Kyoto University, Japan).

Double folding calculation of nuclear potentials by Dr M. DASGUPTA and Prof. D.J. HINDE with Dr I.I. Gontchar (Omsk State Transport University, Russia).

Intrinsic and rotational bands in  $^{180}Ta$  by Prof. G.D. DRACOU LIS with Prof. G. Sletten (University of Copenhagen, Denmark) and Euroball Collaboration (Strasbourg, France).

High-K isomers by Prof. G.D. DRACOU LIS with Prof. P.M. Walker (University of Surrey, UK) and Dr D.M. Cullen (University of Liverpool, UK).

High-K isomers in hafnium by Prof. G.D. DRACOU LIS with Dr F.G. Kondev and Dr R. Janssens (Argonne National Laboratory, USA) and Dr D. Hartley (University of Tennessee, USA).

Nuclear structure in the  $N = 74$  region by Prof. G.D. DRACOU LIS with Dr A.M. Bruce (University of Brighton, UK).

Laser spectroscopy of deformed isomers by Prof. G.D. DRACOU LIS with Dr J. Billowes (University of Manchester, UK); Prof. J.A.R. Griffith (University of Birmingham, UK) and Dr P. Dendooven (University of Jyväskylä, Finland).

Spectroscopy of heavy nuclei by Prof. G.D. DRACOU LIS with Prof. A.R. Poletti (University of Auckland, New Zealand).

Realistic shell model calculations for trans-lead nuclei by Prof. G.D. DRACOU LIS, Prof. A.P. BYRNE and Dr G.J. LANE with Prof. A. Covello (University of Naples, Italy).

Neutron rich trans-lead nuclei using radioactive beams by Prof. G.D. DRACOU LIS, Prof. A.P. BYRNE and Dr G.J. LANE with Prof. P.M. Walker (University of Surrey, UK) and Dr G. de France (GANIL, France).

Spectroscopy of neutron deficient lead and thallium nuclei by Prof. G.D. DRACOU LIS, Dr G.J. LANE, Prof. A.P. BYRNE and Dr A.M. BAXTER (Faculties) with Dr A.O. Macchiavelli (Lawrence Berkeley National Laboratory, USA).

Shape co-existence in very neutron-deficient Pb nuclei by Prof. G.D. DRACOU LIS, Dr G.J. LANE, Prof. A.P. BYRNE and Dr T. KIBÉDI with Dr J. Gerl (GST, Germany) and Dr A. Andreyev (University of Liverpool, UK).

Structure of multi-quasiparticle isomers in  $^{176}\text{Lu}$  and  $^{177}\text{Lu}$  by Prof. G.D. DRACOU LIS, Dr G.J. LANE, Dr T. KIBÉDI and Prof. A.P. BYRNE with Dr F.G. Kondev and Dr R. Janssens (Argonne National Laboratory, USA).

Dating of marine cores with carbon-14 by Dr L.K. FIFIELD and AMS GROUP with Dr P. De DECKKER and Dr B. OPDYKE (Geology Department).

Measurement of erosion rates at a range of scales in the Australian landscape using in situ produced  $^{10}\text{Be}$  by Dr L.K. FIFIELD and AMS GROUP with Prof. J. CHAPPELL (RSES).

Landscape evolution in the Southern Highlands region of NSW using  $^{10}\text{Be}$  deposited from the atmosphere by Dr L.K. FIFIELD and AMS GROUP with Prof. R. WASSON (CRES).

Studies of meteorites using cosmogenic isotopes by Dr L.K. FIFIELD and AMS GROUP with Prof. G. Herzog (Rutgers University, USA).

Dating of ice in temperate-region glaciers with  $^{32}\text{Si}$  by Dr L.K. FIFIELD and AMS GROUP with Dr U. Morgenstern and Dr A. Zondervan (Geological and Nuclear Sciences, Lower Hutt, New Zealand).

Tracing releases of plutonium from nuclear processing plants in Russia by Dr L.K. FIFIELD and AMS GROUP with Dr D. Oughton (Agricultural University of Norway) and Dr W. Standring (Norwegian Radiation Protection Authority).

Plutonium in the deep ocean by Dr L.K. FIFIELD and AMS GROUP with Dr P. Povinec (IAEA Marine Research Laboratory, Monaco).

Tracing of groundwater flow and mixing in a number of Australian aquifer systems by Dr L.K. FIFIELD and AMS GROUP with Dr R.G. Cresswell, Dr R. Habermehl and Dr J. Kellett (Bureau of Rural Sciences).

Tracing of groundwater flow in a natural analogue of a nuclear waste repository using  $^{36}\text{Cl}$  by Dr L.K. FIFIELD and AMS GROUP

with Dr Y. Mahara (Abiko Research Laboratory, Japan) and Dr R. Habermehl and Dr R.G. Cresswell (Bureau of Rural Sciences).

The origin of brines from a geothermal area in Mexico by Dr L.K. FIFIELD and AMS GROUP with Dr P. Birkle (Instituto de Investigaciones Electricas, Mexico).

Plutonium from weapons fallout in an ice core from the Attai Mountains, Siberia by Dr L.K. FIFIELD and AMS GROUP with Prof. H. Gäggeler and S. Olivier (University of Bern, Switzerland).

Basin wide erosion rates in a tectonic landscape: The San Bernadino Mountains, California by Dr L.K. FIFIELD and AMS GROUP with Dr W. Phillips and S. Binnie (University of Edinburgh, UK).

Glaciation history of the Cairngorms, Scotland by Dr L.K. FIFIELD and AMS GROUP with Dr W. Phillips and R. Mottram (University of Edinburgh, UK).

Erosion rates of a rapidly-uplifting mountain block: The Sierra Nevada Range, Spain by Dr L.K. FIFIELD and AMS GROUP with Prof. P. Bishop and L. Reinhardt (University of Glasgow, UK).

Exposure dating of glacial landforms in Scotland, and lava flows in Hawaii by Dr L.K. FIFIELD and AMS GROUP with Prof. J. Stone (University of Washington, USA); and Prof. C. Ballantyne (University of St. Andrews, UK).

Calibration of the cosmic-ray production of chlorine-36 on iron in surface rocks by Dr L.K. FIFIELD and AMS GROUP with Prof. J. Stone (University of Washington, USA).

Plutonium as a tracer of soil movement by Dr L.K. FIFIELD and AMS GROUP with Dr G. Hancock (CSIRO Land and Water).

Fission dynamics by Prof. D.J. HINDE with Prof. Y. Abe (Kyoto University, Japan).

Fusion-fission and fusion-evaporation by Prof. D.J. HINDE with Prof. Y. El Masri and Dr Th. Keutgen (Université de Louvain, Belgium); Prof. R.J. Charity (Washington University, USA) and Prof. J.B. Natowitz (Texas A & M University, USA).

Inhibition of fusion by quasi-fission by Prof. D.J. HINDE and Dr M. DASGUPTA with Dr A. Mukherjee (Variable Energy Cyclotron Centre, Calcutta, India).

Fusion with  $^{178}\text{Hf}m2$  by Prof. D.J. HINDE and Dr M. DASGUPTA with Prof. N. Rowley (Strasbourg University, France).

Transfer and breakup of  $^9\text{Be}$  by Prof. D.J. HINDE, Dr M. DASGUPTA and Dr C.R. MORTON with Prof. B.R. Fulton (University of York, UK).

Internal conversion electron spectroscopy of  $0^+$  states by Dr T. KIBÉDI and Prof. G.D. DRACOU LIS with Dr S. Yates (University of Kentucky, USA); Dr P. Gerrett (Lawrence Livermore Laboratory, USA) and Dr R. Julin (University of Jyväskylä, Finland).

Nuclear moments and structure changes in exotic nuclei by Dr A.E. STUCHBERY with Dr P.F. Mantica (Michigan State University, USA).

Competing core and single particle excitations in the  $2_1^+$  state of  $^{44}\text{Ca}$  by Dr A.E. STUCHBERY with Prof. N. Benczer-Koller and Dr M.J. Taylor (Rutgers University, USA) and Dr C. Beausang (Yale University, USA).

Competition between proton and neutron hole excitations in  $^{96}\text{Zr}$  by Dr A.E. STUCHBERY with Dr G. Kumbartzki and

Prof. N. Benczer-Koller (Rutgers University, USA); Prof. K.-H. Speidel (Universität Bonn, Germany) and Dr C. Beausang (Yale University, USA)

Spin polarization of  $^{37}\text{K}$  produced in a single-proton pick up reaction at intermediate energies by Dr A.E. STUCHBERY with Prof. P.F. Mantica and Dr D.E. Groh (Michigan State University, USA)

Angular distributions of  $\gamma$ -rays with intermediate energy beams by Dr A.E. STUCHBERY with H. Olliver and Prof. G. Glasmacher (Michigan State University, USA)

$\gamma - \gamma$  angular correlations from reactions with intermediate-energy beams by Dr A.E. STUCHBERY with H. Olliver and Prof. T. Glasmacher (Michigan State University, USA)

Intermediate energy Coulomb excitation as a probe of nuclear structure at radioactive beam facilities by Dr A.E. STUCHBERY with Prof. C.A. Bertulani, Dr T.J. Mertzimekis and A.D. Davies (Michigan State University, USA)

Systematics of first  $2^+$  state g factors around mass 80 by Dr A.E. STUCHBERY with Dr T.J. Mertzimekis (Michigan State University, USA); Prof. N. Benczer-Koller and Dr M.J. Taylor (Rutgers University, USA)

Hyperfine interactions spectrometer by Dr A.E. STUCHBERY and Prof. A.P. BYRNE with A/Prof. D.H. Chaplin (ADFA, University of New South Wales) and Prof. H.H. Bolotin (University of Melbourne)

High-spin states in nuclei with  $A=120$  near the proton dripline by Dr A.N. WILSON with Dr J.F. Smith (Manchester University, UK); Dr C.J. Chiara (Washington University, St Louis, USA) and Dr E.S. Paul (Liverpool University, UK)

Effective operators in the no-core shell model by Dr A.N. WILSON with Prof. B.R. Barrett and Dr I. Stetcu (University of Arizona, USA)

Superdeformation in light Pb isotopes by Dr A.N. WILSON, Prof. G.D. DRACOU LIS, Dr G.J. LANE, Prof. A.P. BYRNE and Dr P.M. DAVIDSON with Dr A.O. Macchiavelli, Dr P. Fallon, Dr R. Clark and Dr A. Görgen (Lawrence Berkeley National Laboratory, USA)

## Plasma Research Laboratory

Soft X-ray measurements on H-1NF by Dr B.D. BLACKWELL and Dr J. HOWARD with A/Prof. A.D. Cheetham (University of Canberra)

Plasma switches for mobile phones by Mr P. LINARDAKIS, Dr G.G. BORG and Prof. J.H. HARRIS with Dr R. Scheer (Motorola, USA)

High brightness ion source by Prof. R.W. BOSWELL and Mr O. SUTHERLAND with FEI Company (USA)

Helicon assisted reactive evaporation (HARE) by Prof. R.W. BOSWELL and Dr C. CHARLES with Prof. D. MacKenzie and Prof. M. Bilek (University of Sydney)

Plasma deposition of platinum for fuel cells by Dr C. CHARLES and Prof. R.W. BOSWELL with Dr P. Brault and Dr A.L. Thomann (University of Orleans-CNRS, France)

Helicon source modelling by Dr C. CHARLES and Prof. R.W. BOSWELL with Prof. M. Lieberman (University of Berkeley, USA) and Associate Prof. S. Cho (Kyonggi University, Korea)

Cross platform studies of transport on tokamaks and stellarators by Prof. J.H. HARRIS and Dr M.G. SHATS with Dr A. Turnbull, Dr M. Austin and Dr T. Evans (General Atomics, USA)

Spectroscopic studies of the plasma divertor in W7-AS by Dr J. HOWARD with Dr R. König and Mr J. Chung (Max Planck Institute for Plasma Physics, Germany)

Coherence imaging on RFX reversed field pinch by Dr J. HOWARD with Dr M. Valisa (Consorzio RFX, Padova, Italy)

Development of infrared coherence imaging radiometer by Dr J. HOWARD with Dr S. Kelly (DSTO, Salisbury)

Measurement of electric field in H-1NF using laser induced fluorescence techniques by Dr J. HOWARD with Prof. B.W. Jes and Mr D. Andruczyk (University of Sydney)

Confinement studies in stellarators by Dr M.G. SHATS with Prof. K. Toi (National Institute for Fusion Science, Japan)

Turbulent structures and transport in plasmas by Dr M.G. SHATS with Prof. P.H. Diamond and Dr D. Rudakov (University of California, USA)

## Theory Cluster

### Applied Photonics Group

Planar GRIN lens by Prof. J.D. LOVE with Dr C. Cogswell (University of Colorado at Boulder, USA)

Undergraduate book on guided wave photonics by Prof. J.D. LOVE with Dr F.P. Payne (University of Oxford, UK)

EPSRC Grant - Optical Wave Propagation through Multimode Fibres and Devices by Prof. J.D. LOVE with Prof. D. Abrahams and Dr E. Perrey-Debain (University of Manchester, UK); Dr T. Munro (University of Southampton, UK); Dr D. Alwright (University of Oxford, UK); Dr J. Lawrie (Brunel University, UK) and Dr D. Gallagher (Photon Design, Oxford, UK)

Fibre pigtailling to buried channel waveguides by Prof. J.D. LOVE with Dr S. Huntington (University of Melbourne); Dr S. Law (University of Sydney) and Mr B. Gibson (La Trobe University)

Bend loss minimisation in optical fibres by Prof. J.D. LOVE and Dr A. ANKIEWICZ with J. Katsifolis (La Trobe University)

### Nonlinear Physics Group

A book for Academic Press: Optical solitons: From waveguides to photonic crystals by Prof. Y. KIVSHAR with Prof. G. Agrawal (University of Rochester, USA)

A book for Springer-Verlag: The Frenkel-Kontorova model: Concepts and methods of nonlinear physics by Prof. Y. KIVSHAR with Prof. O.M. Braun (Institute of Physics, Kiev, Ukraine)

Nonlinear effects in photonic crystals and structures by Prof. Y. KIVSHAR with Prof. C. Soukoulis (Ames Laboratories, USA)

Linear and nonlinear left-handed metamaterials by Prof. Y. KIVSHAR with Prof. C. Soukoulis (Ames Laboratories, USA)

Nonlinear photonic crystals: Concepts and applications by Prof. Y. KIVSHAR with Dr M. Scalora (US Air Force Research Laboratories, USA)



Nonlinear left-handed metamaterials by Prof. Y. KIVSHAR with Prof. A. Zharov (Institute for Physics of Microstructures, Russia)

Nonlinear localized spin waves by Prof. Y. KIVSHAR with Prof. H. Benner (Technical University of Darmstadt, Germany)

Soliton clusters and light bullets by Prof. Y. KIVSHAR with Prof. L. Torner (University of Barcelona, Spain)

Discrete solitons in all-optical switching in waveguide arrays by Prof. Y. KIVSHAR with Prof. M. Molina (University of Santiago, Chile)

Dynamics of the dispersion-managed solitons in fiber transmission systems by Prof. Y. KIVSHAR and Dr E. OSTROVSKAYA with Prof. D. Anderson and Prof. M. Lisak (Chalmers University of Technology, Sweden)

Multimode spatial optical solitons by Prof. Y. KIVSHAR and Dr E. OSTROVSKAYA with Prof. C. Denz and Dr A. Desyatnikov (University of Münster, Germany)

Multi-step harmonic generation in nonlinear photonic crystals by Prof. Y. KIVSHAR and Dr A. SUKHORUKOV with Prof. S.M. Saltiel (University of Sofia, Bulgaria)

Parametric optical conversion due to cascaded nonlinearities by Prof. Y. KIVSHAR and Dr A. SUKHORUKOV with Prof. S.M. Saltiel (University of Sofia, Bulgaria)

Self-written optical waveguides in polymerized materials by Prof. Y. KIVSHAR and Dr A. SUKHORUKOV with Prof. S. Kawata (Osaka University, Japan)

Stability analysis of solitary waves by Prof. Y. KIVSHAR and Dr A. SUKHORUKOV with Prof. D.E. Pelinovsky (McMaster University, Canada)

Discrete solitons in waveguide arrays by Prof. Y. KIVSHAR and Dr A. SUKHORUKOV with Dr R. Morandotti and Prof. S. Aitchison (University of Toronto, Canada) and Prof. Y. Silberberg (Weizmann Institute of Technology, Israel)

Discrete solitons in two-dimensional photonic lattices by Dr D. NESHEV with Prof. Z. Chen (San Francisco State University, USA)

Optical signal processing by spatial soliton arrays and nonlinear periodic structures by Dr D. NESHEV with Prof. C. Denz (Universität Münster, Germany)

Fabrication and characterization of two-dimensional triangular polymer based void-channel photonic crystals by Dr X-H. WANG with Prof. M. Gu, Dr G. Zhou, Dr M.J. Ventura and Dr M. Straub (Swinburne University of Technology, Melbourne)

Giant lamb shift in 3D photonic crystals by Dr X-H. WANG with Prof. B.Y. Gu (Chinese Academy of Science, China)

## Theoretical Physics

Modelling plasma turbulence using the DALF3 code by Dr R. BALL and Prof. R.L. DEWAR with Dr H. Sugama (National Institute for Fusion Science, Japan); Dr A. Kendl and Dr B.D. Scott (Max Planck Institute for Plasma Physics, Germany) and Mr R.W. Brown (Australian Partnership for Advanced Computing)

Low-order dynamical models for non-linear fluid behaviour in quasi two-dimensional plasmas by Dr R. BALL and Prof. R.L. DEWAR with Dr F.L. Waelbroeck (University of Texas, USA)

Levels of  $^{11}\text{N}$  by Prof. F.C. BARKER with Dr V. Guimarães (University of Sao Paulo, Brazil)

Diproton decay half-life of  $^{46}\text{Fe}$  by Prof. F.C. BARKER with Prof. B.A. Brown (Michigan State University, USA)

Combinatorics and solvable models by Prof. M.T. BATCHELOR with Dr J. de Gier (University of Melbourne); Prof. B. Nienhuis and Mr S. Mitra (University of Amsterdam, The Netherlands)

Quantum spin ladders by Prof. M.T. BATCHELOR with Dr Z. Tsuboi (University of Tokyo, Japan) and Dr K. Sakai (Tokyo Institute of Technology, Japan)

Stromalite morphogenesis by Prof. M.T. BATCHELOR with Dr R. BURNE (Faculty of Science) and Dr B. Henry (University of New South Wales)

Integrable Structure of conformal field theory by Prof. V.V. BAZHANOV with Prof. S.L. Lukyanov and Prof. A.B. Zamolodchikov (Rutgers University, USA)

Algebraic properties of solvable models by Prof. V.V. BAZHANOV with Prof. S.M. Khoroshkin (Institute for Experimental and Theoretical Physics, Russia)

Fluctuations in mesoscopic systems by Dr M.P. DAS with Dr F. Green (University of New South Wales)

Two-dimensional interacting Coulomb systems by Dr M.P. DAS with Prof. K.I. Golden (University of Vermont, USA)

Quantum chaos in the ideal-MHD spectrum for stellarators by Prof. R.L. DEWAR with Dr C. Nuehrenberg (Max Planck Institute for Plasma Physics, Germany); Prof. Z. Yoshida (University of Tokyo, Japan) and Dr T. Tatsuno (University of Maryland, USA)

Studies of turbulence and coherent structures in quasi two-dimensional plasmas and fluids by Prof. R.L. DEWAR and Dr R. BALL with Dr J.S. Frederiksen (CSIRO Atmospheric Research)

ARC special research initiative seed-funding application: Energetically open systems network study by Prof. R.L. DEWAR, Prof. M.T. BATCHELOR and Dr R. BALL with Prof. S. Benkadda (University of Provence, France); Prof. P.H. Diamond (University of California at San Diego, USA); Prof. C. Grebogi (University of Sao Paulo, Brazil); Prof. R MacKay (FRS University of Warwick, UK) and 22 participants from other Australian universities

Effects of phonons on magnetic impurities by Dr M. GULACSI with Dr A.R. Bishop (Los Alamos National Laboratory, USA) and Dr A. Bussmann-Holder (Max-Planck Institut, Germany)

Correlation effects in Kondo lattice models by Dr M. GULACSI with Prof. J. Zaanen and Dr I. McCulloch (University of Leiden, The Netherlands)

Strip formation in two-dimensional lattices by Dr M. GULACSI with Prof. Z. Gulacsi (University of Debrecen, Hungary)

Impurity effects in mesoscopic systems by Dr M. GULACSI with Prof. A. Rosengren and Mr A. Juozapavicius (Royal Institute of Technology, Sweden)

Experimental test of new theory of quantum chaos in finite many-body systems by Dr S.Y. KUN (TP/NPG) with Prof. W. Qi,

Dr T. Wedong, Mr L. Songlin, Dr J. Zhonghe, Ms D. Yuchuan (Institute of Modern Physics, Lanzhou, China); Prof. L. Zhichang, Dr L. Xiuqin, Dr Z. Kui, Dr F. Changbo, Dr L. Jiancheng, Dr J. Hua and Dr H. Guiqing (China Institute of Atomic Energy, China) and Prof. W. Greiner (Goethe University Frankfurt, Germany)

Slow phase randomisation in microscopic systems and nanostructures by Dr S.Y. KUN (TP/NPG) with Prof. Y. Abe (Kyoto University, Japan) and Prof. K. Nakamura (Osaka City University, Japan)

Cross-symmetry spectral correlations in microscopic systems and nanostructures: Beyond random-matrix theory by Dr S.Y. KUN (TP/NPG) with Dr J. Flores and Dr T. Seligman (University of Mexico, Mexico)

Schrödinger cat states in highly excited strongly interaction many-body systems by Dr S.Y. KUN (TP/NPG) and Prof. L.T. CHADDERTON (AMPL) with Dr L. Benet (University of Mexico, Mexico); Prof. S. Greiner (Goethe University Frankfurt, Germany) and Dr F. Haas (CNRS and Louis Pasteur University, Strasbourg, France)

Modelling inward rectifier potassium channels by Dr S. KUYUCAK with Dr T. Takahashi (National Institute for Physiology, Japan)

Study of ion selectivity in KcsA potassium channel by Dr S. KUYUCAK with Dr A. Baumgaertner (Forschungs Zentrum Juelich, Germany)

Antiproton scattering by Dr B.A. ROBSON with Prof. Zhang Yu-shun (Institute of High Energy Physics, China)

Fusion by Dr B.A. ROBSON with Dr B. Giraud (Service de Physique Theorique, France); Dr K.A. Amos and Dr S. Karataglidis (University of Melbourne)

Transport processes in weakly ionised gases and plasmas by Dr R.E. ROBSON with Dr R.D. White (Jes Cook University); Prof. M.A. Morrison (University of Oklahoma, USA) and Prof. Z. Petrovic (Institute of Physics, Belgrade, Serbia)

Transport Processes in amorphous semiconductors and polymers by Dr R.E. ROBSON with Prof. A. Blumen (University Freiburg, Germany) and Dr P. Meredith (University of Queensland)

Magnetotransport of two-dimensional electron gases in the presence of terahertz free-electron laser radiation by Dr W. XU with A/Prof. R.A. Lewis (University of Wollongong); Prof. P.M. Koenraad (Eindhoven University of Technology, The Netherlands) and Prof. C.J.G.M. Langerak (FOM Institute for Plasma Physics, The Netherlands)

Optoelectronic properties of semiconductor nanostructures under infrared free-electron laser radiation by Dr W. XU with Prof. L.B. Lin (Sichuan University, China)

Electronic and transport properties of spintronic systems by Dr W. XU with Prof. P. Vasilopoulos (Concordia University, Canada) and Prof. C.S. Tang (National Centre for Theoretical Sciences, Taiwan)

Electronic subband structure of the broken-gap semiconductor quantum wells by Dr W. XU with Dr P.A. Folkers (US Army Research Laboratory, USA) and Prof. G. Gumbs (City University of New York, USA)

Phase shift analysis of low energy pion-nuclear scattering data

by Dr W.S. WOOLCOCK with Dr E. Matsinos (Varian, Baden, Switzerland)

Electromagnetic corrections to the scattering parameters obtained from pionic hydrogen experiments by Dr W.S. WOOLCOCK with Prof. G. Rasche (University of Zurich, Switzerland) and Prof. G.C. Oades (University of Aarhus, Denmark)

## Research School of Social Sciences

### Demography and Sociology Program

Stochastic demographic forecasting and its applications by Dr H. BOOTH, with L. Tickle (Macquarie University), Dr L. SMITH (ACPR, ANU) and Prof R. Hyndman (Monash University).

Sexuality and gender in Southeast Asia by Prof T.H. HULL and MS I. UTOMO and Dr M Budiharsana (Ford Foundation) with Dr R. Lee (De LaSalle University, Manila, Philippines), Dr N.D. Anh (Institute of Sociology, Hanoi, Vietnam), Dr W. Im-Em (Mahidol University, Bangkok, Thailand), Dr D. Muhadjir, (Centre for Population and Policy Research, Gadjah Mada University, Yogyakarta, Indonesia), Dr T. Boellstorff (University of California, Irvine, USA), Dr D. Oetomo (Airlangga University, Surabaya, Indonesia), Mr P. Lake (Nusa Cendana University, Kupang, Indonesia), Ms E. Susanti Hudiono (Hotline Surya, Surabaya, Indonesia), Prof A. Agoes (Sriwidjaya University, Palembang, Indonesia).

The Mega-urban region project by Prof G.W. JONES with Prof M. Douglass (University of Hawaii, USA), Dr S.G.D.M. Mamas (Central Bureau of Statistics, Indonesia), Dr R. Komalasari (Institut Teknologi Bandung, Indonesia), Dr R. Racelis (University of the Philippines), M. Collado (National Statistics Office, Philippines), Dr J. Sutiprapa and Ms P. Wattana (National Economic and Social Development Board, Thailand), Ms Preeya (National Statistics Office, Thailand), Dr D.N. Anh (Hanoi, Vietnam), Dr C.-L. Tsai (Academia Sinica, Taiwan) and Dr Y. ZHU (ANU and Fujian Normal University, China).

Temporary overseas migration by Dr S.E. KHOO, Prof P. McDONALD and Dr C. VOIGT-GRAF with Prof G. Hugo (University of Adelaide).

Talking stock of the burden of AIDS in South Africa by Dr Y. KINFU-ASHAGREA with Dr K. Herbst, Dr A. Garrib, Dr C. Chimbwete, and Dr A. Vanneste (Africa Centre for Health and Population Studies, South Africa) and Dr V. Hosegood (London School of Hygiene and Tropical Medicine, UK).

South Africa's human resources and international migration by Dr D.LUCAS with Prof Kaluli-Sabiti (University of the North West, South Africa) and Prof Amaoteng (Human Sciences Research Council, Cape Town).

Fertility decline in Iran by Prof P. McDONALD with Dr M. J. Abbasi-Shavazi (University of Tehran, Iran).

Negotiating the Life Course by Prof P. McDONALD with Dr J. Baxter (University of Queensland).

Rethinking Expenditure on Children by Prof P. McDONALD with an international group of researchers coordinated by Prof T. Smeeding (Syracuse University, USA) and Prof N. Folbre (University of Massachusetts, USA).

Contribution to a book on ageing in Australia by Prof P. McDONALD with CEDA.

The life of the German writer Erich Scheurmann and translation of his main work "Der Papalagi" by Dr C. VOIGT-GRAF with Prof. E. Waddell (Laval University, Quebec City, Canada)

Health and mortality transition in Shanghai by Dr Z. ZHAO with Dr R. Smith (Cambridge University, UK), Dr X. Peng (Fudan University, China), and G. Song (Shanghai Municipal Center for Disease Control and Prevention, China).

China epidemiology project by Dr Z. ZHAO with Dr R. Smith (Cambridge University, UK).

## Economics Program

Training in Europe: Its Causes and Consequences by Prof A. BOOTH with W. Arulampalam (University of Warwick, UK) and M.L. Bryan (University of Essex, UK).

Food and Housing Insufficiency Among the Poor in the United States (panel data from USDA and SIPP data) by Dr R. BREUNIG with C. Gunderson (U.S. Department of Agriculture).

Non-Parametric Panel Data Methods by Dr R. BREUNIG with N. Roy (University of Victoria, Canada).

The Ethics of Taxation and Government Policy in the Family by Dr R. BREUNIG with Prof P. Apps (University of Sydney) and Prof R. Rees (University of Munich, Germany).

Intra Household Models and the U.S. Food Stamp Program by Dr R. BREUNIG with I. Dasgupta (Nottingham University, UK).

Markov Switching in Singaporean GDP by Dr R. BREUNIG with A. STEGMAN (RSPAS, ANU).

Productivity in Australian Industry by Dr R. BREUNIG with M.H. WONG (AJRC, ANU).

The Economic Costs of Divorce for Australian Mothers and Their Children by Prof B. CHAPMAN with Dr M. Gray (Australian Institute of Family Studies).

Using Financial Incentives and Income Contingent Penalties to Detect and Punish Collusion and Insider Trading by Prof B. CHAPMAN with R. Denniss (The Australia Institute).

Using the Tax System to Collect Fines by Prof B. CHAPMAN with A. Freiberg (University of Melbourne), J. Quiggin (University of Queensland) and D. Tait (University of Canberra).

Self Financed Training After Job Loss by Prof B. CHAPMAN with T. Crossley (McMaster University, Canada) and T. Kim.

An Income-Related Proposal for Drought Relief for Farm Business by Prof B. CHAPMAN with L. BBOTTERILL (National Europe Centre, ANU).

Credit Constraints and Training after Job Loss by Prof B. CHAPMAN with T. Crossley (McMaster University, Canada) and T. Kim.

Income Contingent loans for Higher Education: Implementation Issues for Developing Countries by Prof B. CHAPMAN with J. Nicholls (Office of Senator Kim Carr).

Learning to Live with Loans? Policy Transfer and the Funding of Higher Education by Prof B. CHAPMAN with D. Greenaway (University of Nottingham, UK).

Profit Related Loans for Economically Disadvantaged Regions by Prof B. CHAPMAN with R. Simes (ICAP, Australia).

Assessing the Immigrant/Native-Born Wealth Gap in the United States by Dr D. COBB-CLARK with Dr V. Hildebrand (McMaster University, Canada).

Sexual Harrassment in the US military by Dr D. COBB-CLARK with Dr H. Antecol, (Claremont-McKenna College, USA).

Labour supply in Urban China by Dr X. GONG with J. Zhang (Chinese University of Hong Kong).

Impact of Income Growth and Economic Reform on Nutrition Intake in Urban China: 1996-2000 by Dr X. GONG with M. XIN (RSPAS, ANU) and Y. Wang (State Statistic Bureau of China).

Persistence in Youth Labor Market Histories by Dr T. GØRGENS with Dr D. Doiron (University of New South Wales)

Unemployment Duration and Search Methods: The case of young Australians 1989-1994 by Dr T. GØRGENS with Dr. D. Doiron (University of New South Wales).

How Does Public Regulation Affect Growth? by Dr T. GØRGENS with M. Paldam and A. Würtz (University of Aarhus).

Selection and Stunting Effects of Famine by Dr T. GØRGENS with R. Vaithianathan (University of Auckland), and M. XIN (RSPAS, ANU).

Disability Inflows and Duration in Australia by Prof R.G. GREGORY with L. Cai (Melbourne Institute of Applied Economic and Social Research, University of Melbourne).

Inventories and the Business Cycles by Prof A.R. PAGAN with Prof L. Maccini (Johns Hopkins University, USA).

Matching Theory and Evidence in Policy Oriented Macroeconometric Models by Prof A.R. PAGAN with Dr G. Kapetanios (Queen Mary College, UK) and Mr A. Scott, Bank of England.

Synchronization of Cycles by Prof A.R. PAGAN with Dr. D. Harding (University of Melbourne).

Factors Affecting Year 12 Retention Across Australian States And Territories in the 1990's by Dr C. RYAN with Dr L. Watson (University of Canberra).

Green Taxes and Double Dividends in a Dynamic Economy by Dr F. SEPULVEDA with Prof G. Glomm (Indiana University, Bloomington, USA) and Asst Prof D. Kawaguchi (Tsukuba University, Japan).

Is Corruption Harmful to Growth? Evidence for a cross-section of countries by Dr F. SEPULVEDA with Asst Prof F. Mendez (University of Arkansas, USA).

Regional Income Inequality in Nepal :A Decomposition and Marginal Analyses by Dr P. THAPA with Prof S. Paul (University of Western Sydney), and G. Prenusshi (World Bank).

Age, Cohort Effects and Inequality by Dr A. ULKER with Prof D.T. Slesnick (University of Texas at Austin, USA).

Consumption Patterns around the Time of Retirement: Evidence from the Consumer Expenditure Surveys by Dr A. ULKER with Prof D.T. Slesnick (University of Texas at Austin, USA).

## History Program

Theoretical Methodological Comparisons of Oral and Written Sources in the Historical Study of Domestic Service in Australia in the Twentieth Century by Prof B.W. HIGMAN with Dr. P. Hamilton (University of Technology, Sydney).

Jaican Toponyms by Prof. B. HIGMAN with Dr Brian Hudson (Queensland University of Technology).

## Law Program (incl. Regulatory Institutions Network)

Domination, Social Democracy, Social Support and Crime: A Politics of Hope by Prof J.B. BRAITHWAITE with T. Pratt and F. Cullen, University of Cincinnati.

Meta Regulation Hope by Prof J.B. BRAITHWAITE with Dr C. Parker (University of Melbourne), Prof N. LACEY and Dr C. SCOTT, (ANU and London School of Economics).

Social Accountability In Sustainable Agriculture by Dr S. COURVILLE with Fair Trade Labelling Organisation International, Social Accountability International, International Federation of Organic Agriculture Movements and Sustainable Agriculture Network, Rainforest Alliance, Interchurch Organisation for Development Co-operation (ICCO).

Cyber Criminals on Trial: Prosecutorial and Judicial Responses to Computer Crime by Prof P. GRABOSKY with R. Smith (Australian Institute of Criminology) and G. URBAS (ANU).

Adolescent Gambling: Prevalence, Risk Factors, and Opportunities for Controls and Interventions by Prof P. GRABOSKY with Dr P. Delfabbro (Uni of Adelaide) and the ACT Gambling and Racing Commission, funded by ARC grant.

The Governance of Synthetic Drugs by Prof P. GRABOSKY and Prof C. SHEARING with the Australian Federal Police funded by the National Drug Law Enforcement Research Fund.

Policing in the 21st Century, by Prof P. GRABOSKY with Mr J. Murray (Australian Federal Police) funded by ARC/AFP grants.

Beyond Compliance: safety health and environmental regulation in the mining sector by Prof N. GUNNINGHAM with the National Occupational Health and Safety Commission.

Local capacity regulation: participatory environmental policy by Prof N. GUNNINGHAM and Prof C. SHEARING with the Victorian Environment Protection Agency.

The Implementation of Process Regulation in Occupational Health and Safety: A Comparative Study of Policy and Practice by Prof R. JOHNSTONE with Prof M. Quinlan (UNSW) funded by ARC grant.

Protecting Community Interest and Building Corporate Integrity Through Ethical Governance in the Queensland Gambling Industry. Towards a Responsible Gambling Integrity Framework by Prof J. McMILLEN with Prof C. Sampford and Dr D. Magendanz (Key Centre for Ethics, Law, Justice and Governance (KCELJAG) Griffith University).

Evaluation of the 3-hour Shutdown of NSW Clubs by Prof J. McMILLEN with ACNielsen.

Concept Testing and Market Research for the Responsible Gambling Communications Strategy by Prof J. McMILLEN with ACNielsen.

Obstacles to the Ratification of the UN Convention on Migrants' Rights in Seven Countries in the Asia-Pacific Region by Dr N. PIPER with Dr R. Iredale (University of Wollongong), funded by UNESCO.

The Comparative Dimension of Regulation Inside Government by MR C SCOTT with Prof C. Hood (All Souls College, Oxford) and Prof B.G. Peters (University of Pittsburgh), producing a book *Controlling Modern Government* under contract to Edward Elgar, expected date of submission October 2003.

Private Governance of the Public Sector by MR C SCOTT with Prof C. Hood (All Souls College Oxford), Dr M. Lodge and Dr R. Kaye, (London School of Economics).

Regulatory Innovation in High-Tech Sectors by MR C SCOTT with Dr M. Thatcher (European University Institute, Florence) and Dr M. Lodge (London School of Economics).

Project for the Transference of Technology between Canada and Argentina in the Production of Safe and Just Communities by Prof C. SHEARING with Dr J. WOOD (ANU) and the University of Toronto.

The Governance of Security in Transitional States: A Study of Policing Reform in Northern Ireland by Prof C. SHEARING with Mr M. KEMPA (ANU) and the University of Toronto.

Local Capacity Governance - South Africa by Prof C. SHEARING with University of Western Cape.

Addressing the New Governance Disparity: Mobilizing Local Knowledge and Capacity in Poor Communities - A Micro-Governance Model in South Africa by Prof C. SHEARING with J. Froestad (University of Bergen, Norway) and the University of the Western Cape.

The New Policing: Partnerships, Resources and Modes of Governance by Prof C. SHEARING and Prof P. GRABOSKY with Ms C. Nixon (Victoria Police) and Victoria Police, funded by ARC/AFP grants.

Legislative, Judicial and Popular Involvement in the Protection of Human Rights by Dr A. STONE with Prof T. Campbell (Charles Sturt University) and Prof J. Goldsworthy (Monash University).

Justice Research Consortium by Dr H. STRANG with Prof L. Sherman (University of Pennsylvania).

An Empirical Study of New Forms of Conflict Resolution and the Prevention of Repeated Delinquency by Dr H. STRANG and Prof J. BRAITHWAITE with Prof H. Nishimura and Prof Y. Hosoi (Toyo University, Tokyo).

## Political Science Program

Transparency International and the Problem of Corruption by Prof B. HINDESS with Dr P. LARMOUR (APSEG, ANU). ARC Discovery project.

Attitudes to globalisation in 18 states by Prof I. MARSH with Prof T. Inoguchi (University of Tokyo, Japan), Prof Sinnott (University College, Dublin, Rep of Ireland) and Prof J. Blondel (European University Institute).

Democratisation in seven East and Southeast Asian states by Prof I. MARSH with Prof J. Blondel (European University Institute) and Prof T. Inoguchi (University of Tokyo, Japan).

Westminster Transplanted and Westminster Implanted: Explanations for Political Change by Prof R.A.W. RHODES with Prof J. Wanna and Prof P. Weller, (Griffith University).

Narratives of British Politics by Prof R.A.W. RHODES with Prof M. Bevir, (University of California at Berkeley, USA).

Women and Westminster Compared by Prof M. SAWER with Prof M. Tremblay (University of Ottawa, Canada) and Prof L. Trimble (University of Alberta, Canada).

Market Populism in Australia and Canada by Prof M. SAWER with Prof D. Laycock (Simon Fraser University, USA).

Book on Australian Integrity Systems by Prof J. UHR with the Key Centre for Ethics (Griffith University). ARC-funded project.

International comparisons in systems of public integrity by Prof J. UHR with the Centre for Public Integrity in Washington, DC.

International comparisons of parliamentary scrutiny and oversight by Prof J. UHR with the Constitution Unit (University College, London).

### Social and Political Theory Program

Analytic Conservatism by Prof H.G. BRENNAN with Prof A. Hamlin (Economics, University of Southampton, UK).

Australia's Economic Institutions by Prof H.G. BRENNAN with Prof J. Pincus, (Economics, University of Adelaide).

Constitutional Analysis in Buchanan by Prof H.G. BRENNAN with Prof G. Eusepi, (Economics, University of Rome 1, Italy).

Discretionary Time by Prof R. GOODIN with Prof P. Saunders and Dr M. Bittman (Social Policy Research Centre, UNSW), Prof O. Kangas (Dept Social Policy, U Turku, Finland) and A. Parpo (STAKES, Helsinki, Finland).

Revealing altruism by Prof R. GOODIN, with Prof N. Folbre (University of Massachusetts, Amherst, USA).

Condorcet jury theorem by Prof R. GOODIN with Prof D. Estlund (Brown University, USA).

Special majority voting by Prof R. GOODIN, with Dr C. List (Government, London School of Economics, UK).

Oxford Handbook of Public Policy by Prof R. GOODIN co-editing with Prof M. Rein (Massachusetts Institute of Technology, USA) and M. Moran (University of Manchester).

Oxford Handbook of Contextual Political Analysis, by Prof R. GOODIN co-editing with Prof C. Tilly (Columbia University, USA).

Oxford Handbook of Political Theory by Prof J. DRYZEK with B. Honig (Northwestern University, USA) and A. Phillips (London School of Economics, UK).

States and Social Movements: Environmentalism in Four Countries by Prof J. DRYZEK with Dr. D. Schlosberg (Northern Arizona University, USA), Dr. C. Hunold (Drexel University, USA), Dr. D. Downes (Victoria Department of Education), Dr. H.-K. Hernes (University of Tromsø, Norway).

Restorative justice as deliberative democracy by Mr J PARKINSON with Dr D. Roche (Law, London School of Economics and Political Science, UK).

Multi-centrism and the Ethics of Negotiation by Dr V. PLUMWOOD with A. Weston (Elon College, North Carolina, USA).

### Australian Centre for Social Policy Research

German Parties use of the Internet for campaigning in the federal election 2002 by Dr R.GIBSON with Dr A. Roemmele (University of Mannheim, Germany).

The Internet, Political Organisations and Participation by Dr R.GIBSON with Dr. S. Ward (University of Salford, UK).

Parliamentary Representation in the Internet Age by Dr R.GIBSON with Dr. S. Ward (University of Salford, UK).

Australian Social Attitudes: the first report project by Dr R.GIBSON with Dr S. WILSON (ANU), Dr D. Denmark (University of Western Australia), Dr G. Meagher (University of Sydney), and A/Prof Mark Western (University of Qld).

*Hospitals within Healthcare Systems: An International Survey* by Dr J. HEALY. Report undertaken for World Health Organization, Geneva.

Negotiating the Life Course by Dr D. MITCHELL and Prof P. McDONALD with Dr. J. Baxter (University of Queensland), Dr. E. GRAY (ANU) and Dr A. EVANS (ANU). Funded by ARC Discovery grant.

Shareholding and Democracy by Dr S. WILSON with G. Meagher (University of Sydney).

### Australian Dictionary of Biography

Australian Dictionary of Biography On-line by Dr D. LANGMORE and Mr D. BENNET with Dr T. GRIFFITHS, P. JALLAND and D. HORNER, (ANU); Prof S. Macintyre and A/Prof J. McCalman (University of Melbourne), Prof G. Davison (Monash University), Prof J. Roe (Macquarie University); Prof S. Garton (University of Sydney); A/Prof P. Buckridge (Griffith University); Prof T. Stannage (Curtin University of Technology); Prof A. Mackinnon, (University of South Australia); Prof D. Carment (University of the Northern Territory); and the National Library of Australia.

### Centre for Tax System Integrity

Organisation culture (Australia-Bangladesh collaborative study) by Dr E. AHMED with Prof H. Begum (University of Dhaka, Bangladesh).

Attitudes toward Restorative Justice (Australia-Japan collaborative study) by Dr E. AHMED with Prof H. Tsutomu (University of Shizuoka, Japan).

Cross national school behaviour (Australia, Bangladesh, India, Israel, Italy and South Africa) by Dr E. AHMED with Prof K. Rigby (University of South Australia).

The cash economy project: international comparisons Dr V. BRAITHWAITE with Prof. F. Schneider (University of Linz).

Economic morality and citizenship by Dr V. BRAITHWAITE, with Prof. S. Karstedt (Keele University) (*project funded by the Volkswagen Foundation*).

The role of interpersonal trust and social capital in public sector governance in South Korea by Ms H. HWAYEON SHIN with Prof. Tonghee Park (Ewha Woman's University, Seoul, South Korea).

Letter project, Fair Share Program by Dr K. MURPHY with Prof L. Sherman, (Fels Institute of Governance, University of Pennsylvania) and staff at the Pennsylvania Department of Revenue, USA.

Tax morale in Australia by Dr K. MURPHY with Dr Benno Torgler (University of Basel).

Analysis of the 2000 Community Hopes, Fears and Actions Survey by Dr K. MURPHY with Dr Simon Jes (University of Exeter).

Networks of Influence project: Small to Medium Enterprises by Dr G. RAWLINGS with C. Dodd and A. Van Weert, (Australian Taxation Office).

Networks of Influence: Large Business by Dr G. RAWLINGS with S. Martin (Australian Taxation Office).

Letter project, Fair Share Program by Dr M. WENZEL with Prof L. Sherman (Fels Institute of Governance, University of Pennsylvania) and staff at the Pennsylvania Department of Revenue, USA.

### Research Evaluation and Policy Project

Intra-organisational evaluation: Are there 'least evaluable units'? by MS L. BUTLER and Dr J. GLÄSER with Dr T. Spurling (CSIRO).

Strategic assessment of research performance indicators by MS L. BUTLER and Dr G. LAUDEL with Prof D. Siddle (University of Queensland), Mr I. Lucas (Dept Education, Science and Training) and Dr T. van Leeuwen (University of Leiden).

An on-going series of articles based on joint research for A H Halsey's 'A History of Sociology in Britain: Science, Literature and Society' (forthcoming, Oxford University Press, 2004) by Dr C. DONOVAN with Professor A H Halsey (Nuffield College, Oxford University, UK).

## The John Curtin School of Medical Research

### Centre for Bioinformation Science

Development of EST pipeline and analysis of coral data by Dr. H. BOOTH with Dr Eldon Ball (RSBS, ANU), Dr David Miller (Jes Cook University), Prof. Robert Saint (RSBS, ANU & University of Adelaide), Dr Laretta Grasso (RSBS, ANU), Dr David Haywood (RSBS, ANU), Peter Maxwell.

Genetic basis of common mental disorders associated with anxiety and depression by Prof. S. EASTEAL with Prof A Jorm, (Social Psychiatry Research Unit, ANU), Prof M Prior, (Psychology Department, Melbourne University).

Genetic basis of elite athletic performance with Assoc Prof K North, (Children's Hospital, Sydney).

Minimum saturated DNA sequence with Dr Y Fang, Prof. Zongzhu Lin (Kansas State University).

Mathematical problems arising from protein folding with Prof. Jenn-Fang Hwang (Academia Sinica, Taipei).

"Evolution of DNA repair genes, and population genetics of tumour suppressor genes" by Dr. G. HUTTLEY with Prof L Nunney. (Department of Biology, University of California, Riverside).

The use of permutation tests for the empirical evaluation of genetic and environmental interactions in complex disease by MR. J. MAINDONALD with Dr Juleen Cavanagh (Canberra Hospital) and Prof. Susan Wilson.

Writing of a monograph, based around the use of the R statistical system, aimed at researchers in statistical application areas. published in August 2003 with Dr J Braun, (Department of Statistics and Actuarial Science, University of Western Ontario, Canada).

Various aspects of the analysis of microarray data from cancer studies with Dr M Gardiner-Garden, (The Garvan Institute for Medical Research).

Development of a system for facilitating the processing, on a computer cluster, of highly parallel tasks such as are common in the analysis of microarray data with Dr M Hegland, Dr O Nielsen and Z Din, (ANU Mathematical Sciences Institute).

Florence Nightingale's views on the use and role of statistical information with Dr Alice Richardson, (University of Canberra).

Methods for mortality projection. With Dr L Smith (NCEPH) and Dr H Booth (Demography, RSSS).

19th century wage rates in the English textile industry with Dr M Boot, (Faculty of Economics and Commerce).

Design of microarray studies on coral development, and data analysis with Dr Eldon Ball (RSBS, ANU), Dr David Miller (Jes Cook University), Prof. Robert Saint (RSBS, ANU & University of Adelaide), Dr Laretta Grasso (RSBS, ANU), Dr David Haywood (RSBS, ANU) and Prof. Susan Wilson.

Marsupial X Chromosome Inactivation and BRCA1 by Dr. M. WAKEFIELD with Prof C Disteche, (University of Washington, Seattle, USA).

The Kangaroo Genome Project with Prof M Renfree, (University of Melbourne); Prof D Cooper, (Macquarie University); Prof J Mattick, (Australian Genome Research Facility); Prof T Speed, (Walter and Eliza Hall Institute); Prof J Boore, (DOE Joint Genome Institute, California, USA); Dr R Wilson, (Washington University Genome Centre, St Louis, USA); Prof J Graves, (RSBS ANU).

Determining the genetic basis of Cohn's disease by Prof. S. WILSON with Dr J Cavanaugh (The Canberra Hospital).

Understanding the hereditary basis of haemochromatosis with Dr M Bassett and Dr J Cavanaugh, (The Canberra Hospital).

Determining appropriate reporting intervals for analyte concentrations with Dr P Hickman (The Canberra Hospital).

Detecting epigenetic parent of origin effects with Dr J Wicks (QIMR).

### Division of Immunology and Genetics

Determination of genetic factors responsible for multi-drug resistance in small cell lung carcinoma by Dr. J. BANYER with Dr R. Davey (Clinical Oncology, Royal North Shore Hospital, Sydney, NSW).

Ross River Virus persistent infection of macrophages: A model of viral persistence and relapse with Dr B. Lidbury (University of Canberra, Canberra, ACT).

Identification and characterisation of the genes and pathways in susceptibility to inflammatory bowel disease with Dr J. Cavanaugh. (Medical Genetics Research Unit The Canberra Hospital, Woden, ACT).

Role of 4-1BB receptor in T cell co-stimulation by Dr. E. M. BERTRAM with Prof. Tania H Watts (Department of Immunology, University of Toronto, Toronto, Canada).

Pathophysiological Significance of Reverse signalling through membrane TNF by Dr. G. CHAUDHRI with Dr. Jonathan Sedgwick (DNAX Research Institute, Palo Alto, USA).

Modulation of the immune response by virus-encoded cytokine homologs with Dr. Antonio Alcami (Division of Virology, Department of Pathology, University of Cambridge, Cambridge, UK).

Pathogenesis of Influenza Pneumonia and Flavivirus Encephalitis with A/Prof. N. King (Department of Physiology, University of Sydney, Sydney, NSW).

Presentation of poxvirus antigens by dendritic cell subsets with Drs. Gabrielle Belz and William Heath (Walter and Eliza Hall Institute, Melbourne, Vic).

Adjuvant activity of gamma inulin by Dr. P. COOPER with Dr P Fuentes (Universitat Autònoma de Barcelona, Barcelona, Spain) Dr G Guillen, (Centre for Genetic Engineering & Biotechnology, Havana, Cuba.) Dr DO Willenborg, (Neurosciences Research Unit, The Canberra Hospital, Canberra, ACT) Dr N Petrovski (Director National Health Sciences Centre, The Canberra Hospital, Woden, ACT).

The role of nitric oxide in infectious and autoimmune disease by Dr. W. B. COWDEN with Dr K Rockett (Institute of Molecular Medicine, Oxford, UK).

The role of NO in regulation of EAE by Dr. W. B. COWDEN with Dr D Willenborg (The Canberra Hospital, Woden, ACT).

The activity and mechanism of action of novel glycoprotein processing inhibitor anti-rejection agents by Dr. W. B. COWDEN with Prof. A Hibberd (Hunter Valley Hospital Transplant Unit, Newcastle, NSW).

The genetic basis of common mental disorders associated with anxiety and depression by Prof. S. EASTEAL with Prof. A. Jorm (Centre for Mental Health Research, ANU).

Role of glycosaminoglycans in the cellular uptake of viruses by Dr. C. FREEMAN with Prof. Tomas Bergstrom, (Dept of Clinical Virology University of Goteborg, Sweden).

Cleavage of heparan sulphate by mammalian heparanase by Dr C. FREEMAN with Dr J Turnbull, (Molecular Cell Biology Laboratory, School of Biosciences, University of Birmingham, Edgbaston, UK).

Role of heparanase in the pathogenesis of proteinuria by Dr C FREEMAN with Prof. David Power and Dr Vicki Levidiotis, (Austin Hospital, Melbourne, Vic).

Heparanase as an anti-tumour target by Dr. C. FREEMAN with Dr N Pavlakis, (Royal North Shore Hospital Sydney, NSW), Drs J Joyce and D Hanahan (Hormone Research Unit, University of California at San Francisco, California, USA).

A program of screening for ENU-mutations affecting lymphocyte response to antigen by Prof. C. GOODNOW with Dr R Cornall and Prof. J Bell (Oxford University, UK).

Identifying genes for immunity and tolerance. Prof. C. GOODNOW with Dr J Cyster, Prof L Lanier, Prof A Weiss. (University of California, San Francisco, USA).

Mechanisms regulating islet beta cells in diabetes by Prof. C. GOODNOW with Dr N Petrovsky (The Canberra Hospital, Woden, ACT).

Mutations affecting male fertility by Prof. C. GOODNOW with Dr Moira O'Bryan and Prof David DeKretser (Monash Institute of Reproduction and Research, Melbourne, Vic).

Mutations affecting the mammary gland by Prof. C. GOODNOW with Dr Chris Ormandy (Garvan Institute of Medical Research, Melbourne, Vic).

Role of Ikaros in blood cells by Prof. C. GOODNOW with Dr Steve Smale and Dr A Perkins (University of California Los Angeles, USA and Monash University, Melbourne, Vic).

Role of cbl genes in B and T cell tolerance by Prof. C. GOODNOW with A/Prof Wallace Langdon and Dr Christine Thien (University of Western Australia, Perth, WA).

Hearing Mutations by Prof. C. GOODNOW with Dr Henrik Dahl (Murdoch Children's Research Institute, Melbourne, Vic).

Mucin gene functions by Prof. C. GOODNOW with Dr Mike McGuckin and Dr Matt Cook (Mater Medical Research Institute, Brisbane; Phenomix Aust Pty Ltd).

Analysis of atopic disorders associated with mutations affecting antigen receptor signalling by Prof. C. GOODNOW with Dr Matt Cook and Dr Keats Nelms (Phenomix Aust Pty Ltd).

Analysis of mutations causing T cell deficiencies by Prof. C. GOODNOW with Dr Aude Fahrer (Division of Biochemistry and Molecular Biology, ANU).

Molecular mechanisms of cell invasion and angiogenesis by Dr. M. HULETT with Prof. CN Chesterman, Prof. BH Chong, Assoc. Prof. PJ Hogg, and Dr LM Khachigan (University of New South Wales Sydney, NSW) and Dr RK Andrews and Prof. MC Berndt (The Baker Medical Research Institute, Melbourne, Vic).

Cloning and characterisation of a novel tetraspan molecule on mast cells by Dr. M. HULETT with Dr GA Mackay (University of the Sunshine Coast Maroochydore, Qld).

Pathophysiological significance of reverse signalling through membrane TNF by Dr. G. KARUPIAH with Dr. Jonathan Sedgwick (DNAX Research Institute, Palo Alto, USA).

Modulation of the immune response by virus-encoded cytokine homologs by Dr. G. KARUPIAH with Dr. Antonio Alcami (Division of Virology Department of Pathology, University of Cambridge, Cambridge, UK).

Modulation of the immune response by poxvirus-encoded cytokine homologs by Dr. G. KARUPIAH with Prof. Mark Buller (Department of Molecular Microbiology and Immunology, St. Louis University, St Louis, USA).

Pathogenesis of influenza pneumonia and flavivirus encephalitis by Dr. G KARUPIAH with A/Prof. N. King (Department of Physiology University of Sydney, Sydney, NSW).

Presentation of poxvirus antigens by dendritic cell subsets by Dr. G. KARUPIAH with Drs. Gabrielle Belz and William Heath (Walter and Eliza Hall Institute, Melbourne, Vic).

Virus-mediated inhibition of ion channels in respiratory epithelia by Dr. G. KARUPIAH with Prof.s David Cook, John Young and Dr. Karl Kunzelmann (Department of Physiology University of Sydney, Sydney, NSW).

Genetic regulation of the early innate response to poxvirus infection by Dr. G. KARUPIAH with Dr. Anthony Scalzo (Department of Microbiology, University of Western Australia, Perth, WA).

Studies on protective immune responses against, and molecular determinants and mechanisms for virulence attenuation of flaviviruses belonging to the Japanese encephalitis virus serotype by Dr. M. LOBIGS with Dr R.A. Hall, (Department of Microbiology and Parasitology, University of Queensland, Brisbane, Qld).

Modulation of the MHC class I antigen processing and presentation pathway by flaviviral infection by Dr. M. LOBIGS with Dr. F. Momburg (German Cancer Research Center, Heidelberg, Germany).

Oral induced T cell tolerance by Dr. A. MULLBACHER with Dr J. Chin, Elizabeth MacArthur (AG Institute, NSW Department of Agriculture, Camden, NSW).

The role of granzyme A in fungal infection by Dr. A. MULLBACHER with Dr R. Ashman, (Oral Biology and Pathology, University of Queensland, Brisbane, Qld).

The role p-glycoprotein during acute viral infections by Dr. A. MULLBACHER with Dr Ricky Johnston (Peter MacCallum Cancer Centre, Melbourne, Vic).

The role of granzymes in viral infection by Dr. A. MULLBACHER with Dr M. Smyth (Peter MacCallum Cancer Centre, Melbourne, Vic).

The granzymes in early defence against viral infection by Dr. A. MULLBACHER with Dr J. Trapani (Peter MacCallum Cancer Centre, Melbourne, Vic).

The mechanisms of cytolytic lymphocytes in the control of viral infections by Dr. A. MULLBACHER with Dr M. Simon, (Max Planck Institute fur Immunbiologie, Freiburg, Germany).

Apoptosis in the cellular immune response by Dr. A. MULLBACHER with Dr P. Waring (Department of Chemistry, ANU).

The role of poxvirus encoded serpins in cytotoxic T cell induced apoptosis by Dr. A. MULLBACHER with Dr R. Wallich, (Department of Immunology University of Heidelberg, Heidelberg, Germany).

The role of T cell serine proteases in cell cytotoxicity and viral pathogenesis by Dr. A. MULLBACHER and Dr. M. LOBIGS with Dr M. Simon, (Max Planck Institute fur Immunbiologie, Freiburg, Germany).

Hep C and liver damage by Dr. A. MULLBACHER and Dr. M. LOBIGS with A/Prof. M.L. Bassett (Gastroenterology Unit, The Canberra Hospital, Woden, ACT).

Role of histidine-rich glycoprotein in tumour invasion and angiostatin formation by Prof. C. PARISH with Dr P Hogg and Prof C Chesterman, (School of Pathology, University of New South Wales, Sydney, NSW) and Dr J Altin (Biochemistry and Molecular Biology Division, ANU).

Role of platelets in tumour metastasis by Prof. C. PARISH with Dr M Berndt, (Baker Research Institute, Melbourne, Vic) and Prof.s C Chesterman and B Chong, (School of Pathology, University of New South Wales, Sydney, NSW).

Carbohydrate-based inhibitors of leukocyte extravasation by Prof. C. PARISH with Dr M Hickey (Department of Medicine, Monash University Melbourne, Vic).

Inhibition of vascular restenosis by PI-88 by Prof. C PARISH with Dr L Khachigian, (School of Pathology, University of New South Wales, Sydney, NSW).

Novel complement activation pathways by Prof. C. PARISH with Prof. M Walport and Dr M Botto, (Imperial College, School of Medicine, London, UK).

Novel multimeric technology for cell surface molecules by Prof. C. PARISH with Dr J Altin, (Biochemistry and Molecular Biology Division, ANU).

Development of a liposome-based TB vaccine by Prof. C. PARISH with Dr W Britton, (Centenary Institute, Sydney, NSW).

Development of liposome-based anti-cancer agents by Prof. C. PARISH with Dr P Hogg (School of Pathology University of New South Wales Sydney, NSW).

Development of pseudo-oligosaccharides as heparan sulfate mimetics by Prof. C. PARISH and Dr. C. FREEMAN with Prof. M Banwell, (Research School of Chemistry, ANU).

3D structure of mammalian heparanase by Prof. C. PARISH, Dr. C. FREEMAN and Dr. M. HULETT with Dr M Parker, (St Vincents Hospital, Melbourne, Vic).

Development of a liposome-based tumor vaccine by Prof. C. PARISH and Dr. L. SIMSON with Assoc Prof Phil Hogg (School of Pathology, University of New South Wales, Sydney, NSW) and Dr J Altin, (Biochemistry and Molecular Biology Division, ANU).

Thermographic detection systems for tumor establishment and growth by Prof. C. PARISH and Dr. L. SIMSON with Ms P McCahon and Dr B Eckersley (MIDI Medical Infrared Digital Imaging, Turner, ACT).

Immunosurveillance of MCA-induced sarcomas in TH2-immune deficient mice by Prof. C. PARISH and Dr. L. SIMSON with Assoc Prof Mark Smyth (Peter Macallum Cancer Centre, East Melbourne, Vic).

Design of viruses for the biological control of vertebrate populations by Prof. I. A. RAMSHAW with Drs R. Jackson, P.Kerr, (Division of Wildlife and Ecology, CSIRO, Canberra, ACT).

Evaluation of HIV vaccines by Prof. I. A. RAMSHAW with Dr S Kent, (University of Melbourne, Melbourne, Vic).

Design of HIV-1 vaccines by Prof. I. A. RAMSHAW with Dr D Boyle (CSIRO Australian Animal Health Laboratory, Geelong, Vic).

Evaluation of new HIV-1 vaccines by Prof. I. A. RAMSHAW with Dr R French, (Westmead Hospital, Westmead, NSW).



Development of vaccines against genetically modified viruses by Prof. I. A. RAMSHAW with Prof. A Ramsay (LSU Health Sciences Centre, New Orleans, USA).

Development of a novel TB vaccine by Prof. I. A. RAMSHAW with Dr W Britton (Centenary Institute of Cancer Medicine and Cell Biology, Sydney, NSW).

Microarray functional analysis by Dr. S. RAO with Prof. G Denyer (Sydney University, Sydney, NSW).

Computational promoter analysis by Dr. S. RAO with Dr T Werner (Genomatix, Munich, Germany).

CRel studies by Dr. S. RAO with Dr S Gerondakis (Walter and Eliza Hall Institute, Melbourne, Vic).

PKC theta studies by Dr. S. RAO with Dr D Littman (Skirball Institute of Biomolecular Medicine, New York University School of Medicine, New York, USA).

PKC studies by Dr. S. RAO with Dr J Souness (Aventis Pharma, New Jersey, USA).

Regulation of pig proislet xenograft destruction and assessment of the potential for xenozoonoses; the role of anti-PERV immunity in cellular xenograft rejection by Dr. C. J. SIMEONOVIC with Prof. Adrian Gibbs, (School of Botany and Zoology, ANU) and Clin. Assoc. Prof. J.D. Wilson (Department of Endocrinology, The Canberra Hospital, Woden, A.C.T.) and Dr Peter McCullagh, (Faculty of Veterinary Science, The University of Sydney, Camden, NSW).

Role of chemokines in the rejection of islet tissue allografts and xenografts by Dr. C. J. SIMEONOVIC with Dr William A. Kuziel, (Section of Molecular Genetics and Microbiology, The University of Texas at Austin, Austin, Texas, USA).

A) HIV Clinical trials by Dr. S. A THOMSON with Australian HIV Vaccine Consortium, Headed by Dr D. Cooper (Nat. Centre for Epidemiology and Clinical Research, University of New South Wales, Sydney, NSW).

B) Hepatitis C SAVINE by Dr. S. A. THOMSON with Dr R.A Ffrench (Pediatric Research Labs Sydney Children's Hospital Westmead, NSW) and Assoc Prof B Rawlinson (Prince of Wales Hospital Randwick, NSW) and Prof. A Lloyd (Department of Infectious Diseases, Prince of Wales Hospital Randwick, NSW).

C) Tuberculosis SAVINE by Dr. S. A. THOMSON with Prof. W. Britton and Dr Grant (Shoebriidge Centenary Institute, Camperdown, NSW).

Papilloma virus and cervical cancer polyepitope vaccine by Prof. S. THOMSON with Assoc.Prof B. Tindle, (Sir Albert Sakzewski Virus Research Centre, Brisbane, Qld).

D) Nasopharyngeal carcinoma SAVINE by Dr. S. A. THOMSON with Prof Denis Moss and Dr R.Khanna (Queensland Institute of Medical Research, Brisbane, Qld).

Inhibitory receptor expression on NK cells in patients with chronic NK lymphocytosis by Dr. H. S. WARREN with Dr CS Witt, Prof FT Christiansen (Department of Clinical Immunology and Biochemical Genetics, Royal Perth Hospital, Perth, WA).

KIR2DL4 expression and regulation by Dr. H. S. WARREN with Dr CS Witt, Prof FT Christiansen (Department of Clinical Immunology and Biochemical Genetics, Royal Perth Hospital, Perth, WA).

Analysis of NK cells and T cells in cord blood of preterm babies by Dr. H. S. WARREN with Dr Alison Kent, (Department of Neonatology, The Canberra Hospital) and Dr Jane Dahlstrom (Department of Anatomical Pathology, The Canberra Hospital, ACT).

Evaluation of radiolabelled peripheral benzodiazepine receptor (PBR) ligands in the animal model "experimental autoimmune encephalomyelitis". Potential probes for the diagnosis of "Multiple Sclerosis" by Dr. D. WILLENBORG with Dr A Katsifis (Australian Nuclear Science & Technology Organisation Lucas Heights, NSW).

### Division of Molecular Bioscience

Structural studies into the mechanism of dihydrofolate reductase by Dr M.G.CASAROTTO with Prof. G Roberts (Centre for Mechanisms of Human Toxicity, University of Leicester, UK) and Dr J Basran (Department of Biochemistry University of Leicester, UK).

Chitinase and Chitin Binding Proteins with Dr C Vargias (Biology Department, Athens University, Greece).

Peptide activators of the ryanodine receptor with Prof. I Toth (Pharmacy Department, University of Queensland, Brisbane, Qld).

Effects of drugs that block Vpu ion channels studied with NMR techniques with Prof. T Watts (Biomembrane Structure Unit, University of Oxford).

Effects of drugs that block Vpu ion channels studied with NMR techniques with Dr Wolfgang Fischer (Biomembrane Structure Unit Department of Biochemistry University of Oxford, UK).

Synthetic compounds to specifically activate or inhibit ryanodine receptor calcium ion channels with Prof Chris Easton (Research School of Chemistry, ANU).

Synthetic compounds to specifically activate or inhibit ryanodine receptor calcium ion channels with Dr Ken Robinson (Research School of Chemistry).

Ubiquitin-specific proteases in cancer by Dr R. BAKER with Associate Prof D A Gray (Ottawa Regional Cancer Centre, University of Ottawa, Ottawa, Ontario, Canada).

Zinc fingers in deubiquitinating enzymes with Dr J Mackay (School of Molecular and Microbial Biosciences, University of Sydney, Sydney NSW)

Structure of deubiquitinating enzymes with Dr M Parker (St Vincents Institute of Medical Research, Melbourne Vic).

Proteins that associate with the proteasome with Prof. John Mayer (School of Biomedical Sciences, University of Nottingham Medical School, UK).

Structural analysis of glutathione S-transferases by Prof. P. BOARD with Dr M Parker (St Vincents Medical Research Institute, Melbourne, Vic).

Function of the Zeta class GSTs with Dr MW Anders (Dept of Pharmacology and Physiology, University of Rochester Medical School, USA).

Metabolism of arsenic by glutathione transferases with Dr H V Aposhian (Dept of Molecular and Cellular Biology, University of Arizona, USA).

Parkinson's Disease, Pesticides and glutathione transferase polymorphisms with Dr D LeCouteur (Centre for Education and Research on Ageing, University of Sydney, Concord RG Hospital) and Dr G Mellick (Department of Neurology University of Queensland, Princess Alexandra Hospital, Brisbane, Qld).

Effects of DHPR Peptide Fragments on Ca Sparks by Prof. A.F. DULHUNTY with Prof. R Fink (University of Heidelberg, Heidelberg, Germany).

Effects of ryanodine receptor activation with Dr D R Laver (School of Biology and Molecularbiology, ANU).

Activation of malignant hyperthermic pig muscle with Prof. E Gallant (University of Minnesota, USA).

Bioavailability of peptides that activate ryanodine receptors with Prof. I Toth and Dr P Mollinar (University of Queensland, Brisbane, Qld).

Structure of ryanodine receptors with Dr M Parker (St Vincents Institute of Medical Research, Melbourne, Vic).

Ryanodine receptor function in myotonic dystrophy with Prof. Robert Dirksen (University of Rochester, USA) and Dr Masonori Takashashi (University of Osaka, Japan).

Structure and function of calsequestrin with Prof. Magdolina Varsanyi (University of Bochum).

Design of specific activators and inhibitors of ryanodine receptor calcium channels with Prof. Chris Easton (Research School of Chemistry, ANU).

Actions of peptides on skinned muscle fibres with Dr G Lamb (La Trobe University, Melbourne, Vic).

The characterization of allergic networks by Dr P. FOSTER with Dr M Rothenberg (Childrens Hospital Medical Centre, University of Cincinnati USA).

The role of IL-13 in asthma and inflammation with Dr A Mackenzie (Cambridge University, Cambridge, UK).

Models of chronic asthma with Prof. Kumar (University of NSW, Sydney, NSW).

S100 Protein and Eosinophils with Prof. C. Geczy (University of NSW, Sydney, NSW).

Eosinophil Degranulation with Prof. Jes Lee (Mayo Clinic, Arizona, USA).

Effects of conotoxins on sodium currents by Prof. P. GAGE with Prof. D Adams (Department of Physiology and Pharmacology, University of Queensland, Qld).

Structure of the GABAA receptor with Prof. M Parker (St Vincents Institute of Medical Research, Melbourne, Vic).

Effects of drugs that block Vpu ion channels on HIV-1 replication with Prof. T Cunningham (Westmead Hospital, NSW).

Structure of Vpu ion channels studied with NMR techniques with Prof. T Watts (Oxford, UK).

Effects of channel blocking drugs on hepatitis C virus with Dr E Gowans (The McFarlane Burnet Institute, Melbourne, Vic).

The role of IL-5 in smooth muscle hyperreactivity of the gut by Dr. K. MATTHAEI AND Prof. I.G. YOUNG with Prof. Steven Collins (Division of Gastroenterology, McMaster University, Department of Medicine, Hamilton Ontario, Canada).

The role of IL-5 and eosinophils in allergy with Dr Marc Rothenberg (Division of Pulmonary Medicine Allergy & Immunology, Children's Hospital Medical Centre, Cincinnati, USA).

The role of IL-5 in eosinophil precursor differentiation Prof. Judah Denburg (Department of Medicine, McMaster University, Hamilton, Canada).

The role of the mouse homologues of 'flightless' and 'sol' in vivo Dr Hugh Campbell (Molecular Evolution and Systematics, RSBS, ANU).

The control of inflammatory disease in vivo by Dr. K. MATTHAEI with Dr Sam Breit (Centre for Immunology, St Vincents Hospital, Sydney, NSW).

The role of mast cells in vivo with Prof. Steven Krilis (Department of Immunology Allergy & Infectious Diseases, The St George Hospital, Kogarah, NSW).

Murine filariasis infections in cytokine deficient mice with Prof. Achim Hoerauf (Department of Helminthology Bernhard Nocht Institute of Tropical Medicine, Hamburg, Germany).

Parasite infection in gene deficient mice with Dr Lindsay Dent (Head, Eosinophil Biology Laboratory, Microbiology and Immunology, School of Molecular and Biomedical Science, Adelaide University, SA).

The role of the ryanodine receptor in vivo with Prof. Paul Allen (Department of Anesthesia, Brigham and Womens Hospital, Harvard Medical School, Boston, USA).

Control of GM-CSF gene transcription in T cells by Dr. F. SHANNON with Dr Adele Holloway (Discipline of Biochemistry, University of Tasmania, Tas).

Structure function studies of the transcription factor c-Rel with Dr Tom Parks (Cellegy Ltd, San Francisco, USA).

The role of chromatin remodelling in the development of effector and memory T cells with Dr Brigitta Stockinger (National Institute of Medical Research, London, UK).

The role of c-Rel in CD28 signaling and regulatory networks in T cells with Dr Steve Gerondakis (Walter and Eliza Hall Institute of Medical Research, Melbourne, Vic).

Analysis of T cell regulatory networks with Dr Myong-Hee Sung (Biometrics Research Branch, National Cancer Institute, USA) and Prof. Ron Schwartz (Laboratory of Cellular & Molecular Immunology, National Institutes of Health, USA).

T Cell populations in b2M<sup>a</sup> vs b2M<sup>b</sup> transgenic NOD mice by Dr. R. M. SLATTERY with Dr Dale Godfrey (Monash University, Melbourne, Vic).

The role of thymic stroma in b2M<sup>a</sup> vs b2M<sup>b</sup> transgenic NOD mice with Prof. Richard Boyd (Monash Medical Centre, Melbourne, Vic).

The use of the crelox system in analysis of the role of IE in self tolerance with Dr Barbara Fazekas de St Groth (Centenary Institute, Sydney, NSW).

The development of cataracts in H-2k<sup>b</sup> NOD transgenic NOD mice with Dr David Serreze (Jackson Laboratories, Bar Harbor, USA).

The role of NKT cells in B2m<sup>a</sup> and B2m<sup>b</sup> NOD mice with Dr Alan Baxter (Comparative Genomics Centre, Jes Cook University, Townsville, Qld).

Tissue specific deletion of the Bc1 -x gene in studies of autoimmunity with Dr Jan Allison (Melbourne University, Melbourne, Vic).

Solving the crystal structure of a H2AZ containing nucleosome by Dr D. TREMETHICK with Dr K Luger (Department of Biochemistry and Molecular Biology Colorado State University, USA).

Structural biology of the beta common receptor by Prof. I. YOUNG with Dr PD Carr and Dr D Ollis (Research School of Chemistry, ANU).

### Division of Neuroscience

The role of syntaxin subtypes in synaptic transmission by Dr. J. BEKKERS with Dr Catherine Morgans (Neurological Sciences Institute, Oregon Health and Science University, Portland, USA).

Neurophysiology of a Galanin receptor knockout mouse with an epileptic phenotype with Dr Arie Jacoby, Dr Tiina Iismaa (Garvan Institute, Sydney).

Influence of the dendritic tree on the firing properties of neurons with Prof. Michael Häusser (Wolfson Institute for Biomedical Research, University College London, UK).

Synaptic dynamics in the somatosensory cortex by Dr. A. COWAN with G Fuhrmann, I Segev & M Tsodyks (Weizmann Institute and Hebrew University, Israel).

Testing behaviour of Gz knockout mice using pre pulse inhibition by Prof. I. HENDRY with Dr M van den Buuse (Mental Health Research Institute, Melbourne, Vic).

Gz coupling to dopamine D2-like receptors in vivo with Dr C D Blaha (Department of Psychology, Macquarie University, NSW).

Nerve Growth Factor retrograde axonal signalling may be modified by PI 3-kinase dependent protein associations at the nerve terminal including Centaurin-1 and Arf6 Divergent pathways linked to PH-domains explain varied roles of PI3-kinase in neurons with Dr T Cowen (Department Anatomy and Developmental Biology, Royal Free and University College Medical School, Royal Free Campus, London, UK).

Neuromuscular growth factors role of TGF-beta and GDNF in motoneurone survival and death with Dr Ian McLennan (Department of Anatomy, University of Otago, NZ).

Connexin expression in the myenteric interstitial cells of cajal and adjacent muscle layers of the guinea pig gastric antrum by Prof. C. HILL with Prof GDS Hirst and Drs HM Cousins, FR Edwards (Melbourne University, Melbourne, Vic).

Cell-cell communication in the wall of mouse mesenteric arteries Prof. C HILL AND Dr S SANDOW with Prof C Garland and Dr K Dora (University of Bath, UK).

Expression of gap junctions and connexins in hamster arteries

with Prof SS Segal and Dr R Looft-Wilson (Yale University School of Medicine, USA).

Gap junctions; the critical link in EDHF action with Dr HC Parkington, Dr M Tare, and Dr H A Coleman (Monash University, Melbourne, Vic).

Multifocal electroretinograms by Prof. T. D. LAMB with Dr A Jes and Dr T Maddess (Research School of Biological Sciences, ANU).

Human cone pigment regeneration with Omar Mahroo (Physiological Laboratory, University of Cambridge, UK).

Inverted responses in single rod photoreceptors with Jaakko Järvinen (Physiological Laboratory University of Cambridge, UK).

Molecular mechanisms of rhodopsin's shut-off at the single-photon level with Dr RD Hamer and SC Nicholas (Smith-Kettlewell Eye Research Institute, San Francisco, USA) and Dr D Tranchina (Department of Biology, New York University, USA) and PA Liebman (University of Pennsylvania, USA).

Human dark adaptation with Prof EN Pugh Jr (Department of Ophthalmology, University of Pennsylvania, USA).

Development of a Scanning Laser Ophthalmoscope for stimulation and densitometry with Dr BA Patterson (Lions Eye Institute, Perth, WA).

Preoptic-anterior hypothalamic (POAH) warming suppresses laryngeal dilator muscle activity during sleep by Prof. D. MEGIRIAN with Doctor D. McGinty (University of California, Los Angeles, USA).

Reciprocal cross-fostering of Sprague Dawley and Brown Norway rats transforms their awake ventilatory behaviour with Doctor K.P. Strohl (Case Western Reserve University, USA).

Post-hypoxic ventilatory behavior to chronic irregular intermittent hypoxia in awake Sprague Dawley and Brown Norway rats with Doctor K.P. Strohl (Case Western Reserve University, USA).

Long-term responses to chronic regular intermittent hypoxia in awake Sprague Dawley and Brown Norway rats with Doctor K.P. Strohl (Case Western Reserve University, USA).

Properties of ventral spinal interneurons by Prof. S. J. REDMAN with Dr M. Goulding (Salk Institute, San Diego, USA).

Interaction of action potentials with inhibitory synaptic events by Dr. G. J. STUART with Dr M Häusser (University College London, UK).

Distribution and properties of voltage-gated sodium channels in neurons with Prof P Ruben (Utah State University, USA) and Prof P Jonas (University Freiburg, Germany).

Multiple Mechanisms Govern the Dynamics of Depression at Neocortical Synapses by A/Prof. C STRICKER with Drs Fuhrmann & Tsodyks (Weizmann Institute of Science, Rehovot 76100, Israel) and Prof. I. Segev (Center for Neural Computation, The Hebrew University, Jerusalem, Israel).

The role of extracellular proteases in synaptic plasticity with Profs. P. Sonderegger & U. Gerber (Institute of Biochemistry & Brain Research Institute, University of Zürich, Switzerland).

Structure-function studies in the auditory system by Prof. B. WALMSLEY with Prof. R.E.W.Fyffe (Center for Brain Research, Wright State University, USA).

Voltage-gated channels in auditory neurons with Prof. I.D. Forsythe (University of Leicester, UK).

Potassium channels in auditory neurons with Prof. B. Robertson (Strathclyde University, UK).

Neuronal firing properties in congenital deafness with Prof. R. Shepherd (University of Melbourne, Vic).

### High Blood Pressure Research Unit

Glucocorticoid receptor in adrenocortical steroid-induced hypertension by Prof. J. WHITWORTH with Dr Tim Cole (Dept Biochemistry, University of Melbourne, Melbourne, Vic).

Free radicals in the pathogenesis of hypertension by Prof. J. WHITWORTH with Dr Kevin Croft & Dr Trevor Mori (Dept Medicine, University of WA, Perth, WA).

The role of cholinergic stimulation and prostaglandins in cortisol-induced hypertension in humans by Prof. J. WHITWORTH with A/Prof John Kelly & Dr George Mangos (Dept Medicine, St George Hospital, Kogarah, NSW).

Genetic determinants in hypertension by Prof. J. WHITWORTH with Prof Brian Morris & Dr R Lin (Basic & Clinical Genomics Laboratory University of Sydney, Sydney, NSW).

Glucocorticoid binding protein and Chronic Fatigue Syndrome by Prof. J. WHITWORTH with Dr David Torpy (Royal Adelaide Hospital, Adelaide, SA).

Tetrahydrobiopterin in adrenocortical steroid-induced hypertension by Prof. J. WHITWORTH with Dr John Earl (Children's Hospital, Westmead NSW) and Dr Wilf Amarego (The John Curtin School of Medical Research, ANU).

Use of microarrays in gene analysis of hypertensive animal models by Prof. J. WHITWORTH with Dr Frances Shannon (The John Curtin School of Medical Research, ANU).

Gene analysis in angiotensin II hypertensive rats by Prof. J. WHITWORTH with Prof Warwick Anderson (Monash University, Melbourne, Vic).

## The Faculties

### Faculty of Arts

Study of the *Insula del Menandro* in Pompeii, by Dr P ALLISON with Cambridge University and University of Manchester for the British Pompeii Research Committee resulting in authored manuscript, *The Insula of the Menander in Pompeii III: the Finds in Context*, submitted to Oxford University Press in July.

*Pompeian Households* by Dr P ALLISON with the Cotsen Institute for Archaeology, UCLA and The Stoa Consortium in production of text and an online, interactive, and searchable website consisting of the data used in this project and a detailed analysis of the houses.

Archaeology of the Northern Philippines, (specifically Batanes Islands and northern Luzon) by Prof. P. BELLWOOD with the National Museum of the Philippines and the Archaeological Studies Program in the University of the Philippines.

*Bronze Age textiles from Dong Son coffins in Vietnam*, ARC Linkage grant Prof. P. BELLWOOD and Dr Judy Cameron (RSPAS), with the National Museum of Australia (to commence in 2004).

DNA research in Southeast Asia by Dr. D. BULBECK with Dr Martin Richards, University of Leeds.

Analysis of phytolith data by Dr. D. BOWDERY (visiting fellow) with Dr Brad Witt, School of Natural and Rural Systems Management, Gatton Campus, University of Queensland.

Excavation of the Pulemelei mound, Samoa by Dr G. CLARK with Assoc. Profs. Paul Wallin and Helene Wallin-Martinsson, Kon-Tiki Museum, (Oslo).

Geomorphology of the Palau Island by Dr G. CLARK with Prof. William Dickinson (University of Arizona).

Historical experts and Indigenous litigants, Prof. A. CURTHOYS with Professor L. Behrendt of the University of Technology, Sydney, Professor T. Wright of the University of Newcastle, Dr A. Genovese of the University of Technology, Sydney, and Dr A. Reilly of Macquarie University; A Companion to Women's Historical Writing, with Dr M. Spongberg of Macquarie University and Professor B. Caine of Monash University; A History of Women's Liberation in Australia, with Adjunct Professor S. Magarey, Adelaide University.

Plant material from Neolithic Catalhoyuk by Dr A FAIRBAIRN (visiting fellow), funded by the Wenner-Gren Foundation and British Institute of Archaeology in Ankara.

Publications completed by Dr A FAIRBAIRN (visiting fellow), for the Çatalhöyük Research Project (CRP).

Jaquijahuana project by Mr. I. FARRINGTON with Dr David Cahill University of NSW.

Tambokancha Archaeological Project Peru, and other projects by Mr. I. FARRINGTON with Dr Julinho Zapata and colleagues from UNSAAC (Universidad Nacional de San Antonio del Cusco).

Mianmin harvesting of eaglewood by Dr D GARDNER discussions regarding future collaboration with Dr Brian Gunn, Director of the ACIAR (Australian Centre for International Agricultural

Research)/CSIRO Project on Domestication of Papua New Guinea's Indigenous Forest Species.

Political Economy and Culture of Indigenous Peoples: A Central Indian Case Study by Dr C. GREGORY with the Paramparik Bastar Shilpi Parivar in Bastar District, CG, India, funded by a large ARC grant.

Sociology and Development, Dr A. GREIG with Professor M. Turner (University of Canberra) and Professor D. Hulme (University of Manchester); ACT member of the Australian Housing and Urban Research Institute project 'A review of private rental support programs and their effectiveness in assisting tenants on low incomes', coordinated by Dr K. Jacobs, University of Tasmania.

Antipodean Visions of Transcultural Studies, Dr R. HILLMAN with Prof. Martina Wagner-Egelhaaf, University of Münster (Australian-German Joint Research Co-operation Scheme).

Research into technological changes revealed in *Capertee 3*, by Dr P HISCOCK with Dr Val Attenbrow, Senior Research Scientist, Australian Museum.

'Organisational Mindfulness', APAI award, Dr A. HOPKINS with Eraring Power Station.

'Social Network of a Highly Active HIV/STD Core Group', Dr A. KLOVDAHL with Professor Mark Williams, School of Public Health, University of Texas, The Medical Center, Houston, Texas, U.S. National Institutes of Health; Social Network of a Highly Active HIV/STD Core Group with Professor M. Williams, School of Public Health, University of Texas, The Medical Center, Houston, Texas; Cases and Places: STD-Risk Behavioral Surveillance among High-Risk Heterosexual Populations, with colleagues at the U.S. Centers for Disease Control, Johns Hopkins University, and the University of Texas, Houston; An Outbreak of Sexually Transmitted Disease in Gotland, Sweden, with colleagues at the Karolinska Institute in Stockholm and the University of Stockholm; Houston Tuberculosis Initiative, with colleagues at the Laboratory of Human Bacterial Pathogenesis, Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases, U.S. National Institutes of Health, Hamilton, Montana, and the Department of Pathology, Baylor College of Medicine, Houston, Texas; Social Networks and Adolescent Risk Behaviour with colleagues in Washington, Atlanta and San Juan Puerto Rico; Statistical Inference in Large Networks, with colleagues in the Netherlands.

*Australian Languages: Classification and the Comparative Method*, Dr H. KOCH with Ms Claire Bown, Harvard University.

Cross-cultural institution-building and development interventions: linking applied and critical approaches, by Prof F. MERLAN and Dr. A. Walker of RSPAS, ANU with ACIL Australia Pty Ltd and Aboriginal Areas Protection Authority, funded by ARC Linkage grant.

Jawoyn Cultural Texts, Dictionary and Grammar, by Prof F. MERLAN with Endangered Languages Documentation Project, School of Oriental and African Studies, London.

Movements against corporate globalisation, Dr J. MINNS with Dr T. Bramble, University of Queensland; Trade unionism and ethnicity in Taiwan with Dr R. Tierney, Yunnan University of

Finance and Economics, People's Republic of China and Charles Sturt University; Women workers and the origins of the Korean labour movement with Dr D. Fieldes, University of New South Wales; Refugee policy and outcomes in the Asia-Pacific with Ms J. Coghlan and Professor A. Wells, University of Wollongong.

Collaboration between Vassar College, Brown University (in the US) and the ANU, Dr. L. NEAVE, funded by FRGS grant.

Anthropological and Aboriginal perspectives on the Donald Thomson Collection: material culture, collecting and identity, by Dr. N. PETERSON, with Museum Victoria, funded by ARC Linkage grant.

The Contribution of South Asia to the Peopling of Australasia, by Dr P. RAGHAVAN with tertiary institutions in Delhi State, Madya Pradesh, Uttar Pradesh, Punjab. and Chandigarh.

Active citizenship of young people through electoral enrolment, Dr L. SAHA with A/Prof Murray Print, Sydney University.

InterAction Council of Former Heads of State, and adviser to the Council's Chairman, The Rt Hon. Malcolm Fraser. Prof. A. SAIKAL (Expert Adviser).

Project on Peace and Democracy in the Middle East, and co-editor of volume released in early 2003, Prof. A. SAIKAL with the United Nations University (Tokyo).

Project on 'State-Building and Security in Afghanistan and the Region' with Liechtenstein Institute on Self-Determination, Princeton University, Prof. A.SAIKAL.

Project on "State Failure and the Crisis of Governance: Making States Work", including special lecture at UN University, New York, Prof. A. SAIKAL with United Nations University/International Peace Academy (New York).

'David Unaipon: His Life and Work', Prof. A. SHOEMAKER with Prof. S. Muecke, University of Technology (Sydney).

Bookish children and parental resources. Educational attainment in 25 nations, Dr J. SIKORA with M.D.R. Evans (University of Melbourne), J. Kelley (University of Melbourne) and D.J.Treiman (UCLA).

Anthropological perspectives on ethnographic collecting by Australian colonial administrators in Papua and New Guinea and their contribution to museum collections, by Prof. M. SPRIGGS with Dr M. Smith, National Museum of Australia, funded by ARC Linkage grant.

Archaeology in Vanuatu by Prof. M. SPRIGGS with Ralph Regenvanu, Director, Vanuatu National Museum and Dr Stuart Bedford, New Zealand Historic Places Trust, funded by Pacific Biological Foundation.

Buka archaeology, by Prof. M. SPRIGGS with Dr Jim Specht, Australian Museum (Emeritus).

Bioanthropology on Buka, by Prof. M. SPRIGGS with Dr Chris Stringer, British Museum of Natural History.Lect.

Papua New Guinea research by Prof. M. SPRIGGS with Dr. Clayton Fredericksen, Charles Darwin University, Darwin.

Pioneers of Island Melanesia Project by Prof. M. SPRIGGS with Prof. Robert Foley, Cambridge University. This project is a collaborative project between Cambridge University, Oxford University, Max Plank Institute for Psycholinguistics, Max

Plank Institute of Evolutionary Anthropology and Stockholm University.

South-east Asian pottery by Prof. M. SPRIGGS with Dr Kyle Latinis, University of Singapore.

South-east Asian/Pacific pottery by Prof. M. SPRIGGS with emeritus Prof. William Dickinson, University of Arizona.

Electoral Governance in Papua New Guinea, Dr W. STANDISH with Mr Alphonse Gelu, Dr Henry Okole and Dr Orovu Sepoe of the University of Papua New Guinea.

'Fragmented families and household strategies in England, 1400-1830', Dr S. TARBIN with Dr P. Maddern, Dr P. Sharpe and Dr S. Broomhall of the University of Western Australia.

Ethics, Regulation and the Professionalisation of Occupations, Dr K. WHITE (submission of a Linkage Grant with the Centre for Applied Philosophy and Public Philosophy, Charles Sturt University and the Professional Standards Council); Human Service Organisations and Corporate Social Responsibility (submission of a Linkage Grant with the Centre for Applied Philosophy and Public Philosophy, Charles Sturt University; completed report for the Cancer Council ACT on the unmet needs of cancer patients and their carers in the ACT, a study for the Cancer Council, ACT.

Dr K. WINDLE and Mr P. R. IRELAND with Prof. Joachim Latacz, Basel University, Switzerland, as translators of the latter's *Troy and Homer* for Oxford University Press.

Dr K WINDLE with Dr David Lovell (School of Politics; Acting Rector ADFA) on the Communist International's archival records of its links with the Communist Party of Australia in the 1920 and '30s.

## Faculty of Asian Studies

BRONOWSKI, Dr. A. continuing ARC funded research co-operation with National Library of Australia – 'Asian Perceptions of Australia' project (with Faculty colleagues Prof Milner and Mr Ikeda).

CORBETT, Prof. J. managed APEC funded project (with Asia-Pacific School of Economics and Management) focused on Electronic Financial Transactions Systems.

EDWARDS, Dr. L. in conjunction with Dr Mina Roces of UNSW completed an edited volume drawing together experts on women's engagement in politics around the Asian region. The volume *Women's Suffrage in Asia* includes contributors from Canada, USA and Australia and covers 10 different Asian countries. Dr Edwards' chapters are: "Chinese women's campaigns for suffrage: nationalism, Confucianism and political agency," in L. Edwards, M. Roces (eds) *Women's Suffrage in Asia: Gender, Nationalism and Democracy*, (London: Routledge, 2004), and "Orienting the global women's suffrage movement," (joint authorship M. Roces, L. Edwards), in L. Edwards, M. Roces (eds) in L. Edwards, M. Roces (eds) *Women's Suffrage in Asia: Gender, Nationalism and Democracy*, (London: Routledge, 2004).

FEALY, Dr. G. co-edited '*Local Power and Politics in Indonesia: Decentralisation and Democratisation*', Institute of SE Asian Studies, Singapore, 2003; joint participation in international

research initiative on 'Islam in SE Asia' with Indonesian colleagues in Jakarta Dec 03 (with Faculty colleagues – Prof Milner and Professor Virginia Hooker); member 'Asia-Pacific Research Network'.

HOKKER, Prof. V. associate for Centre for the Study of Islam and Democracy, Paramadina Mulia University Jakarta – Joint Project - Study of Islam and Democratization in Indonesia; *Malaysia: Islam, Society and Politics*, co-edited (with Norani Othman) collection of essays, ISEAS, Singapore, 2003; 'Malaysia: Still "Islam and Politics"; *Malaysia: Islam, Society and Politics*, Virginia Hooker and Norani Othman (eds), Institute of Southeast Asian Studies, Singapore, 2003, pp. 16-36; 'The Way Forward: Social Science and Malaysia in the 21st Century' in *Malaysia: Islam, Society and Politics*, Virginia Hooker and Norani Othman (eds), Institute of Southeast Asian Studies, Singapore, 2003, pp.269-276; joint participation in international research initiative on 'Islam in SE Asia' with Indonesian colleagues in Jakarta Dec 03 (with Faculty colleagues – Prof Milner and Dr Fealy).

IKEDA, Mr. S. continuing ARC funded research co-operation with National Library of Australia – 'Asian Perceptions of Australia' project (with Faculty colleagues Prof Milner and Dr Broinowski).

JEFFCOTT, Dr C. developing collaboration with Dr Lewis Mayo, University of Melbourne for a more general study of current approaches to the society and culture of Song China.

MILNER, Prof A. continuing ARC funded research project on Vietnamese business culture with the St Jes Ethics Centre, Sydney and the Vietnamese Ministry of Culture; continuing cooperative research in fields of Malay and security studies, at National University of Singapore and Nanyang Technological University of Singapore; continuing research co-operation with National Library of Australia – 'Asian Perceptions of Australia' project (with Faculty colleagues Dr Broinowski and Mr Ikeda); joint participation in international research initiative on 'Islam in SE Asia' with Indonesian colleagues in Jakarta Dec 03 (with Faculty colleagues – Prof Virginia Hooker and Dr Greg Fealy); joint research project with Institute of SE Asia Studies in Singapore – multi national investigation into 'nation building' in SE Asia (with Faculty colleague – Dr Craig Reynolds).

PROUDFOOT, Dr. I. member, advisory board, 'Indonesia and the Malay World'; assisted French team from the Ecole Francaise de L'Extreme-Orient in a major research project *Histoire de la tradition en Indonesie et en Malaisie*; maintenance and enhancement of facilities provided to the world-wide scholarly community through the Malay Concordance Project. During 2003, the range of texts was increased, and a more flexible and targeted version of the project website crafted; Project has been expanded into a multifaceted resource for the study of classical Malay texts.

REYNOLDS, Dr C. collaboration with Filipino colleague - volume of essays on scholarly dissemination in selected Southeast Asian countries; supervisor, pro bono Ms Sopha Chanamool, a Thai PhD candidate, at Chulalongkorn University; joint research project with Institute of SE Asia Studies in Singapore – multi national investigation into ‘nation building’ in SE Asia (with Faculty colleague – Prof Tony Milner).

SUPOMO, Dr. S. continued his research work on the Sumanas\_ ntaka, a twelfth century Old Javanese poem of more than 1,100 stanzas, jointly with Professor Peter Worsley, Sydney University.

WELLS, Prof. K. first visiting scholar of Korea Universities new International Centre for Korean Studies.

WONG, Dr Y-W faculty representative on Selection Committee for the 2001-2002 Scholarship for Mandarin Training in Taiwan.

## Faculty of Economics and Commerce

Achieving food security in China: implications of WTO accession by Emeritus Professor R.DUNCAN and Professor R.TYERS with Australian Council for International Agricultural Research.

Efficient pooling of cross-section and time series data using Bayesian machine learning with two econometric applications by Professor F. VAHID. with Dr. D.L. Dowe (Monash University).

Inference in partially non-stationary time series models by Professor F. VAHID with Professor.D. Poskitt (Monash University).

Intergenerational transmission of dependence on income support by Dr. R. BREUNIG , Dr. D. COBB-CLARK, and Dr T. GORGENS, with Emeritus Professor R. Haveman, Professor B. Wolfe (University of Wisconsin-Madison), Professor J. Borland (University of Melbourne) and J. Pech (Department of Family and Community Services).

Managing and Modelling Risk and Complexity in the Investment and Hedge Funds Industry by, Professor T.J. O’NEILL, Dr. J. PENN, Professor T. SMITH. With Dr T. Brailsford (University of Queensland).

Stochastic Analysis in Finance by Professor R. MALLER with Dr. C.Kluppelberg (Munich University of Technology).

Transforming diabetes healthcare by Professor S.GREGOR with Dr. B.Shadbolt and others (Canberra Hospital).

## Faculty of Engineering and Information Technology

3DVOT: The virtual orientation table by MR P. VULYSTEKER with Dr Y. Caritu (Atomic Energy Commission, France).

Application of amorphous polymers to piezoelectric microsensors and microdevices by Dr Z. STACHURSKI with Prof. F. Boey (Nanyang University of Technology, Singapore).

Architecture development by Dr C. BOUGHTON and Dr C. Johnson with Ms A. Vincent (CRC for Smart Internet Technology).

Back to basics wireless receiver design by Dr H. JONES with Dr I. Fijalkow (ENSEA, University of Cergy-Pontoise, France).

Ceramic and organic materials of arts and artefacts by Dr Z. STACHURSKI with Dr B. Matuszcek-Twotek (University of Canberra).

Characterisation of microstructure and physical properties of bulk amorphous metals by Dr Z. STACHURSKI with Prof. J. Shen (Harbin University of Technology, China).

Combinatorial algorithms by Prof. B. MCKAY with Dr P. Lieby (University of Sydney).

Computational methods for enumeration of combinatorial objects, by Prof. B. MCKAY with Dr G. Brinkmann (University of Bielefeld, Germany), Dr J. Gimbert (University of Lleida, Spain), Prof. W. Myrvold (University of Victoria, Canada), and Dr G. Royle (University of Western Australia).

Electrospinning of nanofibrous materials by Dr A. LOWE with Prof. S. RamaKrishna (National University of Singapore).

## Faculty of Science

### School of Biochemistry and Molecular Biology

Tumour Angiogenesis. Dr J ALTIN with Prof P J Hogg and C Chesterman, University of New South Wales, Centre for Vascular Research.

Consequences of disulfide exchange on CD4 function. Dr J ALTIN with Prof P J Hogg, University of New South Wales, Centre for Vascular Research.

Characterising the ligands and interactions of NKR-P1A. Dr J ALTIN with Dr H Warren, Cancer Research Unit, Royal Canberra Hospital.

Using liposome agents to modulate immune function. Dr J ALTIN with Prof C R Parish, Division of Immunology and Genetics, John Curtin School of Medical Research, ANU

Targeting dendritic cells with stealth liposomes: developing novel vaccines for tuberculosis. Dr J ALTIN with Prof W Britto, Centenary Institute of Cancer Medicine and Cancer Biology, University of Sydney.

To develop a dendritic cell-targeted vaccine against melanoma for use in a phase I clinical trial. Dr J ALTIN with Lipotek Pty Ltd., Waniassa, ACT.

Molecular biology of nematodes. Dr C BEHM with Dr W N Grant (Molecular Parasitology, AgResearch Ltd, Upper Hutt, New Zealand).

Molecular biology of nematodes. Dr C BEHM with Dr S Trowell (CSIRO Division of Entomology).

Gene function of nematodes. Dr C BEHM with Dr H Campbell (RSBS, ANU).

RNA interference in parasitic nematodes. Dr C BEHM with Prof M Selkirk (Department of Biological Sciences, Imperial College, London).

Development and RNA interference in parasitic nematodes. Dr C BEHM with Prof G LeGros (Malaghan Institute of Medical Research, Wellington, New Zealand).

Neurotransmitter recycling in the brain. Dr S BRÖER with Dr C Rae, University of Sydney.

Regulation of glutamine transporters. Dr S BRÖER with Prof F Lang, University of Tübingen, Germany.

Regulation of monocarboxylate transporters. Dr S BRÖER with Prof J W Deitmer, University of Kaiserslautern, Germany.

Mechanisms of inflammation. Prof I CLARK with Prof C Geczy, Pathology Dept, University of NSW Medical School.

Mechanisms of sepsis. Prof I CLARK with Prof K Tracey, Laboratory of Biomedical Science, North Shore-LIJ Research Institute, New York.

Identifying novel immunological genes. Dr A FAHRER with Dr CC Goodnow, JCSMR.

pH regulation in the malaria parasite's digestive vacuole. Prof K KIRK with Dr PG Bray and Prof SA Ward at the Liverpool School of Tropical Medicine (UK).

Inhibitors of the novel permeation pathways in the membrane of 'malaria-infected' erythrocytes. Prof K KIRK with Dr HM Staines and Prof JC Ellory at the University of Oxford (UK).

The novel permeation pathways in the membrane of 'malaria-infected' erythrocytes. Prof K KIRK with Prof K Lingelbach at Philipps-University, Marburg (Germany) and Prof F Lang at University of Tübingen (Germany).

Neuroprotective effects of magnesium in an animal model of stroke. Dr R MARTIN with Dr B Melloni, Centre for Neuromuscular and Neurological Disorders, University of Western Australia, and Australian Neuromuscular Research Institute, Department of Neurosurgery, Sir Charles Gairdner Hospital, Nedlands, WA.

Quorum sensing perception in plants and the model nematode, *Caenorhabditis elegans*. Dr U MATHESIUS with Prof. D Bauer, Ohio State University, Ohio, USA, and Drs. C Behm and F Pellerone (BAMBI).

Auxin responses in the *Medicago truncatula*. Dr U MATHESIUS with Dr J Frugoli (Clemson University, South Carolina, USA).

Analysis of somatic embryogenesis and nodulation in *Medicago truncatula*. Dr U MATHESIUS with Prof B Rolfe (RSBS, ANU) ARC Centre of Excellence for Integrative Legume Research.

Soybean proteomics. Dr U MATHESIUS with Prof P Gresshoff (University of Queensland).

Proteomic analysis of shoot branching in pea. Dr U MATHESIUS with Dr C Beveridge (University of Queensland).

Transformation of *Medicago truncatula*. Dr U MATHESIUS with Prof R Rose (University of Newcastle).

Ectromelia virus infection of dendritic cells. Dr H O'NEILL with Dr D Eichner and Dr G Kurapiah JCSMR, ANU).

MALDITOF to identify the target of 1E5 binding. Dr H O'NEILL with Dr U Matthesius and Dr Keping Ni (ANU).

MALDITOF on exosomes. Dr H. O'NEILL with Dr U Matthesius and Dr Ben Quah (ANU).

Use of EGFP mice to investigate the possibility of a spleen-derived DC progenitor. Dr H O'NEILL with Dr K Matthaei and Dr Keping Ni (JCSMR).

Analysis of Affymetrix data. Dr H O'NEILL with Dr T O'Neill, M Martin and S Stern (ANU).

Chloroplast pigments involved in developmental signalling. Dr B POGSON with Dr C Beveridge, Univ. Qld, Brisbane, Prof O Leyser, Univ. of York (UK), C. Turnbull Univ College of London (UK), Prof B. Grimm Humboldt Univ, Berlin (Germany).

Genomics of Photoprotection in Plants. Dr B POGSON with Dr A Gilmore, (RSBS, ANU), Dr F Chow (RSBS, ANU), Prof K. Niyogi Univ. of California, Berkeley (USA), Dr S Itoh (Japan), Dr I Wilson and Dr E Dennis, CSIRO Plant Industry.

Photosynthesis and carotenoid Biosynthesis. Dr B POGSON with Prof D DellaPenna, Michigan State Univ, (USA), Dr D Phillips and Prof A Young, Liverpool John Moores University, Dr R Willows, Macquarie Univ, Ryde, NSW.

Genomics of Morphine Biosynthesis in Poppy. Dr B POGSON with Dr P Larkin and Dr I Wilson, CSIRO Plant Industry.

Carotenoid Biosynthesis in Cereals. Dr B POGSON with Dr C Howitt and Dr K Gale, CSIRO Plant Industry.

Molecular determinants of GABA<sub>A</sub> receptor function. Dr L TIERNEY with Prof P Gage (JCSMR).

Enhancement of the immunocontraceptive response of rabbits to recombinant MV-ZPB. Dr B VanLEEuwEN with Dr P Kerr, CSIRO Sustainable Ecosystems.

The transmission and infectivity of field strains of murine cytomegalovirus (MCMV) in wild mice. Dr B vanLEEuwEN with Dr L Hinds, CSIRO Sustainable Ecosystems.

PCR detection of myxoma virus in UK field isolates of mosquitoes and mites. Dr B vanLEEuwEN 2 months in the laboratory with Ms D Wilkinson from the Centre for Ecology, Evolution & Conservation, School of Biological Sciences, University of East Anglia (UK).

Cloning and characterisation of  $\beta$ -fatty acid synthesis genes. Dr N VERMA supervising a PhD student working on a joint project with Plant Industry, CSIRO.

## School of Botany and Zoology

Complementarity of resource use by C3 and C4 grasses by Dr J.ASH collaborates with Dr Sarah Bruce (Sustainable Ecosystems, CSIRO).

Collaboration in the writing of papers Dr P. BLACKWELL with Dr M Murai (Okinawa, Japan), Dr JH Christy (Smithsonian, Panama), Dr S Verhencamp (Cornell, USA) and Dr C. de Rivera (Smithsonian, USA). She also collaborated on field studies with Hanna Kokko (Helsinki, Finland) and Lesley Morrell (Glasgow, UK).

Collaborations with CSIRO Plant Industry Dr W. FOLEY and Dr Curt Brubaker, Dr Christine Stone (NSW State Forests Assoc.) Prof. Stuart McLean Dr Noel Davies and Dr Clare McArthur (University of Tasmania), Mr John Bartle (Department of Conservation and Land Management in WA), Mr Rick Willis (Australian Institute of Marine Science), Dr Ivan Lawler, Dr Chris Johnson and Dr Andrew Krockenberger (Jes Cook University), Dr Kath Handasyde (University of Melbourne), Dr Chris Harwood (CSIRO Forestry and Forest Products, Dr Peter Dann, Dr Roger Kirkwood (Phillip Island Nature Park), Dr Hideo



Etoh (Shizuoka University, Japan). He also hosted visits from Dr Alan Duncan (Scotland), Dr Jennifer Sorensen (National Science Foundation Postdoctoral Fellow from the USA), Mr Lauri Kapari (Finland), Ms Nadine Scholze (Germany), Ms Lynn Fletcher (USA). Rose Andrew (PhD student) was invited to present seminars at a number of research labs in Canada.

Collaboration in diagnostics work with PANBIO Limited Dr M. GIBBS. Work on viruses and virus genes in pig xenografts was done with researchers at the John Curtin School of Medical Research. Potyvirus evolution was investigated with researchers at Saga University, Japan, and at the Queensland University of Technology. Kingdom jumping replicons were studied with researchers from the University of Wisconsin Maddison and the Australian Centre for International and Tropical Health and Nutrition Queensland Institute of Medical Research. Methods and software for detecting genetic recombination was developed with an academic of the University of Cape Town South Africa.

Continuing his collaborative efforts with colleagues at Yale University, Dr D.GORDON is examining the genic diversity and evolution of antibiotic resistance genes in enteric bacteria, and Macquarie University, investigating the genotypic and phenotypic characteristics of *Escherichia coli* isolated from soil water and sediments.

Collaborating with Drs John Hunt and Robert Brooks of the U.N.S.W. in an ongoing ARC Discovery project Dr. M. JENNIONS. Empirical studies on field crickets were carried out at both A.N.U. and U.N.S.W. Dr. M. JENNIONS also collaborated in the writing of papers with Dr Hanna Kokko (Helsinki, Finland), AP Møller (Paris, France), M Murai (Okinawa, Japan) and JH Christy (Panama).

Active ongoing collaborations with Assoc. Prof. Dale Roberts from the University of Western Australia, Dr S. KEOGH and Dr. Paul Doughty from the Western Australian Museum and Dr. Martin Whiting from the University of Witwatersrand in South Africa. He also hosted Dr. Martin Whiting (South Africa) and Dr. Nicki Mitchell (New Zealand).

Collaborating in preparing papers with Drs Marty Leonard and Andrew Horn (Dalhousie University, Canada), Hannah Kokko (Helsinki, Finland), Rob Heinsohn (CRES, ANU) and Rufus Johnstone (University of Cambridge) Dr R. MAGRATH. G. MAURER (PhD student) established research collaborations with Wolfgang Goyman (Max-Planck Institute for Ecological Physiology), Richard Noske (Charles Darwin University), Kirsten Wolff (University of Newcastle upon Tyne), and obtained data from 10 museums in Australia and overseas.

Continued research projects with Marilyn Ball and other members of her lab in RSBS, Dr A. NICOTRA, Saul Cunningham (CSIRO Entomology), and Profs Cindi Jones and Carl Schlichting (University of Connecticut, USA).

Collaborative project on forest phylogeography Dr D. ROWELL with Drs Paul Sunnucks (LaTrobe) and Noel Tait (Macquarie). Other collaborative projects with Prof. Nick Strausfeld (University of Arizona) and Dr Judith Reinhard (RSBS) have led to the submission of manuscripts currently under review.

## Department of Chemistry

New antibiotics by Dr R. BARROW with Dr T. Mukkur and Dr M. Kotiw (University of Southern Queensland), Dr S. Tomasi (University of Rennes, France) and Dr S. Bloor (Industrial Research Ltd., Lower Hutt, New Zealand).

The singlet and triplet valence excited states of pyrimidine by Dr G. FISCHER with Dr P. Wormell (University of Western Sydney) and Dr J. Reimers (University of Sydney).

Spectroscopy of long chain carbon compounds by Dr G. FISCHER with Dr J. Maier (University of Basel).

Electronic spectroscopy of dicyanoacetylene and related molecules by Dr G. FISCHER with Dr D. Ramsay (NRC, Canada) and Prof. I. G. Ross (ANU).

Organometallics for photonics applications by Drs M. HUMPHREY and Dr M. CIFUENTES with Prof. R. Llusar (University Jaume I, Spain), Prof. A. Persoons (Catholic University of Leuven, Belgium) and Prof. A. Hunter (Youngstown State University, Ohio, USA).

Primary phosphines in the elucidation of insect toxicology of phosphine by Dr G. SALEM with Dr J. Desmarchelier (CSIRO). Studies of the Oxygen Evolving Centre of Photosystem II during the second turnover of the enzyme by Dr K. AHRLING with Dr S. Styring (Biochemistry, Lund University, Sweden).

Comparative Biophysical Studies on Photosystem II of Higher plants and Cyanobacteria by Dr R. PACE with Dr S. Styring (University of Lund, Lund, Sweden).

Complexes of secondary amides by Dr P. Angus with Prof. W. G. Jackson (Department of Chemistry, ADFA).

Combinatorial synthesis of chiral piperazines by Dr C. CHAI with Prof. A. Berkessel (University of Cologne, Germany).

Novel therapeutics for the treatment of dyskinesia in Parkinson's disease by Dr M. J. PIGGOTT with Dr J. Brotchie, Toronto Western Research Institute, Canada.

Lichenological and chemotaxonomic projects by Professor J.A. ELIX with Dr A.W. Archer (National Herbarium of New South Wales), Dr G. Kantvilas (Tasmanian Herbarium), Dr P. M. McCarthy (ABRS), Dr K. Kalb (Lichenologisches Institut, Neumarkt, Germany), Dr H.T. Lumbsch and Professor G.B. Feige (Fachbereich 9/Botanik, Universität Essen, Germany), Dr H. Mayrhofer and Dr W. Obermayer (Institut für Botanik, Karl Franzens Universität, Graz, Austria), Dr L. Ferraro (Universidad Nacional del Nordeste, Corrientes, Argentina), Professor T.H. Nash (Department of Botany, Arizona State University, Tempe, AZ, USA), Mr Jianbin Chen (Institute of Microbiology, Chinese Academy of Sciences, Beijing, China), Dr Kansri Boonpragob (Ramhamkhaeng University, Bangkok, Thailand), Prof. Mohd Wahid bin Samsudin, Prof. Laily bin Din (University Kebangsaan Malaysia, Bangi, Selangor, Malaysia), Dr Felix Schumm (Stuttgart, Germany), Ms Pauline Barwingan (St. Louis University, Baguio City, Philippines), Prof. P.M. Jørgensen, Dr T. Tønsberg and Dr D. Øvstedal (University of Bergen, Norway), Dr D.K. Upreti (National Botanical Research Institute, Lucknow, India), Professor M. Manandhar (Tribhuvan University, Kathmandu, Nepal), Dr N.J.M. Gremmen (Data Analyse Ecologie, Dwarsdrift, The Netherlands) and Prof. A. Crespo, Universidad Complutense de Madrid, Spain), Dr H.J.M.

Sipman (Freie Universität Berlin, Germany) and Dr E. Stocker-Wörgötter (University of Salzburg, Austria).

Role of the hydrophobic region AGAAAAGA in the formation of PrP[106-126] channels in planar lipid bilayers by Dr J. KOURIE with Dr R. Cappai (Melbourne).

Quinacrine and chlorpromazine act by two different mechanisms on ion channels by Dr J. KOURIE with Dr M. Salmona and Dr G. Forloni (Italy). Polyamidoamine Dendrimer (starburst), Coproporphyrin I, polypropylenimine dotriacontamine dendrimer and modulation of PrP-formed channels by Dr J. KOURIE with Dr M. Salmona and Dr G. Forloni (Italy).

Transition metals and amyloid beta protein- and prion-formed channels by Dr J. KOURIE with Dr K. Barnham and Dr C. Curtain (Melbourne).

Modulation of recombinant prion protein- and fragment-formed channels by Dr J. KOURIE with Dr D. R. Brown (UK).

Activation of small, multiply-bonded molecules using transition metal complexes by Dr R. STRANGER with Prof. K. Morokuma (Emory University, Atlanta, USA).

High temperature phase equilibria, structure and kinetic studies relevant to ilmenite upgrading processes by Dr R. STRANGER with Dr I.E. Grey (CSIRO Division of Minerals, Clayton).

Density functional study of the effect of high-spin/low-spin equilibria on metal-metal bonding in binuclear  $d^5d^5$  complexes of Fe, Ru and Os by Dr R. STRANGER with Dr T. Lovell (The Scripps Research Institute, La Jolla, California) and Dr J.E. McGrady (University of York, United Kingdom).

Density functional studies on the mechanism of chloride- and hydroxide-mediated reduction of oxomanganese-(IV) and -(V) complexes relevant to Photosystem II by Dr R. STRANGER with Prof. W.H. Armstrong (Department of Chemistry, Boston College, USA).

Density functional study of photoluminescent tetrahedral Au(I) phosphine complexes by Dr R. STRANGER with Dr G.F. Swiegiers (CSIRO Division of Molecular Science, Clayton).

Bonding studies of phosphorus group compounds exhibiting unusual coordination geometries by Dr R. STRANGER with Prof. S.B. Wild (RSC, ANU).

Spectroscopic and theoretical studies of locally aromatic hydrocarbon molecules by Dr R. STRANGER with Prof. W.W. Duley (Waterloo University, Waterloo, Canada).

Studies on the effect of complete de-gassing of the dispersion of fine oil droplets in water. Professor R.M. PASHLEY with Professor J.N. Israelachvili (University of California, Santa Barbara, USA).

Study of the removal and destruction of *Cryptosporidium* from drinking water. Professor R.M. PASHLEY with Dr H. Bustamante (Sydney Water). Department of Earth and Marine Sciences (formerly Geology).

Isotopic characteristics of the Ayu Trough. Prof R. ARCULUS with Dr. J. Woodhead, University of Melbourne,

Continuing supervision of PhD student by Dr. S.COX, (University of Newcastle). He is also collaborating with Dr R. Offler, University of Newcastle, on dating of fault rocks in the Sydney Basin.

Successful bid to obtain funds for an ARC Network called 'Ocean Discovery Network' by Prof. P. DEDECKKER which also involved Prof. R. Arculus and Dr. B. Opdyke from our Department, plus numerous other universities and other government agencies. He also collaborates with Prof. J. Dodson (University of Western Australia) on a large ARC grant; additional collaboration with Prof. J. Cann (University of South Australia) on marine cores offshore Kangaroo Island; with Dr S. van der Kaars (Monash University) on palynology from deep-sea cores; with Prof. A. R. Chivas [and many other international institutions] on a bid with the IODP to core the Gulf of Carpentaria and the Arafura Sea.

The detection and location of microseismic events produced during the hydraulic stimulation of deep geothermal wells. Prof R. ARCULUS.

Studying fluid flow in collisional orogens Dr P.CHOPRA with Assoc Prof H. Asanuma and Prof H. Niitsuma (Graduate School of Environmental Studies, Tohoku University, Japan)

ARC project Dr S. COX: as part of an, is continuing a collaboration with Dr N. Mancktelow (ETH-Zurich), Dr A.-M. Boullier (Université Joseph Fourier, Grenoble), Dr Y. Rolland (Université de Nice) and Dr G Pennachioni (Università di Padova);

Modelling of fluid flow in fault networks Dr S. COX commenced a collaboration with Dr S. Miller (ETH-Zurich).

Preparing an invited review of aspects fluid flow in hydrothermal ore systems in the mid- to deep crust for the 100th Anniversary volume of *Economic Geology*. Dr S. COX is collaborating with G. Dipple, (University of British Columbia).

Cruise co-leader on the Marion Dufresne offshore Kangaroo Island - Prof. P. DEDECKKER [AUSCAN 2003] saw participation with colleagues from France [Dr S. Schmidt (Bordeaux)], Dr E. Michel (Gif-sur-Yvette), Germany Dr T. Jellinek (Senckenberg Museum), USA Dr T. Rathburn, (Indiana State University).

Collaboration with Prof E. Ito University of Minnesota and Dr R. Forester, USGS, Denver on ostracod geochemistry, and Dr K. Swanson (University of Canterbury) and Dr A. Sturm (Geomar, Germany) on Quaternary microfaunas from the Tasman Sea - Prof P. DEDECKKER.

Ostracod fauna from the Kerguelen Plateau. Prof .P. DEDECKKER work with Dr M. Ayress (UK) .

Collaboration with Dr K. Shiraishi, (National Institute of Polar Research in Japan) and Professor Y. Hiroi (Chiba University), on Antarctic granulites and trace elements Prof. D. ELLIS.

Completion of the hydrogeochemical anomaly map of the Curnamona Sub-basin which indicates areas of buried mineralisation potential; successful laboratory P-T vessel experimental and kinetic reaction path modelling runs of water-gas-rock interactions in CO<sub>2</sub> storage D. KIRSTE.

Au/Cu solubilities in arc melts Dr. J. MAVROGENES. Collaboration with Dr M. Pichavant (CNRS in France) on went also on a speaking tour in New Zealand and carried out fieldwork in South Africa.

Margins program off the Gulf of Papua Dr B. OPDYKE: was funded by the NSF with researchers from (Rice University,

Louisiana State University, and The University of Miami) to participate in the MARGINS program off the Gulf of Papua. also has a continuing project, funded by the Royal Geographic Society.

Quantifying the mass of global shallow water carbonates. Dr B. OPDYKE with Dr. P. Wilson (University of Southampton). This work took place around Lizard Island in the Northern Great Barrier Reef.

The biogeochemical weathering of granite and iron biomineralization Dr S. WELCH with Dr Jill Banfield and two students (University of California, Berkeley).

## Department of Mathematics

Studied groups irredundantly covered by  $n$  subgroups with particular emphasis on small values of  $n$  in the hope of removing reliance on the classification of finite simple groups that previously developed methods do by Dr R.A. BRYCE with Dr L. Serena (Florence).

Studied products of finite groups, groups in which the subgroups belong to a restricted class by Dr J. COSSEY with A Ballester Bolinches (Valencia, Spain) and R Esteban Romero (Valencia, Spain).

The normal closure of permutable subgroups by Dr J. COSSEY with S. Stonehewer (Warwick, UK).

The structure of a class of groups which arise in the theory of loops and groups by Dr J. COSSEY with A Ali.

Constructed a partial parametrix for the time-dependent Schroedinger equation on asymptotically conic non-trapping manifolds and gave a sharp propagation theorem for singularities of solutions by Dr A. HASSELL with Jared Wunsch (Northwestern).

Proved a Morawetz inequality and Strichartz estimate for the Schroedinger equation on asymptotically conic non-trapping manifolds by Dr A. HASSELL with Jared Wunsch and Terence Tao (ANU and UCLA).

Investigated scattering theory for Schroedinger operators with potentials which are symbolic at infinity but not decaying at infinity; obtained general result where previously we had results only for the two dimensional case by Dr A. HASSELL with Andras Vasy (MIT) and Richard Melrose (MIT).

Investigated theoretical aspects of new finite element procedures for image segmentation by Prof J. HUTCHINSON with Dr Micha Fried (Freiburg, Germany).

Developed the theory of  $V$ -variable fractals and superfractals by Prof J. HUTCHINSON with M. Barnsley (Georgia, USA) and O. Stenflo (Stockholm, Sweden).

Description of all proper holomorphic mappings between Reinhardt domains in complex space by Dr A.V. ISAEV with N. Kruzhilin (Steklov Mathematical Institute, Moscow).

Generalized amenability by Dr R.J. LOY with F Ghahramani (Manitoba, Canada).

Compact right topological groups by Dr R.J. LOY with A.T-M. Lau (Alberta, Canada).

Closed ideal lattices by Dr R.J. LOY with N. Laustsen (Copenhagen, Denmark).

Rheology by Dr R.J. LOY with R.S. Anderssen (CSIRO).

Finite  $p$ -groups with normal normalisers ( $p > 3$ ) by Dr E.A. ORMEROD with G. Parmeggiani (Padova, Italy).

Development of a Storm Surge Model by Dr S. ROBERTS with Christopher Zoppou (Geosciences Australia), Ole Nielsen (Geosciences Australia) and Duncan Gray (Geosciences Australia).

Data Mining using Sparse Grids by Dr S. ROBERTS with Markus Hegland (ANU), Shaun Laffan (UNSW), Howard Silcock (ANU) and Michael Griebel (Institut fr Angewandte Mathematik, Bonn).

Thin Plate Smoothing Splines by Dr S. ROBERTS with Linda Stals (ANU).

Flow over a step by Dr S. ROBERTS with Prof Mark Sussman (Florida State University) and E-G Puckett (UC Davis).

Observation program on NASA's Far Ultraviolet Spectroscopic Explorer by Dr S. VENNES with J Dupuis (Johns Hopkins, USA).

Understanding the re-ionisation of the universe by Prof D. WICKRAMASINGHE with Prof R. Wehrse (Heidelberg, Germany).

## School of Psychology

Canberra Hospital/ ANU Medical School. Prof D. BYRNE with Professor Robin-Stuart-Harris,

Effect of motion on perceived spatial location Dr M. EDWARDS with Prof. David Badcock, (Dept. of Psychology, UWA).

Interaction of cues in stereo-depth smoothing Dr M. EDWARDS with Prof. Clifton Schor, (School of Optometry, UC Berkeley, USA).

Interaction of first- and second-order motion signals Dr M. EDWARDS with Dr. Shin'ya Nishida, (NTT Basic Research Laboratories, Japan).

Group processes in extreme environments. Joint research project undertaken by Dr K. REYNOLDS and Dr R. EGGINS in collaboration with Dr Steve Dawson (Mars Society Australia) at Mars Desert Research Station (Utah, February 2003).

Time-series analysis of linkages between heroin supply indicators and crime and health statistics by Dr M. SMITHSON with the Australian Federal Police.

Social identity, leadership and power in groups and organizations by Prof. J. TURNER and Dr K. REYNOLDS with Prof. S. Alex Haslam, (School of Psychology, University of Exeter, UK).

Randomised Control Trial for internet based intervention for depression in a school setting by Dr R.O'KEARNEY and Mr Malcolm Gibson and Ms Carmel Kang, with Centre for Mental Health Research.

Evaluation of use of Advanced Agreements for mental health consumers by Dr R. O'KEARNEY and Bronwyn Wauchope, with Amanda Urbanc, (Community Services, Mental Health ACT) and Linette Bone Consumer Advocate, (Mental Health ACT).

Illicit Drug Reporting Survey and the Party Drugs Initiative by Dr J. WARD with the National Drug and Alcohol Research Centre (UNSW).

## Department of Physics

Quantum Imaging by Prof. H.A. BACHOR and Dr. P.K. LAM with Prof. C. Fabre (Universite Paris VI, France) as part of the QUANTIM European Network.

Quantum cryptography and quantum noise reduction by Prof. H.A. BACHOR and Dr. P.K. LAM with Prof. G. Leuchs (Universität Erlangen-Nürnberg, Germany) as part of the QUICOV European Network.

Light detection and generation below the quantum noise limit by Prof. H.A. BACHOR and Dr P.K. LAM with Dr R.Schnabel and Prof. K.Danzmann (Universitaet Hannover, Germany).

Development of an Ion Implanter for Radioisotopes by Dr A.P. BYRNE with Dr H. Timmers (University College, ADFA, UNSW).

Spectroscopy of neutron deficient lead and thallium nuclei by Dr A.P. BYRNE, Dr A.M. BAXTER with Prof. G.D. Dracoulis, Dr G.J. Lane (RSPHYSSE) and Dr A.O. Macchiavelli (LBL, Berkeley CA).

Diffuse damage in semiconductors by Dr A.P. BYRNE with Dr M.C. Ridgway (RSPHYSSE), and Dr R. Vianden (ISKP, Universitaet Bonn, Germany).

Superallowed Beta decays by Dr A.P. BYRNE with A. Prof. P.H. Barker (University of Auckland, NZ).

Neutron rich trans-lead nuclei using radioactive beams by Dr A.P. BYRNE with Prof. G.D. Dracoulis, Dr G.J. Lane, (RSPHYSSE) and Prof. P.M. Walker (University of Surrey, UK); PAC studies of materials by Dr A.P. BYRNE with Dr M.C. Ridgway (RSPHYSSE) and Dr R. Vianden (ISKP Universitaet Bonn, Germany).

Superallowed Fermi decays by Dr A.P. BYRNE with A. Prof P.H. Barker (University of Auckland, NZ).

Realistic shell model calculations for trans-lead nuclei by Dr A.P. BYRNE with Prof. G.D. Dracoulis and Dr G.J. Lane (RSPHYSSE) and Prof A. Covello (University of Naples, Italy).

Shape co-existence in very neutron-deficient Pb nuclei by Dr A.P. BYRNE with Prof. G.D. Dracoulis, Dr G.J. Lane, Dr T. Kibédi (RSPHYSSE) and Dr J. Gerl (GST, Germany) and Dr A. Andreyev (University of Liverpool, UK).

Structure of multi-quasiparticle isomers in  $^{176}\text{Lu}$  and  $^{177}\text{Lu}$  by Dr A.P. BYRNE with Prof. G.D. Dracoulis, Dr G.J. Lane, Dr T. Kibédi (RSPHYSSE) and Dr F.G. Kondev and Dr R. Janssens (Argonne National Laboratory, USA).

Hyperfine interactions spectrometer by Dr A.P. BYRNE with Dr A.E. Stuchbery (RSPHYSSE) and Ass.Prof D.H. Chaplin (ADFA, UNSW).

Red quasars from the two micron all sky survey by Dr P. FRANCIS with Drs. R. Cutri and B. Nelson (Caltech).

Galaxy clusters in the high redshift universe by Dr P. FRANCIS with Drs B.Woodgate and H. Teplitz (NASA Goddard Space-Flight Center), G. Williger (Johns Hopkins University) and P. Palunas (University of Texas, Austin).

Imaging Gas at High Redshifts, by Dr P FRANCIS with Dr J Bland-Hawthorn (AAO).

High Redshift Radio Galaxies with Flat Radio Spectra, by Dr P. FRANCIS with Dr R.L. Webster (Melbourne), Dr M.E. Whiting, Dr S. Curran, Dr J. Webb (UNSW) and Dr M. Murphy (IoA Cambridge).

Arm locking for the Laser Interferometer Space Antenna, by Dr. GRAY and Prof McCLELLAND with Dr. Shaddock (JPL).

Development of XMDS numerical package for high-performance integration by Dr J.J. HOPE with Dr P.D. Drummond and Mr P. Cochrane (University of Queensland).

Continuous evaporation as a pumping method for an atom laser by Dr J.J. HOPE with Dr M.J. Davis (University of Queensland).

Single mode quantum statistical model of an atom laser by Dr J.J. HOPE with Mr A.S. Bradley (Victoria University,NZ).

Scramjet flows by Dr A.F.H HOUWING with Dr R. Boyce and Dr N. Mudford, (School of Aerospace and Mechanical Engineering at the Australian Defence Force Academy, UNSW) and Dr M. Gruber (Write Patterson Airforce Base, USA).

Generation of quantum entanglement and quantum information research by Dr. P.K. LAM with Dr. T.C. Ralph (University of Queensland).

Formation of a '10 dB' consortium to generate highly squeezed light at low frequency by Dr. P.K. LAM, Prof. D.E. McClelland and Dr. M.B. Gray with Prof. S. Whitcomb (California Institute of Technology) and Prof. N. Mavalvala (Massachusetts Institute of Technology).

Development of quantum secret sharing protocols by Dr. P.K. Lam with Prof. B.C. Sanders (University of Calgary, Canada).

The ACIGA High Optical Power Test Facility by Prof D.E. McCLELLAND, Dr S.M. SCOTT, and Dr M.B. GRAY with Prof Blair, Dr. Ju, (University of Western Australia), Prof Munch, Dr Veitch, (AU); Dr Zhao, ECU; Dr. Lun, (Monash); Prof Barish, (LIGO, Caltech); Dr. Shoemaker, (LIGO, MIT); Prof Reitze (University of Florida).

Output Optics for A/LIGO, by Prof D.E. McCLELLAND with Prof Strain (Glasgow University).

The Standard Quantum Limit and Beyond, by Prof D.E. McCLELLAND and Dr. LAM with Prof Mavalvala (MIT) and Dr. Whitcomb (Caltech).

Gravitational wave detection by Prof. D.E. McCLELLAND and Dr S.M. SCOTT (Japanese projects TAMA and LCGT).

Theory of topological structures in spinor Bose-Einstein condensates by Dr.C SAVAGE with Dr J. Ruostekoski, (Dept. of Physical Sciences, University of Hertfordshire, UK).

Gravitational wave detection data analysis by Dr S.M. SCOTT and Prof D.E. McCLELLAND with LIGO Laboratory, US and the LIGO Science Collaboration.

The development of visualisation software for general relativity by Dr S.M. SCOTT with Dr B.J.K. Evans (ANUSF).

Boundary constructions for space-time by Dr S.M. SCOTT with Dr P. Szekeres, (University of Adelaide) and Dr M.J.S.L Ashley (Pennsylvania State University).

Initial cosmological singularities by Dr S.M. SCOTT with Dr G.B. Ericksson, (University of Queensland).

Varying light-speed cosmologies by Dr S.M. SCOTT with Dr G. Bicknell (RSAA).

## School of Resources, Environment and Society (including ICAM)

Caring for Cultural Country: Tourist management and cultural landscape protection at Uluru-Kata Tjuta by Dr R BAKER with Dr C Robinson (Australian Defence Force Academe with Environment Australia and the traditional owners of Uluru Kata Tjuta National Park).

Improving forecasts of sustainable yield in Victorian forests, Dr C BRACK, W. Merritt and (Department of Sustainability and Environment, Victoria).

Prediction and inventory of carbon sequestration and biomass change on a spatial and temporal basis at a variety of scales by Dr C BRACK, Dr G RICHARDS, Mr Robert WATERWORTH and (the Australian Greenhouse Office).

Implementing an Australian fire regime model in a northern Rocky Mountain Ecosystem by Dr G CARY with Dr Bob Keane, (USDA forest service).

Global change and landscape fires by Dr G CARY with colleagues from the (USDA Forest Service, Canadian Forest Service, University of Maryland) and The ANU.

Landscape fire modelling by Dr G CARY and Ms K KING with (the Tasmanian Parks and Wildlife Service).

Aeolian dust, by Dr R GREENE (with staff from the United States Department of Agriculture and University of Nebraska, Lincoln), and (staff from the CRC for Landscape Environments and Mineral Exploration).

P release from strongly fixing krasnozem soils, by Dr R GREENE with Dr P Hocking (CSIRO Division of Plant Industry).

Cover crops for decreased P transport and increased efficiency of P application, by Dr R GREENE and Dr P Hocking (SCA and Robertson Landcare Group).

Growth stresses and strains in hardwood trees, logs and sawn timber by Mr K GROVES with Jaakko Poyry (Consulting P L JPC) and (Forest and Wood Products Research and Development Corporation -FWPRDC).

Regrowth and plantation hardwood sawmilling practices in the Eastern States of Australia by Mr K GROVES with Jaakko Poyry (Consulting P L - JPC).

Deterrence and Environmental Protection: Professor N GUNNINGHAM, with Professor R Kagan and Dr D Thornton, (University of California, Berkeley , for US Environmental Protection Agency).

Silviculture of sub-tropical plantation grown eucalypts by Dr R N JES and Mr P ALCORN, with Dr Adrienne Nicotra of BOZO, Dr Geoff Smith and Dr Dane Thomas of SF-NSW and Professor Juergen Bauhus (Institute of Silviculture, University of Freiburg).

Inheritance of wood properties in Slash x Caribbean Pine hybrids, by Mr D P KAIN with Professor P J KANOWSKI; Dr P D EVANS; Dr M J Dieters, (Queensland Forestry Research Institute), Dr K J Harding, (Queensland Forestry Research Institute) and the (Forest and Wood Products Research and Development Corporation).

Breeding strategies for solid wood production from *Eucalyptus grandis*, by Mr K M A BANDARA, with Professor P J KANOWSKI; Dr C Harwood, (CSIRO Forestry and Forest Products).

Variation in wood density of interprovenance *Pinus radiata* hybrids, by Ms G KENNEDY, with Professor P J KANOWSKI and Dr C Matheson, (CSIRO Forestry and Forest Products).

Remote sensing of dry sclerophyll forest condition, by Ms C SIMPSON, with Professor P J KANOWSKI, Dr B J TURNER, Dr B LEES, Dr J FIELD; Dr A Ziegler and Dr D Freudenburg, (CSIRO Sustainable Ecosystems) and (Rural Industries Research and Development Corporation).

Development of hybrid eucalypts for marginal lands in SE Australia and South Africa, by Professor P J KANOWSKI and Mr DP KAIN, with (CSIRO Forestry and Forest Products), (CSIR South Africa), (State Forests NSW), (University of Stellenbosch), and (Australian Council for International Agricultural Research).

Reviewing Australia's experience of forest plantation privatisation, by Ms J SCHIRMER and Professor P J KANOWSKI, (for the International Institute for Environment & Development).

The socio-economic and political ecology of decentralization in the forestry sector, by Ms DAJU RESOSUDARMO, with Professor P J KANOWSKI, Dr M KEEN, Professor A MACINTYRE, and (The Centre for International Forestry Research).

The spatial distribution and decay function of "fear of crime" by Dr B LEES with NSW Police, Dr Shaw (UNSW) and Dr Devery (Charles Sturt).

Decision support strategies by Dr B LEES with Professor Aspinall (Montana), Dr Hill (BRS) and (ACT Government).

WildCountry Science Project by Dr B MACKEY with Dr John Woinaski (Northern Territory Government), Dr Jann Williams (La Trobe University), Richard Hobbs (Murdoch), (South Australian Department of Environment and Heritage), Emeritus Professor Michael Soule (USA).

Nitrate retention and transport under banana and sugarcane production systems, and offsite pollution optimisation by Dr S MAHENDRARAJAH with Dr V Rasiyah, (Department Natural Resources and Mines, Mareeba).

Transfer function model applications to demand forecasting of forest products by Dr S MAHENDRARAJAH with Dr K Jegasothy, (Department Applied Economics, Victoria University).

Forest product markets and their integration in India by Dr S MAHENDRARAJAH with Dr U N Bhati and Professor R Jha, (Australia South Asia Research Centre, ANU).

Reclaiming the tree of life - Coconut, by Dr S MAHENDRARAJAH with Dr D M Etherington, (Kokonut Pacific Pty Ltd, ACT).

Valuation of environmental resources under distorted factor markets by Dr S MAHENDRARAJAH with Professor D J Thampapillai, (Graduate School of the Environment, Macquarie University).

Economics of firewood plantations in Nepal by Dr S MAHENDRARAJAH with Surendra Karna, (Ministry of Forests, Kathmandu).

Farm Forestry for Green and Gold: Australian experiences of linking biodiversity to commercial forestry by Dr D RACE with Dr D Freudenberger, (CSIRO Sustainable Ecosystems).

Forest company responses to community concerns by Dr D RACE, Ms J SCHIRMER and Mr I Bail, (Timbercorp), with the (CRC for Sustainable Production Forestry).

Forest company-community partnerships in Indonesia and South Africa by Dr D RACE with Ms A Nawir, (CIFOR), Mr D. Rohandi, (FORDA), and Dr I Grundy, the (University of Stellenbosch).

A breeding program for eucalypt oil production by Dr M.SLEE with (G.R.Davis Pty Ltd at West Wyalong NSW).

Tracking of long-distance flying-fox movements by satellite by Dr C R TIDEMANN with Dr J E Nelson (Monash University).

Modelling of flying-fox population demographics by Dr C R TIDEMANN with Dr M J Vardon (Australian Bureau of Statistics) and Dr G M O'Brien (University of New England).

Humane control of pest birds by Dr C R TIDEMANN with Ms J McGuinness (Canberra Ornithologists Group) and Dr M Evans (Environment ACT).

Conservation of woodland birds in Cowra Shire by Dr C R TIDEMANN with honours student Ms C Wilson, Dr J Baker (Birds Australia) and Mr J Reid (CSIRO Sustainable Ecosystems).

Research on assessing the extent, ecological condition, and tangible and intangible forest values of privately-owned dry sclerophyll forests by Dr B TURNER, Dr J FIELD and Dr J BANKS with (Southern Tablelands Farm Forestry Network), (Rural Industries Research & Development Corporation), (CSIRO) and Australian Greenhouse Office.

Management of Diffuse Pollutants in the Ben Chifley Catchment NSW by Dr L.T.H. NEWHAM, with (NSW Environmental Protection Authority, Department of Infrastructure, Planning and Natural Resources and Bathurst City Council).

Development of a Decision Support System for Water Allocation in the Gwydir and Namoi Valleys by Dr R. LETCHER (with NSW Dept Agriculture and the Cotton Research and Development Corporation).

Impact of changing agroforestry landscape mosaics on catchment water yield and quality in Southeast Asia by Dr B. CROKE with Dr D Post (CSIRO) and Dr M. van Noordwijk (International Centre for Research in Agroforestry).

Improved Water Management Incorporating Risk and Climate Awareness by Prof A. JAKEMAN, Dr R.A. LETCHER and MS. S.M. CUDDY with Dr F Chiew (Uni Melb) and Ms B. Nancarrow (CSIRO).

Development of a catchment contaminant cycle model for stakeholder use by Dr L. NEWHAM with Dr K Rutherford (CSIRO).

Development of a Regional Integrated Management Information System by Dr B. CROKE with Mr G Walker (CSIRO) and Mr L Lynch (NSW DIPNR).

Tools to achieve landscape redesign giving environmental/economic targets project by Prof A. JAKEMAN with Dr B Watson (WAREC) and Mr L Lynch (NSW DIPNR).

Pathogen Budget – For Prioritisation of Land Uses and Rectification Actions to Reduce Public Health Risks from Pathogens by Dr B. CROKE with Prof N. Ashbolt (UNSW) and C. Ferguson (UNSW/Sydney Catchment Authority).

Sediment, particulate and dissolved carbon, iron and manganese input to Corin Reservoir by Dr B. CROKE with Prof R.J. Wasson and Prof I. White (CRES, ANU), Prof. M.M. McCulloch, (RSES, ANU), N. Mueller and T. Whiteway (ECOWISE Environmental), Dr J. Olley (CSIRO Land and Water), Mr. B. Starr (consultant) and Dr A. Wade (ActewAGL).

## Medical School

Maine-Syracuse Longitudinal study (USA) of cardiovascular risk and cognitive performance change, Assoc Prof Marc M BUDGE with MF Elias, PK Elias and M Robbins (Boston & Maine Universities, USA)

Foresight Challenge MRC Grant – Cognitive Decline with Ageing, Assoc Prof Marc M BUDGE with C de Jager, ADS OPTIMA, University of Oxford, UK

Brain Changes with Ageing and Dementia, Assoc Prof Marc M BUDGE with J Pruessner, R Renwick and DL Collins (McConnell Brain Imaging Centre, Montreal Neurological Institute, Quebec, Canada) and AL Janke, (Centre for Magnetic Resonance, University of Queensland).

Upper bedding as a prevention measure in childhood asthma: a randomised controlled trial by Assoc Professor Nicholas GLASGOW with A Kemp; J Peat, E Tovey (University of Sydney)

Radioactive Seed Localisation Breast Biopsy by Dr J Buckingham with Assoc Prof Jane DAHLSTROM, Dr W Cormick and Dr M Pierce (The Calvary Hospital and Canberra Imaging group, ACT)

Colitis-cancer model in MSH2 deficient mice by Dr M Kohonen-Corish with Assoc Prof Jane DAHLSTROM (Garvin Institute, Sydney)

Gene expression in soft tissue sarcomas by Dr P Crowe (Prince of Wales Hospital, University of New South Wales, Sydney) with Dr P Barry and Assoc Prof Jane DAHLSTROM

Evaluation of histological and immunohistochemical markers in Barrett's oesophagus by Dr S Jain and Assoc Prof Jane DAHLSTROM with Gastroenterologists at Brindabella Endoscopy, ACT

Immunohistochemistry of fetal brains by Assoc Prof Tailoi Chan-Ling (Department of Anatomy, University of Sydney) and Assoc Prof Jane DAHLSTROM

PINK study (Premature Infants and Natural Killer Cell Activity study) by Dr A Kent, Assoc Prof Jane DAHLSTROM and Dr H Warren, (Cancer Research Group, The Canberra Hospital)

Amelioration of perinatal hypoxia in fetal lambs by peripheral blood stem cells by Dr P McCullagh, Prof M Peek (Women's and Child's Health Maternal Fetal Medicine, Nepean Hospital, University of Sydney) with Assoc Prof Jane DAHLSTROM

Impact of international trade agreements on access to medicines in Australia by Dr Thomas A FAUNCE with Prof P Drahos (RegNet), Prof D Henry (Newcastle University, Australia) and B Lokuge (Australia Institute)

Historical and theoretical foundations of healthcare whistleblowing by Dr Thomas A FAUNCE with Assoc Prof S Bolsin (Geelong Hospital, Victoria) and Prof. J Oakley (Monash Centre of Bioethics Melbourne)

Use of digital technology to improve healthcare quality and safety by Dr Thomas A FAUNCE with Assoc Prof S Bolsin (Geelong Hospital, Victoria)

Medical Ethics and Human Rights in Healthcare Quality and Safety by Dr Thomas A FAUNCE with Centre for Applied Philosophy and Ethics (CAPPE, University of Melbourne)

Research network on bioterrorism in Australia by Dr Thomas A FAUNCE coordinated by Prof. J Kyd (Canberra University)

Mental health laws and human rights in a Sri Lankan toxicology trial by Dr Thomas A FAUNCE with Prof D Henry (Wellcome Trust investigator, Newcastle University), Prof N Buckley (Canberra Hospital) and Dr R Fernando (Columbo University)

International intellectual property aspects of body as property by Dr Thomas A FAUNCE with Dr C Stewart (Macquarie University)

Randomised clinical trials of antidotes for pesticide poisoning. Assoc Professor Nicholas BUCKLEY with M Eddleston, D Warrell, & E. Juszczak (Oxford University), R Sheriff (University of Colombo).

Establishing a regional toxicology research center in Sri Lanka. Assoc Professor Nicholas BUCKLEY with N Senanayake (University of Peradeniya), A Dawson, DA Henry (University of Newcastle), R Sheriff, R Fernando (University of Colombo).

Normoglycaemia in Intensive Care. Finfer S, Dr Imogen A MITCHELL, Bellomo R, Myburgh J, Norton R. ANZICS Clinical Trials Group and Institute for International Health.

Developing and Evaluating Evidence-based Guidelines for Feeding in the Intensive Care Unit: A cluster randomised trial. Doig G, Finfer S, Simpson F, Dobb G, Dr Imogen A MITCHELL, Davies A. ANZICS Clinical Trials Group.

Phase II study of intravenous vinorelbine and capecitabine in women with advanced breast cancer by Dr Alison J DAVIS with S. Ackland (Mater misericordiae hospital, Newcastle), C Lewis (Prince of Wales Hospital), E. Moylan Liverpool Hospital, F Parnis, Adelaide Cancer Centre

The Canberra Renal Quality of Life Study, Personal and Professional Development Program Year 3 Medical Students: co-investigator Dr Gavin CARNEY, (Sydney University, Renal Bone Disease Survey Renal Unit, The Canberra Hospital)

Rates of co-morbid PTSD in community mental health Assoc Prof Cathy OWEN, with Peter Yellowlees, Irene Howgego, University of Queensland

Facts and Figures on Obesity in Australia and the Health Consequences and ACT Obesity Data: What's Happening Here? by Dr Kirsty A Douglas for Health promotion journal of the ACT Region" for their Autumn 2003 edition.

Chemotherapy and radiotherapy in the treatment of advanced pancreatic carcinoma by Dr Desmond YIP with C.Karapetis (Flinders University), AH Strickland (Monash University), C. Steer (Melbourne University), D Goldstein (University of NSW), P. Harper (Guy's Hospital, London) and Cochrane Collaboration Upper Gastrointestinal and Pancreatic Group (University of Leeds).

Evaluation of the Home from Home Respite Project by Dr. Jeffrey C.L. LOOI with P. Pocock (Carers ACT/Commonwealth Departments of Health, Ageing & Veterans Affairs, ACT)

NHMRC Sydney Longitudinal Stroke Study by Dr. Jeffrey C.L. LOOI with Professors P. Sachdev, H. Brodaty & A Zagami (University of New South Wales, Sydney)

PATH Health & Memory Study by Dr. Jeffrey C.L. LOOI with Professors A. JORM, H. CHRISTENSEN(CMHR) with Professors P. Sachdev (University of New South Wales, Sydney)

Beyond Ageing Project by Dr. Jeffrey C.L. LOOI with Professors A. JORM, H. CHRISTENSEN, Dr. Michael Fenech (CSIRO Division of Human Nutrition, Adelaide)

Late-onset post-traumatic stress disorder, Dr. Jeffrey C.L. LOOI with Dr. M. Robertson (Mayo-Wesley Centre for Mental Health, Taree)

Group cognitive behavioural therapy for PTSD for people with severe mental illness by Dr. Jeffrey C.L. LOOI with A/Prof C. OWEN, Professor K. Meuser (Dartmouth Medical School & New Hampshire-Dartmouth Psychiatric Research Centre, Lebanon NH) & I. Howgego (University of Queensland, ACT)

The effect of probiotics (lactobacillus) on immune function in athletes. A randomised controlled trial. M Gleeson (Hunter Immunology Unit, Newcastle, NSW), D Pyne, A Cox, P Saunders and Prof Peter A FRICKER.

Prevention of Urinary Tract infection in Children with Normal and Abnormal Renal Tracts (Privent) Trial, Associate Professor Graham J REYNOLDS, with A/Prof Leslie P Roy, University of Sydney (NHMRC).

Planning and Feasibility Study of RCT for Sustained home visiting for opiate dependent Mothers. Associate Professor Graham J REYNOLDS, with Professor Graham Vimpani, University of Newcastle.

Australian Collaborative Trial of Repeat Dose Steroids for the Prevention of Neonatal Respiratory Distress. Associate Professor Graham J. REYNOLDS, with Associate Professor Caroline Crowther, University of Adelaide (NHMRC)

Caffeine for Apnoea of Prematurity Trial, Associate Professor Graham J REYNOLDS, with Professor Barbara Schmidt, University of Hamilton, Ontario (MRC) and Dr Peter Davies, University of Melbourne (NHMRC)

International Neonatal Immune Therapy Study, Professor Graham J. REYNOLDS, Associate with Professor William Tarnow-Mordi, University of Sydney

## University Schools and Centres

### Asia Pacific School of Economics & Government

Environmental Economics studies by J. BENNETT with Economics University of Ho Chi Minh City, Vietnam

Groundwater management by J. BENNETT with Tay Nguyen University, Vietnam

Land and Water degradation in China by J. BENNETT with the Forestry Economics and Development Research Centre, China

Markets for ecosystem services by J. BENNETT with CSIRO, Canberra

Reforestation by J. BENNETT with the Autonomous University of Barcelona, Spain

Water Management in China by J. BENNETT with Shenyang University, China

Water Management in the Fitzroy River Basin by J. BENNETT with Central Queensland University

Wetland valuation and management by J. BENNETT with the University of Montpellier, France

Australia-Korea Economic Cooperation by G. DE BROUWER with Dr. U. Park (Korea Australia Foundation, Canberra)

Advances in Japanese Agriculture by G. DE BROUWER with Prof. M. Honma (University of Tokyo)

Economic Regimes and Surveillance in East Asia by G. DE BROUWER with Dr. M. Arief (Malaysian Institute of Economic Research, Kuala Lumpur)

Global and Regional Financial Architecture by G. DE BROUWER with Prof. J. Lee (Korea University, Seoul)

Institutional Development in Finance in East Asia by G. DE BROUWER with Dr. K. Sangsubhan (Fiscal Policy Research Institute, Bangkok)

Non tariff barriers to trade in processed food by S. CHAND and P. ATHUKORALA with J. Georger (RIS, Delhi)

Understanding Reform by S. CHAND with L. Squire (Global Development Network, Washington), M. Reddy (USP, Suva) and D. Kavanamur (UPNG, Port Moresby)

Chinese grain marketing system reform by C. CHEN with Prof. K. Binsheng (Ministry of Agriculture, China)

Achieving food security in China by C. CHEN with Prof. J. Lin and L. Feng (Beijing University, China)

Foreign Direct Investment Policy Study by C. CHEN with WTO Department staff (MOFTEC of China, Beijing, China) and with Prof. G. Shunqi and C. Jianguo (Nankai University, Beijing, China)

Assessing Methods for Quantifying Non-Tariff Measures and Trade Facilitation by P. DEE with M. Ferrantino (USITC, Washington)

Assessing Methods for Quantifying Non-Tariff Measures and Trade Facilitation by P. DEE with T. Xianguo (APEC Secretariat, Singapore)

Services trade in South East European economies, Russia and the Baltic States by P. DEE with N. Dihel and B. Kalinova (OECD, Paris)

Services trade in Malaysia and Thailand by P. DEE with E. Ghani and A. Zeufack (OECD, Washington)

East Asian Trade Strategy by Jane DRAKE-BROCKMAN, Peter DRYSDALE, Andrew ELEK and Christopher FINDLAY with the Ministry of Foreign Trade and Economic Cooperation, Beijing, Office of Prime Minister, Tokyo. University of Tokyo, Waseda University, Tokyo, Productivity Commission, Canberra, Cabinet Office, Tokyo, Department of Foreign Affairs and Trade, Canberra, Seranne Holdings, Bangkok, Office of National Assessments, Canberra, Korea Institute for International Economic Policy

China and Taiwan's Accession to the WTO by Peter DRYSDALE with J. Chang (Kennedy School of Government, Harvard, Cambridge MA), S. Goldstein (Fairbank Center, Harvard, Cambridge, MA), S. Smith (Smith College, Northampton, MA), P. Yang (BNP Paribas), S. Chen (Ministry of Economic Affairs, Taipei), D. Keegan (American Institute in Taiwan, Taipei), M. Kau (Ministry of Foreign Affairs, Taipei), C. Tian-Jy (Chung-Hua Institution, Taipei), J. Lee (National Chengchi University, Taipei), X. Xu (Hong Kong Polytechnic University, Hong Kong), C. Schive (Taiwan Academy of Banking and Finance, Taipei)

Future Financial Arrangements to support Development in East Asia by Peter DRYSDALE and Gordon DeBROUWER with M. Ariff (Malaysian Institute for Economic Research, Kuala Lumpur), T. Sangsupan (Fiscal Policy Institute, Bangkok), H. Soseastro (Centre for Strategic and International Studies, Jakarta), M. Kawai (University of Tokyo, Tokyo), E. Ogawa (Hitosubashi University, Tokyo), R. McKinnon (Stanford University, Stanford), H. Kuroda (Cabinet Office Japan, Tokyo), D. Vines (University of Oxford, Oxford), M. Goeltom (Bank of Indonesia, Jakarta), D.Y. Yang (Korea Institute of International Economic Policy, Seoul), Z.A. Aziz (Bank Negara Malaysia, Kuala Lumpur), M. Parkinson (Department of Treasury, Canberra), O. Chaipravat (Fiscal Policy Institute, Bangkok), M. Lamberte (Philippine Institute of Development Studies, Manila), S. Cheung (City University of Hong Kong, Hong Kong), X. Mingqi (International Monetary Fund, Shanghai), S. Leung (Ministry of Finance, Canberra), S. Taakagi (ministry of Finance, Washington), T. Kwon (Ministry of Finance, Korea)

Issues in Japanese Corporate Governance by P. DRYSDALE with S. Kang (Hansung University, Seoul) et al.

Survey of Japanese Studies in Australia and New Zealand by P. DRYSDALE with M. Chow (Macquarie University, Sydney), H. de Ferranti (University of New England, Armidale), C. Kinoshita (University of New South Wales, Sydney), H. Clarke (University of Sydney, Sydney), G. Squires (University of Newcastle, Newcastle), N. Dethlefs (University of Wollongong, Wollongong), D. Walton (University of Western Sydney, Sydney), J. Jorgensen (Griffith University, Brisbane), B. Bourke (Queensland University of Technology, Brisbane), N. Gottlieb (University of Queensland, Brisbane), C. Andressen (Flinders University, Adelaide), P. Jain (University of Adelaide, Adelaide), R. Mouer (Monash University, Melbourne), K. Okano (La Trobe University, Melbourne), S. Machida (University of Melbourne, Melbourne), R. Krishnan (Murdoch University, Perth), T. Nakamatsu (Japanese Studies



Association of Australia, Brisbane), C. Shaw (Christchurch Polytechnic, Christchurch)

Domestic Regulation and International Trade in Services by C. FINDLAY with P. Dee (Productivity Commission, Canberra)

Knowledge in Public Administration, by Michael HESS with the Department of Premier and Cabinet, Victoria

Work in Thailand, by Michael HESS with the Population Council, Bangkok.

Environment, Ecology and Nature in SEA with particular reference to Thailand and Myanmar by Dr. H. JES with Dr. S. Chutintaranond (Chulalongkorn University, Bangkok, Thailand)

Regional Organisations and Regionalisation Dr. H. JES with Dr. S. Chutintaranond (Chulalongkorn University, Bangkok, Thailand)

Mediating Myanmar: Constituting Burma (White Paper on Myanmar) by Dr. H. JES with Prof. Taylor (Washington State University, USA), Prof. Badgley (Georgetown University, USA) and Prof. Steinberg (University of London, UK)

Community Economics by M. KEEN with J. Veitayaki (USP, Fiji) and P. Holland (SPREP, Samoa)

Community Environmental Management by M. KEEN with G. Smith (Baton Forum, Australia)

Community Environmental Management Evaluation by M. KEEN with V. Critchley (Baulkham Hills Council, Sydney, Australia)

Economics for Community Based Environment and development projects, by Meg KEEN with the University of the South Pacific, Fiji and the South Pacific Regional Environment Program, Samoa

Environmental Management and Development by M. KEEN with C. Hill and M. Sullivan (AusAID, Canberra, Australia), and P. Garratt (Department of Environment and Heritage, Canberra, Australia)

Assessing international sugar market reforms and their impacts and defining appropriate responses in Fiji by P. LAL with ACIAR

Corporate Governance in Vietnam, by S. LEUNG with the Department of Foreign Affairs and Trade, Canberra

Integration and Transition – Vietnam, Cambodia by S. LEUNG and L. PDR with the Central Institute of Economic Management, Hanoi, the National Institute of Management, Phnom Penh, and the Ministry of Finance

Role of the state in Vietnam's transition, by Suiwah LEUNG with the Ho Chi Minh National Political Academy, Hanoi

Changing Patterns of Economic Relations in East Asia by Prof. A.J. MACINTYRE with B. Naughton (UC, Sandiego, USA)

Political Economy of Corruption by Prof. A.J. MACINTYRE with J. McMillan (Stanford University, USA)

Strategic Dimensions of Economic Cooperation in the Asia-Pacific Region by Prof. A.J. MACINTYRE with H. Soesastro (CSIS, Jakarta, Indonesia)

Accountability and outsourcing by Prof. R. MULGAN with Prof. G. Hodge (Monash University, Melbourne)

International Electoral Assistance by B. REILLY with Clingendael (Netherlands Institute of International Relations, Netherlands)

Making States Work by B. REILLY with United Nations University, Tokyo and International Peace Academy, New York

Searching for Peace in Asia and the Pacific by B. REILLY with European Centre for Conflict Management, Netherlands

The United Nations and Democratization by B. REILLY with the United Nations University, Japan.

Privatisation of SOE in China by L. SONG with Y. Yao (China Centre for Economic Research, Peking University Beijing)

Reducing regional disparities in China, by Ligang SONG with Z. Zhao (Chinese Academy of Social Sciences, Beijing)

Development of Good Governance Indicators for the Pacific Island Countries by Dr. T. TOATU with Prof. R. Duncan (University of the South Pacific, Suva, Fiji)

The Performance of the Labour Market in Kiribati by Dr. T. TOATU with Prof. R. Duncan (University of the South Pacific, Fiji/Kiribati and the EU Delegation for the Pacific ACP States)

Business Environment for Small and Medium Enterprises in South-West China by X. WANG with W. Mako (World Bank, Beijing Office)

Foreign Direct Investment: China, Korea, India, Malaysia, Thailand and Vietnam by X. WANG with D. Brooks (Asia Development Bank, Beijing, Manila and Bangkok)

Marketization Index for China's Provinces by X. WANG with G. Fan (National Economic Research Institute, China Reform Foundation, Beijing)

Regional Disparity in China in 20 Years: Tendency and the Influential Factors by X. WANG with G. Fang (National Economic Research Institute, China Reform Foundation, Beijing)

## Centre for Aboriginal Economic Policy Research

Indigenous community organisations and miners: Partnering sustainable regional development? By Prof. J.C. ALTMAN, Dr D. MARTIN, Dr S. HOLCOMBE, Ms K. TREBECK, Mr B. SCAMBARY with Industry Partners Rio Tinto and the Committee for Economic Development of Australia (CEDA) and a number of Indigenous organisations.

Timber harvest management for the Aboriginal arts industry: Socioeconomic, cultural and ecological determinants of sustainability in a remote community context, by Prof. J.C. ALTMAN with Mr T. Griffiths and Ms J. Koenig Key Centre for Tropical Wildlife Management at CDU, and the Bawinanga Aboriginal Corporation and Maningrida Arts and Culture.

Indigenous community governance: Understanding, building and sustaining effective governance in rural, remote and urban Indigenous Australian communities, by Dr W. SANDERS and Ms D. SMITH with Industry Partner Reconciliation Australia.

Pathways to improved educational attainment for Indigenous Australians: Social and institutional factors underlying school participation by Dr B.H. HUNTER, Dr R.G. SCHWAB and Mr N. BIDDLE with Industry Partner Australian Bureau of Statistics.

Managing endangered Banteng in a jointly-managed national park: Contested values, Indigenous aspirations and resource use, by Prof. J.C. ALTMAN with Dr P.J. Whitehead, Dr D. Bowman and Dr B. Brook (Key Centre for Tropical Wildlife Management, CDU) and the Territory Parks and Wildlife Service as Industry Partner.

Petrol sniffing policies-and how to improve them, by Maggie BRADY with Dr Peter d'Abbs (Jes Cook University/Menzies School of Health Research) and Associate Professor Dennis Gray (National Drug Research Institute, Curtin University).

Indigenous peoples and population mobility in Australasia and North America, by Dr J. TAYLOR with Dr M. Bell (Centre for Population Research, University of Queensland).

Indigenous literacy needs and regional analysis, Dr R.G. SCHWAB and Ms D. SUTHERLAND with the Jawoyn Association based in Katherine, Northern Territory, commissioned and facilitated by the Fred Hollows Foundation.

Indigenous banking by Prof. J.C. ALTMAN, Ms S. McDONNELL, and Dr J. TAYLOR with Reconciliation Australia.

Atlas of Indigenous Australia, Mr W. ARTHUR and Ms F. MORPHY with Macquarie/MacMillan, University of Melbourne, AIATISIS, University of Queensland, and Cooperative Research Centre for Aboriginal and Tropical Health

Indigenous children and their families and households: The effectiveness of DFACS income support policy and related payments, by Ms D.E. SMITH with Dr R. Henry (Jes Cook University of North Queensland) and Dr A.E. Daly (University of Canberra).

Desert Knowledge Cooperative Research Centre, projects negotiated by Dr S. HOLCOMBE, Dr W. SANDERS, DR R.G. SCHWAB, Ms D.E. SMITH, and Dr J. TAYLOR with Dr M. Bell (Queensland Centre for Population Research, The University of Queensland), CSIRO and Centre for Appropriate Technology, Alice Springs.

Feral and exotic animal management strategy for Kakadu National Park, Prof. J.C. ALTMAN with Key Centre for Tropical Wildlife Management, CDU commissioned by Parks Australia North (Environment Australia).

Indigenous adult literacy, by Dr J. SCHWAB and Ms I. KRAL with Dr I. Falk (CDU) and Central Australian Remote Health Development Services, Aboriginal Health CRC, Tropical Savannas Management CRC, and Bawinanga Aboriginal Corporation, Arnhem Land.

Development of an action research project to evaluate and communicate economic futures for Aboriginal communities in Kakadu National Park, by Prof. J.C. ALTMAN with the NLC and the Gundjeitmi Aboriginal Corporation, Jabiru.

Fisheries management and small business development, by Prof. J.C. ALTMAN with Bawinanga Aboriginal Corporation and Maningrida Arts and Culture.

Customary fire management, by Prof. J.C. ALTMAN with Tropical Savannas Management Cooperative Research Centre, Northern Land Council and Bushfires Council of the Northern Territory.

Northern Territory Indigenous arts industry strategy by Prof.

J.C. ALTMAN with the Northern Territory Government.

Developing e-commerce at Maningrida by Prof. J.C. ALTMAN with Dr T. Crosbie, (University of Canberra) and Ms K. Austin (Maningrida Arts and Culture) funded by Department of Communications, Information Technology, and the Arts.

Proposed reform of the Aboriginal Benefits Account by Prof. J.C. ALTMAN AND MR R. LEVITUS with the NLC, CLC and Tiwi Lands Council.

Native title research by Dr B. SMITH with the North Queensland Land Council.

Characteristics of Indigenous households and families and their children by Ms D. SMITH with Dr A.E. Daly (University of Canberra).

Aboriginal population profiles in the Northern East Kimberley, by Dr J. TAYLOR with Kimberley Land Council and Argyle Diamond Mine.

Socioeconomic profile of Wadeye Region by Dr J. TAYLOR with Thamarrurr Regional Council and the Northern Territory Office of Indigenous Policy.

Regional analysis of Indigenous population mobility by Dr J. TAYLOR and Dr Y. KINFU with the Office for Aboriginal and Torres Strait Islander Health, Department of Health and Ageing.

Art exhibition, by Prof. J.C. ALTMAN with Ms H. Perkins (Art Gallery of New South Wales).

## Centre for Cross-Cultural Research

The Art of Albert Namatjira research project by Professor H MORPHY and Ms A FRENCH with C Pearson (Ngurratjuta Pmara Ntjarra Aboriginal Corporation).

Art on a String, exhibition curated by Dr Louise HAMBY with Object Gallery, Sydney.

Blue Mud Bay research project by Professor H MORPHY (with Dr Nicolas Peterson and Dr Annie Clarke) with the Northern Land Council.

Clifford Possum Tjapaltjarri Retrospective, exhibition curated by Dr Vivien JOHNSON with the Art Gallery of South Australia.

Indigenous Knowledge and Western Science research project by H MORPHY with B Percival (NSW Department of Education and Training), M Crayford (The Australian National Maritime Museum) and L White (Yirrkala Community Education Centre, NT).

Seeing the Centre: the art of Albert Namatjira 1902-1959, exhibition curated by Ms Alison FRENCH with the National Gallery of Australia and Gordon Darling Foundation.

South Seas Project by P TURNBULL with J Pearce (National Library of Australia).

## Centre for Educational Development & Academic Methods

Academic Freedom by Dr C. Kayrooz (University of Canberra) with Dr G. ÅKERLIND

Intellectual Autonomy by Dr C. Kayrooz (University of Canberra), Dr M. Tight (University of Warwick) with Dr G. ÅKERLIND collaboration on an edited collection of essays on Intellectual Autonomy involving contributors from Australia and the UK.

Symposium of researchers from Australia and New Zealand on Extending Understandings of University Teaching, presented at the European Association for Research in Learning and Instruction biennial conference with Dr G. ÅKERLIND.

Phenomenographic Research by Dr J. Bowden and Dr P. Green (RMIT) with Dr G. ÅKERLIND.

ANU/UC research project on Graduate Student Supervision by Ms M PEARSON, Dr C. Kayrooz (University of Canberra) with MR R COLLINS.

by Dr L. HORT with: none for 2003

Deakin University Strategic Research Grant entitled Changes to the nature, conduct & examination of doctorates in Australia since 1948 (2002) by Professor Terry Evans and Dr Peter Macauley (Deakin University) with MS M. PEARSON on a Link grant gained but deferred until 2004.

by MS P. ROBERTS with: none for 2003

by MS A. STEED with: none for 2003

Research Methods by Dr C. Kayrooz (University of Canberra, Australia) with Dr A. C. F. TREVITT. Completion of the book on research methods co-authored with Dr Carole Kayrooz (University of Canberra) soon to be published by Allen and Unwin Ltd.

Kayrooz, C. and A.C.F. Trevitt (in press) Research in organizations and communities: tales from the real world. 350 pp.

## Centre for Mental Health Research

Australia-Japan Project on mental health literacy by Prof AF JORM, Prof H CHRISTENSEN, Dr K GRIFFITHS with Dr H Imada (Director General, National Institute of Mental Health, Professor T Nakane (Division of Neuropsychiatry, Department of Translational Medicines), Dr T Taekshima, (Director of Tokyo Medical Examiner's Office).

Longitudinal analysis of large data sets by Dr K Anstey, Prof H Christensen, Prof AF Jorm with Dr S Hofer, (Centre for Developmental and Health Genetics, Pennsylvania State University), Prof A Mackinnon, (Mental Health Research Institute of Victoria), Prof M Luszcz, (Flinders).

BluePages and MoodGYM by Dr K GRIFFITHS, Prof H CHRISTENSEN with Dr D Hawking (CSIRO Mathematical Sciences, ANU).

E-prevention projects by Prof H CHRISTENSEN, Dr K GRIFFITHS, with A Prof J Kenardy, (University of Queensland), Dr Greg Battye (University of Canberra); Prof K Kirkby, (University of Tasmania); Prof J Richards (Monash University).

MoodGYM GP by Prof H CHRISTENSEN, Dr K GRIFFITHS with Prof I Hickie Sydney University: Mind and Brain Institute Dr M Moore (Sydney Division of General Practice).

MRI Study of 60-64 Year-Old Brains by Dr K. ANSTEY, Prof. A. F. JORM, J. MALLER, Dr C. MESLIN, P. JACOMB and Dr J. BRINKMAN

with G. De Plater and Dr R. Kumar (Canberra Hospital), Dr P. Sachdev and Dr W. Wen (Neuropsychiatric Institute, Prince of Wales Hospital), and Dr J. Price (National Capital Imaging).

Prevention of Depression in Older Australians by Prof. A. F. JORM, Prof. H. CHRISTENSEN with Prof. I. Hickie (beyondblue).

Prevention of Older Person's Injuries NHMRC Partnership Program by Dr K. ANSTEY A/Prof. S. Lord (POWMRI) and A/Prof. J. Wood (QUT), Dr G. Kerr (QUT) Prof Tony Broe (UNSW) Assoc Prof Julie Steele (University of Wollongong); Prof Ian Cameron (University of Sydney) Longitudinal Study of Australian Children by Dr B. RODGERS with Australian Institute of Family Studies (A. Prof. A. Sanson), Australian Council for Educational Research and six other Australian universities.

Assessment of Biomedical Risk factors and Disease Outcomes in the British 1958 Birth Cohort by Dr B. RODGERS with a consortium of British university departments and medical schools.

Epidemiology of Eating-Disordered Behaviour in the ACT by Dr B. RODGERS with J. Mond, A. Prof. C. Owen, Prof. P.J.V. Beumont (Psychological Medicine, University of Sydney) and A. Prof. P.J. Hay (Department of Psychiatry, University of Adelaide).

Families, Law and Social Policy by Dr B. RODGERS with Prof. J. Dewar, Dr G. Sheehan (Law School, Griffith University) and Dr Y. Darlington (School of Social Work and Applied Social Sciences, University of Queensland).

MRI study of 6-15 Year-Old Brains of children with early-treated hydrocephalus by J. MALLER with Dr E. NORTHAM, Dr P. ANDERSON, Dr L. COLEMAN, Dr S. MENDELSTAM and Miss W. MAIXNER (Royal Children's Hospital, Victoria).

Income support and mental health by Dr P BUTTERWORTH with Dr T Crosier (Department of Family and Community Services).

Measures of compound recognition by Dr P BUTTERWORTH with Prof MS Humphreys and Dr JS Burt (School of Psychology, University of Queensland).

The transition to retirement and mental health by Dr P BUTTERWORTH, Dr B Rodgers with Dr D Melzer (Department of Public Health and Primary Care University of Cambridge).

## Humanities Research Centre

'Indigenous People and Rainforests in Latin America and Australia', by Prof. Iain McCALMAN with the Humanities Research Institute, the University of California, Berkeley, Humanities Research Institute, Irvine.

'Gardens' project by Prof. Iain McCALMAN and Dr Caroline TURNER, with Prof. Ian Donaldson (CRAASH, Cambridge University and HRC) and Prof. Roy Ritchie (Huntington Library, California); also with the Yale Center for British Art and the Getty Research Institute.

Charles Dickens, Barnaby Rudge, Oxford World Classics, 2003, editors Prof. Iain McCALMAN and John Mee (Oxford University) assisted by Ms Georgina FITZPATRICK.

A number of projects with the National Library of Australia including 'The French Revolution' for 2006 by Prof. Iain McCALMAN and Dr Caroline TURNER.

A number of projects, exhibitions and conferences with the National Museum of Australia including 'Immigrants and Exiles' (2005) by Dr Paul PICKERING and Dr Caroline TURNER and 'Minorities in Asia- Pacific Museums' by Dr Caroline TURNER with Dr Margo Neale, (National Museum of Australia) and Alison Carroll, (Asialink, University of Melbourne).

A number of projects with the National Gallery of Australia including several conferences, including 'The Edwardians' (2004) and a catalogue and exhibition on contemporary Asian art.

A joint conference with the Art Gallery of NSW on 'French Impressionism' for 2005.

Art and Human Rights and the Limits of Tolerance involving Dr Caroline TURNER and Prof. Christine Chinkin, (London School of Economics) with other cultural and legal scholars and colleagues elsewhere in Australia. This project has been awarded an ARC grant for three years.

'New media in Australian art' by Dr Caroline TURNER with Dr Charles Green (National Gallery of Victoria) and colleagues at the Museum of the Moving Image and the University of Melbourne.

'The Other Within: Visual Culture through Indigenous, tribal, minority, subaltern and multicultural displays in Asia-Pacific museums today', Dr Caroline TURNER, chief investigator for this Australian Research Council Research Linkages project jointly with the National Museum of Australia and Asialink, University of Melbourne.

'Urban Imaginaries', a joint research project led by Prof. Iain McCALMAN, Dr Paul PICKERING and Dr Caroline TURNER with Prof. Meaghan Morris (University of Lingnan, Hong Kong).

## Mathematical Sciences Institute

### Centre for Mathematics and its Applications

Evolution of non-strictly convex hypersurfaces by Dr B.H. ANDREWS with Prof Y. Zheng (East China Normal U)

Expansion of immersed curves by Dr B.H. ANDREWS with Prof D.-H. Tsai (Tsing Hua U, Taiwan) and Prof T.-C. Lin (NSTC, Taiwan)

Convergence of discrete descent algorithms by Dr B.H. ANDREWS with Dr R. Mahony (FEIT, ANU) and Prof P.-A. Absil (Florida State)

Quantum spin ladders by Prof M.T. BATCHELOR with Prof A. Foerster and Prof A.P. Tonel (Brazil), Dr H.Q. Zhou (U of Qld), Prof K Sakai (ISSP, Tokyo) and Dr Z Tsuboi (ISSP, Tokyo)

Integrable bosons by Prof M.T. BATCHELOR with Prof J.B. McGuire (Florida)

Stromatolitic microbialites by Prof M.T. BATCHELOR with Dr B. I. Henry (UNSW) and Prof R.V. Burne (Geology, ANU)

Noncommutative geometry and index theory by Prof A.L. CAREY with Prof J. Phillips (U of Victoria), Dr A. Rennie (U of Newcastle) and Dr F. Sukochev (Flinders)

Gauge symmetry in quantum field theory by Prof A.L. CAREY with Prof H. Grundling (UNSW)

Gerbese in quantum field theory and string theory by Prof A.L.

CAREY with Prof M. Murray (Adelaide), Dr S. Johnson (Adelaide) and Prof J. Mickelsson (KTH)

Noncommutative geometry by Prof A.L. CAREY with Prof K. Hannabuss (Oxford)

Elliptic genera by Prof A.L. CAREY with Prof T. Wurzbacher (Metz)

Theory of point processes by Dr D.J. DALEY with Prof D. Vere-Jones (Victoria U of Wellington)

Germ-grain modelling: volume fraction bounds and modelling concrete by Dr D.J. DALEY with Prof G. Last (Karlsruhe)

Extending volume fraction bounds of Poisson germs with either spheres or aligned-hypercubes as grains by Dr D.J. DALEY with Prof G. Last (Karlsruhe) and Prof D. Stoyan (TU-Freiberg)

Queueing problems by Dr D.J. DALEY with Prof L. Servi (MIT)

SP mixture models (estimation) by Dr R.T. ELMORE with Prof T.P. Hettmansperger (Penn State) and Prof H. Thomas (Penn State)

SP mixture models (asymptotics) by Dr R.T. ELMORE with Prof D. Hunter (Penn State)

SP mixture models (identifiability) by Dr R.T. ELMORE with Prof S. Wang (Penn State)

Spherical depth by Dr R.T. ELMORE with Prof T.P. Hettmansperger (Penn State) and Prof F. Xuan (Penn State)

Almost NP ANOVA by Dr R.T. ELMORE with Prof T.P. Hettmansperger (Penn State) and Prof F. Xuan (Penn State)

NP AVOVA by Dr R.T. ELMORE with Prof T.P. Hettmansperger (Penn State) and Prof F. Xuan (Penn State)

Integrable spin ladder models and thermodynamics by Dr X.-W. GUAN with Prof M.T. Batchelor, Prof H.-Q. Zhou (U of Qld) and Prof A. Foerster (UFRGS)

Estimating ROC curves by Prof P.G. HALL with Prof R. Hyndman (Monash)

Wavelet methods by Prof P.G. HALL with Prof R. Paige (Texas Tech) and Prof F.H. Ruymgaart (Texas Tech)

Surface estimation by Prof P.G. HALL with Dr M.-Y. Cheng (National U of Taiwan)

Inference for mixtures by Prof P.G. HALL with Prof X.-H. Zhou (Washington)

Components of variance models and inference in ARCH and GARCH models by Prof P.G. HALL with Prof Q. Yao (LSE)

Sequential methods for curves and surfaces by Prof P.G. HALL with Prof I. Molchanov (Berne)

Nonparametric regression with time series errors by Prof P.G. HALL with Dr I. Van Keilegom (U Catholique de Louvain)

Bagging by Prof P.G. HALL with Prof S.X. Chen (Iowa State)

Order-preserving nonparametric regression by Prof P.G. HALL with Prof H.-G. Müller (UC Davis)

Concentration and approximation by Dr T.M. HEGLAND with Prof V. Pestov (Ottawa) and Dr P. Pozzi

Sparse Grid algorithms by Dr T.M. HEGLAND with Mr J. Garcke (Bonn), Prof M. Gutknecht (Zürich), Prof G. Golub (Stanford),

Dr O. Nielsen (Geoscience Australia), Dr Z. Shen (Singapore) and Dr S.G. Roberts

Geographical data mining and software by Dr T.M. HEGLAND with Dr S. Laffan (UNSW) and Mr J. Maindonald, Dr H. Silcock and Mr K. Ding

Risky asset models by Prof C.C. HEYDE and Dr S. LIU with Prof R. Gay (Monash) and Prof E. Seneta (Sydney)

Long range dependence by Prof C.C. HEYDE with Prof V.V. Anh (QUT), Prof N.N. Leonenko (Cardiff) and Prof V. de la Pena (Columbia)

Tail-heaviness by Prof C.C. HEYDE with Prof S. Kou (Columbia)

A higher dimensional analogue of the measurable Riemann mapping theorem by Dr S.J. KEITH with Prof J. Heinonen (Michigan)

The Poincaré inequality condition is open ended by Dr S.J. KEITH with Prof X. Zhong (Jyväskylä)

Infinite dimensional integral representations of groups of prime order by Dr L.G. KOVÁCS with Prof M.C.R. Butler (Liverpool) and Dr J.M. Campbell

Units in modular group rings by Dr L.G. KOVÁCS with Prof B. Bódi (Debrecen)

Metabelian Lie powers of the natural module for the general linear group over infinite perfect fields by Dr L.G. KOVÁCS with Prof K. Erdmann (Oxford)

Tensor factorization and tensor induction for representations of finite groups by Dr L.G. KOVÁCS with Dr E. Pacifici (Firenze)

Matrix calculus, regression and ARCH models by Dr S. LIU with Prof H Neudecker (Amsterdam)

Large and small time behaviour of Levy processes by Prof R.A. MALLER with Prof R. Doney (Manchester)

Properties of portfolio allocation models by Prof R.A. MALLER with Dr R. Durand (Western Australia)

Levy integrals and subordinated random walks by Prof R.A. MALLER with Prof B. Erickson (Washington)

Perpetuities and levy integrals by Prof R.A. MALLER with Prof C. Goldie (Sussex)

Properties of random walks by Prof R.A. MALLER with Prof H. Kesten (Cornell)

Modelling of financial and insurance data using levy processes by Prof R.A. MALLER with Prof C. Klüppelberg (Munich U of Technology), Prof A. Kyprianou (Utrecht), Dr A. Lindner (Munich) and Dr A. Szimayer (Western Australia)

Survival models and applications by Prof R.A. MALLER with Dr X. Zhou (Hong Kong Polytechnic U)

Jack polynomials by Dr V.V. MANGAZEEV with Prof V.B. Kuznetsov (Leeds) and Prof E.K. Sklyanin (York)

XXZ spin chains with arbitrary spin by Dr V.V. MANGAZEEV with Prof V. Bazhanov (RSPHYS&E, ANU), Prof M.T. Batchelor and Dr J. De Gier (Melbourne)

Maxwell's equations and Navier-Stokes equations on Lipschitz domains by Prof A.G.R. MCINTOSH with Dr A. Axelsson

(Stockholm) and Prof S. Monniaux (Marseille)

Hardy spaces on Lipschitz domains and on Riemannian manifolds by Prof A.G.R. MCINTOSH with Prof P. Auscher (Paris-Sud, France), Dr Z. Lou (Shantou), Prof E. Russ (Marseille) and Prof P. Tchamitchian (Marseille)

Noncommutative K- and L-theory localisation by Prof A. NEEMAN with Prof A. Schofield (Bristol) and Prof A. Ranicki (Edinburgh)

Foundations of derived categories, by Prof A. NEEMAN with Prof B. Keller (Paris 7)

Groups and nilpotent Lie rings whose order divides the sixth power of a prime by Prof M.F. NEWMAN with Prof E.A. O'Brien (Auckland) and Prof M.R. Vaughan-Lee (Oxford)

Electronic database for groups prime-power order by Prof M.F. NEWMAN with Prof E.A. O'Brien (Auckland)

Groups with exponent five by Prof M.F. NEWMAN with Prof C.C. Sims (Rutgers)

Soluble length of groups and graded Lie rings with prime-power order by Prof M.F. NEWMAN with Prof S. Evans-Rile (Tennessee)

Collection in polycyclic presentations by Prof M.F. NEWMAN with Dr A.C. Niemeyer (Western Australia)

Groups defined by powers by Prof M.F. NEWMAN with Prof D.F. Holt (Warwick)

Kalman Filter applications by Prof M.R. OSBORNE with Dr T. Prvan (Macquarie) and Dr I. Soderkvist (Lulea)

Polyhedral constrained problems by Prof M.R. OSBORNE with Prof G.A. Watson (Dundee)

Analysis on Lie groups of polynomial growth by Prof D.W. ROBINSON with Dr N. Dungey (UNSW), Dr A. F. M. ter Elst (Eindhoven U of Technology) and Dr Y. Zhu (Nantong)

Analysis of degenerate second-order elliptic operators in divergence form by Prof D.W. ROBINSON with Dr A. Sikora (New Mexico), Dr A.F.M. ter Elst (Eindhoven U of Technology) and Dr Y. Zhu (Nantong)

Schauder estimates for nonlinear elliptic difference schemes by Prof N.S. TRUDINGER with Prof H.-J. Kuo (Taiwan)

Single-index model (SIM) by Dr C.E.L. VIAL with Prof M. Delecroix (CREST-ENSAI) and Prof P.G. Hall

Partial linear model (PLM) (in high dimension) by Dr C.E.L. VIAL with Prof A. Samarov (UML and MIT) and Prof V. Spokoiny (Weierstrass Institute)

The regularity of potential functions to the optimal transportation problem by Dr X.-J. WANG and Prof N.S. TRUDINGER with Prof X.N Ma (Zhejiang)

The existence of convex hypersurfaces with prescribed Weingarten curvatures by Dr X.-J. WANG and Prof N.S. TRUDINGER with Dr W.M. Sheng (Zhejiang)

Exploration of various methods for finding the longest common subsequence based on using an iterative approach by Prof S.R. WILSON with Dr H.S. Booth, Dr R. Brown (ANU Supercomputer Facility) and Dr M. Kahn (ANU Supercomputer Facility)

Collaboration on analysis of mapping data for interaction

between loci for diabetes onset in NOD mice by Prof S.R. WILSON with Prof C. Goodnow (JCSMR) and Dr A. Listen (JCSMR)

Method found for detecting epigenetic parent of origin effects in candidate genes by Prof S.R. WILSON with J. Wicks (QIMR)

Based on permutation tests, an empirical method (and code) has been developed for evaluation of genetic and environmental interactions in complex disease by Prof S.R. WILSON with Mr J. Maindonald, Dr J. Cavanaugh (The Canberra Hospital) and Dr N. O' O'Callaghan (The Canberra Hospital)

Exploration of the relationship between a particular genotype, joint pain and serum ferritin in hemochromatosis by Prof S.R. WILSON with Dr J. Cavanaugh (The Canberra Hospital) and Dr E. Walker (The Canberra Hospital)

Development of objective methods for determining appropriate reporting intervals for analyte concentrations by Prof S.R. WILSON with Dr P. Hickman (The Canberra Hospital)

Statistical modelling of non-bonding minimal atomic distances in globular proteins by Prof S.R. WILSON with Dr Y. Fang, Prof C. Lawrence (JCSMR) and Prof W. Kaplan (Garvan Institute)

Examining novel methods for finding those genes underpinning the risk of development of complex human disease/disorders, and understanding genetic variation by Prof S.R. WILSON with Dr S. Easteal (JCSMR) and Ms H. Monroe

## National Centre for Epidemiology & Population Health

Adverse Drug Event Detection project using linked health data by Dr C KELMAN with Lifang Gu, Hongxing He, Graham Williams, Simon Hawkins, Centre for Mathematics and Information Science, CSIRO.

Analysis of the PIILR Study by Dr M CLEMENTS with Allison Martin, Matthew Law (National Centre in HIV Epidemiology and Clinical Research).

Applying Executive Sessions Methodology to Global Health Problems by Dr G BAMMER with Professor Mark Moore, Hauser Center for nonprofit Organizations, Harvard University.

A randomised trial of home visiting to children of opiate dependent parents by Dr C BANWELL with Graham Vimpani, Newcastle University, et al.

'Ageing Well' Research Network by Dr J HEALY with Professor Hal Kendig, Sydney University et al.

Atmospheric environment and health: workforce training, research capacity-building, and graduate student education in environmental health by Prof AJ MCMICHAEL, Prof T KJELLSTROM, Dr R D'SOUZA with Steve Corbett, Department of Public Health and Community Medicine, University of Sydney; NSW Health, Bill Physick, CSIRO Atmospheric Research; and Michael Manton, Bureau of Metereology Research Centre.

Australian Family Formation Decisions Project by Dr G CARMICHAEL with Dr A. Whittaker, University of Melbourne.

Biostatistics Collaboration of Australia: postgraduate training in biostatistics by distance learning by Dr K DEAR with various senior biostatisticians from Australian universities and pharmaceutical companies.

Child bedding and asthma – randomised controlled trial by Dr A-L PONSONBY with Nicholas Glasgow, ANU Medical School; Andrew Kemp, Department of Immunology at the Royal Children's Hospital, Melbourne; Paul Gatenby, Dean of the Medical School, Australian National University; Euan Tovey, University of Sydney; Jennifer Peat, Department of Medicine, University of Sydney.

Cochrane Systematic Review: Vaccines for preventing pneumococcal infection in adults by Dr K DEAR with Cochrane Collaboration Acute Respiratory Infections Group.

Cochrane Systematic Review: Haemophilus influenzae oral vaccination for preventing acute exacerbations of chronic bronchitis by Dr K DEAR with Ruth Foxwell and Allan Cripps, University of Canberra.

Developing the Integration and Implementation Sciences Network by Dr G BAMMER, Dr L VAN KERKHOFF and Prof T MCMICHAEL with OJ Bosch, University of Queensland; LH Connor, University of Newcastle; PN Grabosky, ANU; J Handmer, RMIT; DG Hegney, University of Southern Queensland; RJ Homel, Griffith University; L Mann, University of Melbourne; I Marsh, ANU; H Ross, University of Queensland; CD Shearing, ANU; FM Vanclay, University of Tasmania; RJ Wasson, ANU; GA Albrecht, University of Newcastle; PW Atkins, ANU; JR Barnett, University of Melbourne; MA Booth, Murdoch University; VA Brown, ANU; B Dick, Southern Cross University; SR Dovers, ANU; SJ Goff, CultureShift Pty Ltd; T Haslett, Monash University; GD McDonnell, Adaptive Care Systems Pty Ltd; AC Lucas, University of New South Wales; MJ Smithson, ANU; L Treleaven, University of Western Sydney; YJ Wadsworth, Swinburne University of Technology ; A Best, Centre for Clinical Epidemiology and Evaluation, Vancouver Hospital and Health Sciences Centre, Vancouver; JH Sierra, Pontificia Universidad Javeriana, Facultad de Ciencias Economicas y Administrativas, Posgrados Administracion en Salud, Bogota, Colombia; R Vega-Romero, Pontificia Universidad Javeriana, Facultad de Ciencias Economicas y Administrativas, Posgrados Administracion en Salud, Bogota, Colombia; W Gregory, Institute for Environmental Science and Research (ESR) Ltd, Christchurch Science Centre, Christchurch, NZ; G Midgley, Institute for Environmental Science and Research (ESR) Ltd, Christchurch Science Centre, Christchurch, NZ; W. Im-Em, Institute for Population and Social Research, Mahidol University Thailand; A Carr, Centre for Environmental Strategy, University of Surrey, Guildford, UK; R Ison, Centre for Complexity and Change, The Open University, Milton Keynes, UK; P Reason, Centre for Action Research in Professional Practice, School of Management, University of Bath, Bath UK; M Reynolds, Centre for Complexity and Change, The Open University, Milton Keynes UK; M Moore, Harvard University; LD Brown, Harvard University; S Batliwala, Harvard University; F Kunreuther, Building Movement into the Nonprofit Sector, Demos, New York; WC Clark, Harvard University; I Kickbusch, Division of Global Health, Department of Epidemiology and Public Health, Yale University; W Newell, School of Interdisciplinary Studies, Miami University, Oxford, Ohio; WM Trochim, Policy Analysis & Management, Cornell University, Ithaca.

Estimating vaccine efficacy from small outbreaks by Prof N BECKER with Tom Britton, Stockholm University.

Estimating vaccine effects on transmission of infection from household outbreak data by Prof N BECKER with Philip O'Neill, Nottingham University.

Gender in the experience of diabetes type 2 by Dr D BROOM with Andrea Whittaker (University of Melbourne), Geraldine Treacher (University of Canterbury, Christchurch).

Health, health insurance and health care financing arrangements in Australia and Korea by Dr J BUTLER and Dr L TREVILLIAN with Prof Bong-Min Yang – Seoul National University, Korea; Assoc Prof Jin-hyun Kim – Inje University, Korea.

Human health and climate change in Oceania: a risk assessment by Ms R WOODRUFF with Kevin Hennessy and Peter Whetton, CSIRO Atmospheric Research; Neville Nicholls, Bureau of Meteorology; Alistair Woodward, Simon Hales, Uni Otago, NZ; and Paul Begg, Monash University.

Impacts of heat exposure on physiological ability to work and work productivity, and its relation to climate change by Prof T KJELLSTROM, Dr G RANMUTHUGALA, Ms R WOODRUFF with Carol Skinner Consultative Services Section, Bureau of Meteorology, Melbourne.

Improving the blood transfusion system in Santa Catarina, southern Brazil (WHO-PAHO) by Prof A SLEIGH with Christina Massignam, University of Queensland and Government Blood Transfusion Centre, Joacaba, Brazil.

Initiative on the study and implementation of systems by Dr G BAMMER with Professor Allan Best, Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute; Dr Scott Leischow, Chief, Tobacco Control Research Branch, Behavioral Research Program, Division of Cancer Control and Population Sciences, U.S. National Cancer Institute; Professor Bill Trochim, Department of Policy Analysis & Management, Cornell University, Ithaca; Professor George Richardson, Nelson A. Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York; Professor Noshir Contractor, Professor, Speech Communication and Psychology, University of Illinois at Urbana-Champaign; Professor Keith Provan, Eller College of Business and Public Administration, University of Arizona; Assoc Prof Francis Lau, School of Health Information Science, University of Victoria, Canada; Assoc Prof Peter Robertson, School of Policy, Planning, and Development, University of Southern California; Mr Gregg Moor, Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute; Dr Timothy Huerta, Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute.

Inter-generational transmission of health inequalities: effects of work conditions on parent resources and child health by Dr D BROOM, Dr L STRAZDINS, Ms S MEYERKORT, Prof T MCMICHAEL with Jennelle Kyd, University of Canberra and Jennifer Bowes, Macquarie University.

Long term ongoing collaboration in relation to the MacNew Quality of Life Instrument by Dr L LIM with Prof Neil Oldridge, U Wisconsin-Michigan, USA.

LSAC –Longitudinal Study of Australian Children; consortium member on parent work stress and child health by Drs L STRAZDINS and D BROOM with a consortium of academics and Australian Institute of Family Studies.

Measurement of community participation in Primary Health Organisations by Dr B SIBTHORPE with the University of Otago, Wellington New Zealand.

Methods for cancer projections by Dr M CLEMENTS with Dianne O'Connell (Cancer Council NSW), Bruce Armstrong (University of Sydney), Suresh Moolgavkar (Fred Hutchinson Cancer Research Centre).

Models of carcinogenesis for smoking and lung cancer by Dr M CLEMENTS with Suresh Moolgavkar, Bill Hazelton (Fred Hutchinson Cancer Research Centre).

MS and seasonality of birth by Ms J STAPLES, Dr L LIM, Dr A-L PONSONBY, Prof AJ MCMICHAEL with Prof Jes McLeod, Department of Medicine, University of Sydney.

Multilevel survival models by Dr L LIM with Dr P Kelly, U Reading, UK.

National and sub-national data sources in environmental health Workshop by Dr L VANKERKHOFF with Atmospheric Environment Collaboration (NCEPH; Department of Public Health and Community Medicine, University of Sydney; NSW Health; CSIRO Atmospheric Research and the Bureau of Meteorology Atmospheric Research Centre).

Oral health and public dental care in Tasmania by Prof A SLEIGH with Judith Walker and Rosemary Cain, Rural Health, University of Tasmania.

OzFoodNet collaboration by Dr G HALL with Martyn Kirk, Food Standards Australia, Department of Health and Ageing; Rosie Ashbolt Department of Health and Human Services, Tasmania; Joy Gregory Department of Human Services, Victoria; Karin Lalor Department of Human Services, Victoria; Leanne Unicomb, NSW Health; Russell Stafford, Queensland Health; Minda Sarna , Health Department of Western Australia; Dr Jane Raupach, Department of Human Services, South Australia; Geoff Millard, Department of Health and Community Care, ACT; Karen Dempsey, Department of Health and Community Care, Northern Territory.

Performance indicators for primary care by Dr B SIBTHORPE with the University of Otago, Wellington New Zealand.

Planning a national cohort study on healthy and productive ageing by Dr J HEALY with Professor Hal Kendig, Sydney University.

Re-examining the risks associated with heroin prescription by Dr G BAMMER with Professor Wim van den Brink, Scientific Director, Central Committee on the Treatment of Heroin Addicts (CCBH) Utrecht, Director of the Amsterdam Institute for Addiction Research, Professor of Psychiatry and Addiction, Academic Medical Center University of Amsterdam, the Netherlands; Dr Patrick Gschwend, Project Director, ISF Addiction Research Institute, Zurich, Switzerland; Dr Vincent Hendricks, Senior researcher, Central Committee on the Treatment of Heroin Addicts (CCBH) Utrecht, and Director of Parnassia Addiction Research Centre (PARC), Parnassia Mental Health Institute, The Hague, the Netherlands; Professor Juergen Rehm, CEO and Director, ISF Addiction Research Institute, Zurich, Switzerland.

Response to SARS in Australia and the Western Pacific Region by Ms Mary DEEBLE with Dr Rob Condon, Dr Hitoshi Oshitani,

Western Pacific Regional Office of WHO (WPRO).

Responding to illicit drug problems in Australia - What is the best return on investment? By Dr G BAMMER with Professor Margaret Hamilton, Dr Alison Ritter and Dr Paul Dietze, Turning Point Alcohol and Drug center Inc, affiliated with the University of Melbourne; Dr Lorraine Mazerolle, School of Criminology and Criminal Justice, Griffith University.

Retirement & health in the UK & Australia: Comparison of the HILDA & ELSA datasets by Dr L LIM with Prof J Nazroo, Dr M Janevic.

Risks and benefits of arsenic mitigation programs in Bangladesh by Dr B CALDWELL, Dr G RANUTHUGALA, Dr K DEAR, Dr K LOKUGE with Professor Wayne Smith, University of Newcastle; Dr Jack Ng, NRCET, University of Queensland; A/Professor Malcolm Sim, Department of Epidemiology and Preventive Medicine, Monash University; Jack Ng, National Research Centre for Environmental Toxicology, University of Queensland; Md Abul Hasnat Milton, NGO Forum for Drinking Water Supply and Sanitation, Bangladesh; and MN Mitra, Mitra and Associates, Bangladesh.

Rural health insurance in China by Prof A SLEIGH with Sukhan Jackson, School of Economics, University of Queensland.

Social Protection Facility (AusAID-funded project) by Dr J HEALY with Institute of Population & Social Research, Mahidol University, Thailand.

Tasmanian MS Cohort Study by Dr A-L PONSONBY with B Taylor, Royal Hobart Hospital TAS; I van der Mei, Menzies Institute, University of Tasmania; F Pittas, Department of Medicine, University of Tasmania; T Dwyer, Menzies Institute; University of Tasmania; A Hughes, Royal Hobart Hospital Tasmania; T Kilpatrick, Walter & Eliza Hall Institute of Medical Research, Vic, Royal Melbourne Hospital Melbourne Vic; P Gies, Australian Radiation Protection and Nuclear Safety Agency, Victoria.

Tasmanian MS case control study by Dr A-L PONSONBY with I van der Mei, Menzies Centre for Population Health Research, University of Tasmania, Hobart, Australia; Cooperative Research Centre for Discovery of Genes for Common Human Diseases, Melbourne, Australia; T Dwyer, Menzies Centre for Population Health Research, University of Tasmania, Hobart, Australia; L Blizzard, Menzies Centre for Population Health Research, University of Tasmania, Hobart, Australia; R Simmons, Australian MS Longitudinal Study, Canberra Hospital; BV Taylor, Royal Hobart Hospital, Hobart, Australia; H Butzkueven, Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia; T Kilpatrick-Cooperative Research Centre for Discovery of Genes for Common Human Diseases, Melbourne, Australia, Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia.

TB in China in relation to internal migration and socio-economic costs by Prof A SLEIGH with Sukhan Jackson, School of Economics, University of Queensland.

Timor-Leste Demographic and Health Survey by Prof T HULL, Dr B CALDWELL, Dr I UTUMO with Michael Dibley (University of Newcastle).

The Australian Multicentre of Environmental Immune Function by Prof AJ MCMICHAEL, Dr A-L PONSONBY, Dr R LUCAS, Dr K DEAR with T Kilpatrick, University of Melbourne; Michael Pender, University of Queensland David Williams, Newcastle University; Rachel Neal, Queensland Institute of Medical Research; C Chapman, Barwan Health; Bruce Taylor, Royal Hobart Hospital; Ingrid van der Mei, Menzies Institute.

The Australian Unity Wellbeing Index by Mr R ECKERSLEY with Bob Cummins, Deakin University; Derek McMillan, Australian Unity.

The effects of strain heterology on the epidemiology of equine influenza in a vaccinated population by Dr K GLASS with Dr Andrew Park (University of Cambridge), Jes Wood (Animal Health Trust, Newmarket UK) and others.

The Thai Cohort Study by Prof A SLEIGH et al with a range of Thai universities, and government officials.

Waning immunity and heterogeneity of measles vaccination coverage by Dr K GLASS with Prof Bryan Grenfell (University of Cambridge).

Work-related determinants of health, safety and well-being of New Zealanders by Dr D BROOM, Prof T Kjellstrom with Hilda Firth, Peter Crampton, Peter Herbison, Rebecca Lilley, Ann-Marie Feyer (all University of Otago); Chris Cunningham, Neil Pearce (both Massey University).

## National Graduate School of Management

Innovation in Australia: Measurement, Performance, Systems, Dynamics and Change. Don SCOTT-KEMMIS, Dr. J. MATTHEWS, Dr A. BALAGUER & Dr. M. HOLMEN in collaboration with researchers from the Department of Industry, Tourism and Resources; Department of Agriculture, Fisheries and Forestry; National Office of the Information Economy; Australian Business Foundation and the CSIRO.



# Principal Grants and Donations

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## Grants

Funding Agency	Fund Purpose	Amount (\$)
ACIL Australia Pty Ltd	Cross-Cultural Institution-Building and Development Interventions: Linked Applied and Critical Approaches	15,000
	Provincial Health Project II - Research Unit	5,560
	Technical Assistance to Conduct a Demographic and General Health Survey in East Timor	47,453
ACT Chief Minister's Department	Platform Technology for New Pharmaceuticals	50,000
ACT Department of Urban Services	Art of the Documentary' Festival in 2003	14,454
ACT Gambling and Racing Commission	Research into Gambling and Offender Populations in the ACT	36,500
ACTEW Corporation Ltd	Institutional Constraints on Water Trading in the ACT	95,150
Alcohol Education & Rehabilitation Foundation Ltd	Learning to Drink Then and Now: A New Approach to Understanding and Intervening in Problem Drinking Among Indigenous Australians	181,886
Alcon Research Institute	Mechanism of Vision	76,161
American Orchid Society	Can Orchids Communicate? Host and Fungal Specificity Amongst Australian Epiphytic Orchids	20,717
Anglogold Limited	Gold Project	36,000
Antarctic Science Advisory Committee	Conservation of Plant Biodiversity in Antarctica - A Genetic Approach	19,796
APEC Finance and Development Program	Policy Issues in the Cross-Border Provision of Consumer E-Finance Services	15,564
Art Libraries Society Australia and NZ	Research and Development, ARLIS ANZ Website	5,000
Arts ACT	NITA Community Outreach Program 2003-2005	4,800,000
Association of Universities for Research in Astronomy Inc	Gemini South Adaptive Optics Imager (GSAOI) Design and Fabrication	4,493,179
AusIndustry	Establishing the Australian Materials Technology Network	2,683,520
Australia-China Council	The China Journal	10,000
Australia-India Council	2003 K R Narayanan Oration	8,735
Australia-Indonesia Institute	Indonesia Investigative Journalism Training Program 2003	30,000
	Muslim Exchange Program	100,865
Australian Academy of Science	Insect Sensory Systems Inspiring Robotic Applications	65,150
Australian Agency for International Dev.	Ad Hoc Services for the Technical Advisory Group of the South Pacific Sea Level and Climate Monitoring Project Phase III	22,000
	Analysis of Indonesian Census Data 2000	49,500
	AusAID Governance Training	153,000
Australian Agency for International Dev.	Australian Water Research Facility; Research Scoping	45,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Agency for International Dev.	Development Bulletin Issue on Water Politics and Development (and Workshop)	48,410
	Hindsight - Reflecting on Transferring Powers to PNG, 1970-75	8,749
	Negotiating Alternative Economic Strategies for Regional Development in Indonesia and the Philippines	322,453
	Rethinking Population Development Policy Changes in Asia/Pacific	65,000
	Serial Publications and Outreach Activities for PNG and the Pacific Region	1,349,696
	Workshop on Gender, Socialism and Globalization in Contemporary Vietnam and China	10,701
Australian Antarctic Division	Crystal rebound in the Lambert Glacier area	17,508
	Heard Island 2003/4: Terrestrial Biology: Carbon acquisition and nitrogen economy of Heard Island plant as affected by climate change	12,197
	Investigation of Virus Biodiversity in Antarctic Terrestrial Plants	10,822
Australian Biological Resources Study	Generic Delimitation and Biodiversity of Small Genera in the Myrtaceae-Feeding, Gall-Inducing Eriococcid Scale Insect Clade	15,600
Australian Brain Foundation	Analogues of MDMA ('Ecstasy') as Potential Therapeutic Agents for the Treatment of Parkinson's Disease	22,000
Australian Centre for International Agricultural Research	Economic Performance and Management of the Gulf of Papua Prawn Fishery	269,486
	Integrating Environmental Impacts into Water Allocation Models of the Mekong River Basin	40,000
	Sustainable land use change in the north west provinces of China	399,734
Australian Federal Police	Policing for the 21st Century	264,000
Australian Greenhouse Office	Update Monthly Climate Surfaces and Investigation of Climate Impacts on Non-CO2 Emissions for the National Carbon Accounting System	180,606
	Design and Construction of a Power Display	17,270
Australian Housing and Urban Research Institute Limited	Evaluation of Medium Term Projections of Housing needs in Australia	25,300
Australian Institute of Aboriginal & Torres Strait Islander Studies	Caring for Cultural Country: Tourist Management and Cultural Landscape Protection at Uluru-Kata Tjuta	10,000
	Creating Country	15,407
	Russian Materials for Tasmanian Aboriginal Studies	8,692
	The Production of Indigenous Culture at CAAMA	23,791
Australian Institute of Family Studies	Longitudinal Study of Australian Children	86,100
Aust. Institute of Judicial Administration Inc	Inquisitorial Processes in Australian Tribunals	14,403
Aust. Inst. of Nuclear Science & Engineering	Protein Behaviour at Interfaces	39,000
Australian National Audit Office	Centrelink Client Survey	20,000

Funding Agency	Fund Purpose	Amount (\$)
Australian National Maritime Museum	Indigenous Knowledge and Western Science: A comparative Analysis	33,000
Australian Nuclear Science & Technology Organisation	A Study of the Changes in the Diffraction Patterns of Human and Baboon Hair with Disease	6,850
	Copper Speciation as a Function of Temperature in Fluid Inclusions and 2. Micro-XANES Determination of the Oxidation State of Fe in Natural Melt Inclusions.	11,050
	Emulsion Stability and the Liquid/Liquid Interface Denaturation of Lysozyme and Beta-Lactoglobulin at the Air/Liquid Interface	10,062
	EXAFS Characterisation of Implantation-Induced Disorder in Compound Semiconductors and structural Perturbations in Elemental Nanocrystals	7,350
	Local Structural Characterisation of Amorphised and Annealed InP and GaP	5,801
	Model Milk Fat Membranes Self-Assembled Metal Oxide Films of the Air-Water Interface, The Crystallisation of Supersaturated Emulsions and Stabilisation of High Internal Phase Emulsions by Block Copolymers	10,160
	Oil in Water Emulsions and Microemulsions	11,540
	Star Formation Histories and Stellar Populations of Galaxies in Rich Clusters	23,620
	The Oxidation state of U in a Basaltic Melt at 1400 C	6,680
	Tracking the Effects of Composition, Oxygen Fugacity and Pressure and Cooling on the Sulfur Speciation in Quenched Silicate Melts by $\mu$ XANES	11,150
	Visit ISIS UK April 2003 Reynolds Emulsion Ordering at Solid Surfaces. Microstructure at an Emulsion-Solid Interface	12,000
	Visit to ANL USA June 2003 A Study of Changes in the Diffraction Patterns of Hair with Disease	8,402
	Visit to Korea & USA May 2003 (1) Photoemission Studies of Composition Changes on III-N-V Compounds under Ion Bombardment; and 2) FEL-Based Resonance Ionisation Spectrometry of Impurities from Semiconductor Surfaces	12,000
	Visit to USA: Structure of Multi-Quasiparticle States in Lu-176 and Lu-177	12,000
Australian Orthopaedic Association Research Foundation	The Absolute Cost to the Individual and the Community of Post-Operative Infections in Total Joint Replacement	22,500
Australian Photonics Pty Ltd	Feasibility study of a Planar Waveguide Grating AWG	36,264
	Planar Silica Based Photonic Components -Ericsson Project	70,000
	SIDEARM - AIR5419	15,000
Australian Research Council	<i>Special Research Initiatives Scheme</i>	
	Adaptive Optics for Australian Astronomy, Medicine, Industry and Defence	20,000
	ARC Research Network for Renewable Energy	20,000
	AUSSGRID:The Australian Social Science Data Grid	10,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Special Research Initiatives Scheme</i> continued	
	Australian City and Regional Network	10,000
	Australian Governance and Regulation Network (AGaRN)	10,000
	Australian Semiconductor Nanotechnology Network	10,000
	China's Asia-Pacific Century: Enhancing Australia's Engagement	20,000
	Energetically Open Systems Research Network Study	10,000
	Governance and Economic Reform in the Asia-Pacific Region: The Next Steps	20,000
	Indigenous Collections and Knowledge Archives Research Network	30,000
	Innovative Materials Production, Processing and Analysis Network	30,000
	Migration and its socio-economic and cultural consequences in Australia	40,000
	Netvision: Australia's National Vision Research Network	10,000
	Network for Optical and Quantum Science and Technology	30,000
	Ocean Discovery Network	10,000
	Pacific Futures Network: Security, Governance and Development in the Pacific Islands Region	20,000
	Smart Use of Information Technology (SUITs)	10,000
	Soil Acidification, the Environment and Production	10,000
	Sustainable Futures through Understanding Past Human Responses to Environmental Change	10,000
	Sustainable terrestrial and riverine systems through integrated assessment and modelling	10,000
	The Earth System Dynamics Network for a Sustainable Australia	10,000
	To develop an Indigenous Governance Research Network	20,000
Australian Research Council	<i>Discovery Projects</i>	
	A Mission to Very Early Earth: When Did Conditions Suitable for Life Emerge on Earth?	300,000
	Aboriginal Outcomes from Land Claims, Transfers and Purchases in Central Cape York Peninsula	191,918
	Adaptive Multi-User Detectors for Mobile Space-Time Communications Systems over Time Variable Fading Channels	18,536
	Analysing Iterative Machine Learning Algorithms with Information Geometric Methods	159,264
	Applying Advanced Synchrotron Radiation Based Techniques to Determine the Connection Between the Geometric and Electronic Structure of Semiconductor Nanostructures	249,500
	Asymmetric InP-based Structures for High Power Laser Diodes at 1400-1500 nm for Pumping Optical Amplifiers Used in Communication Systems.	165,000
	Atomic Scale Identification of Amorphization and Relation Processes in Compound Semiconductors	285,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Discovery Projects continued</i>	
	Border Controls and the Movement of People in a Globalizing Asia-Pacific Region: A Cross-National Study of Four Evolving Control Regimes	222,000
	Boron Nitride Nanotube Synthesis and Applications	310,000
	Caught in a Vice: Modelling Crustal Deformation in PNG	380,000
	Citizenship, Governance and Gender: Chinese Women in Political Action	149,609
	Constraining Landform response to Tectonic and Climate Changes in an Active Orogen: A Multi-Disciplinary Approach	385,000
	Controlling the Rate of Transcription and translation of Rubisco Transgenes Effectively in Higher-Plant Plastids	20,000
	Deep Crustal Section through a Late Archaean Orogen (Greenland): Archaean Crustal Sutures, Abyssal Peridotites and Gold	170,000
	Development, Disease and Desire: AIDS and women's understandings of maternity and health among the Gogodala of PNG	208,345
	Diamonds - A Window Into the Ancient Mantle: The Origin of Earth's Atmosphere and Outgassing of the Mantle	50,000
	Differential Expression and Functional Analysis of Genes Controlling Metamorphosis and Early Neurogenesis of a Model Lower Animal, the Coral, Acropora	195,000
	Dying Stars, Mass Loss and the Creation of the Elements	270,000
	Dynamic Correlations and Coherence Effects in Two-Electron Emission Processes	380,000
	Dynamics of Nuclear Fusion: Evolution Through a Complex Multi-Dimensional Landscape	575,000
	Early Archaean Ecology - Exploring the Evidence and Habitats for Early (3.6-3.85 billion year old) Life	162,000
	Economic growth and globalisation: identifying costs and benefits	190,000
	'Traction' or 'Turbulence' in Japanese Regulatory Style? - An Empirical Analysis of Japanese Commercial Law Reform since the 1990s	65,000
	Episodicity during Orogenesis	90,028
	Evolution of Cooperative Breeding in Birds	950,000
	Fabrication and Monolithic Integration of II-V Semiconductor Photonic Devices Using Impurity Free Interdiffusion	510,000
	Family Formation and Fertility Decline in Nineteenth-Century Tasmania	105,000
	Floor Trading Versus Computer Trading - Does It Matter?	174,000
	Friction and Capillary Forces	548,000
	Galactic Nuclei: How Old, How Massive and How Active	255,000
	Geometric Spectral and Scattering Theory	210,000
	Granular Materials in 3D: Structural, mechanical and dynamic properties from the grain-scale and beyond	294,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Discovery Projects continued</i>	
	Growth and Intermixing of Quantum Dots for Multi Wavelength Infrared Photodetectors	255,000
	High Resolution Records of Climatic Change in Australia Both on Land and At Sea Covering the Last 20,000 Years	380,000
	Hydraulic Properties of Swelling Clay-Gel Soils: Electrolyte and Temperature Effects	132,000
	Image-based Visual Servo Control of Dynamic Under-Actuated Systems	172,536
	Impact of evaluation-based funding on the content of scientific research	90,000
	Indigenous Languages of Eastern East Timor: Description and Contact Studies	110,000
	Infrastructure for Wireless Internet Technology Development for Rural Australia	100,000
	Interactive Demographic Transition Analysis and Theory	146,000
	Ion Implantation Induced Diffusion and Defect Evolution I Si Nanostructures 242,700	
	Ionic Dispersion Forces in Physical Chemistry: Implications for pH, Electrochemistry, nanoparticle formation and organic synthesis	270,000
	Isomers as Probes of Nuclear Structure and Sources of Energetic Photons	402,000
	Light Control in Nonlinear Periodic Structures	755,000
	Literacy and Numeracy, Schooling, Neighbourhoods and Labour Market Success	260,000
	Lithic Astronomy: The Age and Origin of the Elements and their Incorporation in the Solar Nebula	195,000
	Looking Back to The Future: Change in the Lambert Glacier and the East Antarctic Ice Sheet	530,000
	Mechanical Deformation of Layered Semiconductor Structures	234,000
	Mechanism of Higher-Order Chromatin Formation and its role in controlling Gene Expression	420,000
	Meta-Regulations and the Regulation of Law	183,000
	Millenial Scale Instability of Sea Level and Climate System: New Analysis of Coral Terraces in Papua New Guinea	295,000
	Monetary Policy with Liquidity Constrained Government Debt Markets	92,000
	Multicast in Single-Hop and Multi-Hop WDM Optical Networks	195,000
	Network Intrusion Detection via Machine Learning	167,213
	New Cascade Routes to Biologically Important Molecules	187,191
	New Horizons in Diels-Alder Chemistry	500,000
	Novel Silicon Based Photonic Devices	290,000
	Nutritional ecology of free ranging herbivores	260,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Discovery Projects continued</i>	
	Pattern Recognition and Scene Analysis Via Machine Learning Perception, Interpretation, and the Explanation of Delusional Beliefs	277,440
	Politics of Land in Vietnam, Late 1950s-1990s	284,000
	Predicting Roll Angular Motion	133,000
	Preparation of Photo-Affinity Molecular Probes for the Identification of Gibberellin Receptors	69,099
	Problems of identification and inference for Non-Standard Models in Complex Systems with special reference to Finance and Teletraffic	345,000
	Production and Transport of Soil and Sediments, Determined by Cosmogenic Radionuclides and Noble Gases	215,000
	Properties of Hydrous Fluids and Silicate Melts at Very High Temperature and Pressures	295,000
	Proto Oceanic Language, Culture and Environment: Foundations of the Austronesian Settlement of the Pacific	260,000
	Public Policy and Immigrant Settlement in Australia	276,198
	Quantifying the El Niño-Indian Ocean Dipole system using high-resolution coral paleoclimate archives	108,000
	Quantum Photonics and Imaging	300,000
	Reaction transition states of halide-cluster complexes via velocity-map imaging of photoelectrons	1,184,640
	Reasons and Rationality	300,000
	Regulation of Ryanodine Receptor Calcium Channels by the Calcium Binding Protein Calsequestrin	195,000
	Religion, Power and Crisis in Indonesia and Thailand Islamic and Buddhist Responses to Globalising Markets and Cultures	300,000
	Resourcing Public Law Enforcement Agencies in the 21st Century; Coercion, Sale and Gift	90,000
	Role of novel zinc-binding motif in the structure-function of deubiquitinating enzymes	200,000
	Safe Adaptive Control	225,000
	Size-Separation of Polymers in Ordered Obstacle Assemblies DNA Electrophoresis in Microlithographic Arrays	253,035
	Small is Beautiful: Did Gene-Rich Regions of Mammal Chromosomes Evolve from Microchromosomes	5,762
	Sparse grid approximations and fitting using generalised combination techniques	345,000
	Specific Ion Effects in Colloid, Surface and Polymer Science	171,000
	Stable Isotopes in Marsupials: Reconstruction of Environmental Change in Australia	17,139
Stochastic Analysis with a View to Applications in Financial Risk Processes	210,000	
		120,000

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Discovery Projects continued</i>	
	Structures and Properties of Tissue Engineering Matrices for Cartilage and Bone: Imaging, Visualising and Modelling Tissue/Scaffold Constructs in 3D	211,000
	Studies of Turbulence and Coherent Structures in Quasi Two-Dimensional Plasmas and Fluids	605,000
	Sulfide Partial Melting at Broken Hill: Process and Implications	120,000
	Superdeformed Nuclei and their Decay: Challenging Nuclear Models and Probing Quantum Tunnelling	140,000
	Synthetic, Molecular and Biological Studies on Novel Marine Metabolites Isolated from Great Barrier Reef Sponges	630,000
	Tectonic Reconstruction of the Evolution of the Alpine - Himalayan Orogenic chain	710,000
	The Evolution of Dwarf Elliptical Galaxies: Nature or Nurture?	165,719
	The Art of Albert Namatjira: A Cultural Legacy and Artistic Mediation	69,099
	The Effects of De-Gassing on the Dispersion and Stability of Emulsions and Colloidal Solutions	575,000
	The Fluid Dynamics of Lava Flows: Silicic Domes and Basaltic Channels	220,000
	The Genetics of Social Regulation of Reproduction in Honey Bees	72,500
	The geochemistry of trace elements with variable oxidation states	120,000
	The Implementation of Process Regulation in Occupational Health and Safety: A Comparative Study of Policy and Practice	163,000
	The Indonesian Killings of 1965-1966	82,188
	The key role of the Southern Ocean in atmospheric CO2 sequestration	235,000
	The Mathematics and Physics of Interacting Systems	1,011,300
	The Mechanisms of Photoprotection in Plants - A Genomics and Photophysical Approach	330,000
	The Physical and Optical Properties of Self-Assembled Si Nanocrystals	318,035
	The Structural and Physical Properties of Galaxies over the past 10 G Years	275,000
	Time and Timelessness in Aboriginal Societies as Exemplified in Ngarinyin Body-Imagery	213,000
	To develop an Indigenous Governance Research Network	20,000
	Towards Oligoclusters: Chemistry, Properties and Applications	770,000
	Transparency International and the Problem of Corruption	223,000
	Uncoupling past salinity and temperature signals in the Indo-Pacific Warm Pool: implications for climate change in the Australian region	280,000
	Understanding Phenomenal Experience as a Natural Part of Our World	189,000



Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Discovery Projects continued</i>	
	Violence, Religion and Well-Being in Contemporary Burma	320,000
	Wild man from Borneo: Species, Race, Representation	71,265
Australian Research Council	<i>Linkages Projects</i>	
	Adolescent Gambling: Prevalence, Risk Factors, and Opportunities for Controls and Interventions	60,000
	Anthropological and Aboriginal Perspectives on the Donald Thompson Collection: Material Culture, Collecting and Identity	352,620
	Cover Crops That Decrease Phosphorus (P) Transport from Agricultural Soils by Increasing the Efficiency of P Fertiliser Application	69,099
	Cross-Cultural Institution-Building and Development Interventions: Linked Applied and Critical Approaches	148,098
	Development of Chemoenzymatic Methods for the Selective Elaboration of Polyfunctional Therapeutic Agents to Oligomers with Improved Efficacy	69,099
	Development of Inert Gas Ion Beams for Fabrication of Nano-Structures	300,000
	From Compliance to Mindfulness	77,899
	From Synchrotron Characterisation of Single Fluid Inclusions to Archaean Geodynamics: An Integrated Study of Fluid-Rock Interaction in the Primitive Crust	46,200
	Guiding early Silvicultural Interventions Through Predicting Canopy and Crown Dynamics in Plantations of Sub-Tropical Eucalypts	122,000
	Indigenous Community Governance: Understanding, Building and sustaining Effective Governance in Rural, Remote and Urban Indigenous Australian Communities	270,000
	Indigenous Knowledge and Western Science: A comparative Analysis	307,000
	Integrated Water Management in the Lower Richmond Catchment	126,000
	Low-Cost Photovoltaic Modules through reduced Silicon Consumption	620,000
	Molecular Interactions of Chemical Agents with Ion-Channel Proteins	210,000
	Nanorheology: Hydrodynamic Slip in Newtonian Fluids	291,000
	Negotiating Alternative Economic Strategies for Regional Development in Indonesia and the Philippines	327,228
	Overcoming Performance Limitations in Multicrystalline Silicon Solar Cells	610,000
	Pathways to Improved Educational Attainment for Indigenous Australians : Social and Institutional Factors Underlying School Participation	75,406
	Policing for the 21st Century	971,424

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Linkage Projects continued</i>	
	Precise Global Time Scale for the Oxidation of Earth's Atmosphere between 2.6 and 2.0 billion years ago	60,000
	Programming Paradigms, Tools and Algorithms for the Spectral Solution of the Electronic Schroedinger Equation on Non-Uniform Memory Parallel Processors	498,000
	Robotics For the Real World: A Museum Tourguide Robot	195,000
	Stamp Forming of Lightweight Fibre-metal Laminate Systems	213,000
	Strategic Assessment of Research Performance Indicators	125,000
	Study of the Development and Impacts of Legalised Sportsbetting and Internet/Interactive Gambling	20,899
	Subunit Contacts in a replicative DNA polymerase: A New Paradigm for Protein-Protein Interactions	197,466
	Synthetic Compounds to Specifically Activate or Inhibit Ryanodine Receptor Calcium Ion Channels	204,000
	The Human Elements: A Cultural History of Australian Weather	166,986
	The New Policing: Partnerships, Resources and Modes of Governance	700,000
	The Role of the Ttyh1 Protein in Cell Activation	84,099
	Why is the Photosynthetic CO <sub>2</sub> -fixing Enzyme, Rubisco, so inefficient? Dissection of the Catalytic Chemistry by Computational Simulation and Experimental Testing	345,000
Australian Research Council	<i>Linkage International</i>	
	Hardy Spaces of Differentiation Forms and Applications	24,800
	High Temperature Elastic Wave Speeds of Mantle Minerals and their Seismological Implications	20,000
	Low-order dynamical models for non-linear fluid behaviour in quasi two-dimensional plasmas	9,000
	Optoelectronic Properties of Low-Dimensional Semiconductor Systems and Semiconductor Nanostructures under Terahertz Free-Electron Laser Radiation	28,800
	Quantum Photonics with Continuous Laser Beams	43,400
Travel Grant	43,400	
Australian Research Council	<i>Centre of Excellence</i>	
	ARC Centre for Solar Energy Systems	1,500,960
	Australian Centre for Quantum Atom Optics	10,950,000
	Centre of Integrative Legume Research	2,974,774
	Centre for Ultrahigh-Bandwidth Devices for Optical Systems	1,406,000
	Perceptive and Intelligent Machines in Complex Environments	389,000
The Centre for Mathematical and Statistical Modelling of Complex Systems: An ARC Centre of Excellence	2,585,128	

Funding Agency	Fund Purpose	Amount (\$)
Australian Research Council	<i>Linkages Infrastructure, Equipment &amp; Facilities</i>	
	800MHz NMR Spectrometer for Molecular Structure-Function Analyses	1,584,000
	GEOWULF: An Inference Engine for Complex Earth Systems	190,000
	Surface and Strain Measurement Facilities for the Investigation of Intelligent CAD Approaches	160,000
	Intelligent Computer System to Access Information Directly from the Brain Using High Resolution Electroencephalography and Repetitive Transcranial Magnetic Stimulation	115,490
	Federation Fellowships	
	Creation of a Novel Photonic and Nanostructured Materials by Ablation of Solids with Ultra Fast Lasers	1,481,765
	Quantum and Atom Optics	1,481,765
	Spectacle and Multimedia in Late-Eighteenth-Century Europe: a Program of Written and Multi-media histories	1,450,370
Australian Research Council	<i>Large Research Projects</i>	
	Constructing a New Chinese Identity: Philosophical and Literary Reinterpretations of Chinese Traditions in the 1980s	29,498
	Three Dimensional Image Analysis: Characterising the Morphology of Complex Materials and Implications to Material Properties	164,961
Australian Research Council	<i>Senior Research Fellowship</i>	
	Deformation and Dynamics of Single Polymer Chains	179,032
Australian Synchrotron Research Program	Amorphous Compound Semiconductors	6,680
	Diffuse Scattering from Crystals Containing Flexible Organic Molecules	7,170
Australian Synchrotron Research Program	Electronic Structure and Interface Effect of Ge Nanocrystals Embedded in a SiO <sub>2</sub> Matrix	6,850
	Local Atomic Structures of Semiconductor Nanocrystals	6,830
Beryl Rawson	Allan Martin Lecture in History Series	6,000
Beyondblue	Australia-Japan Partnership	40,000
Beyondblue: the national depression initiative	e-prevention: A Web-Based Intervention	553,698
Biotron Ltd	Synthetic Compounds to Specifically Activate or Inhibit Ryanodine Receptor Calcium Ion Channels	60,000
	Viral Ion Channels Structure/Function Relationship	40,500
Blake Dawson Waldron	Blake Dawson Waldron Lectures	36,000
Bureau of Meteorology	The Human Elements: A Cultural History of Australian Weather	60,000
Bureau of Resource Sciences	Scholarship for student Prachi Jain	30,000
Business ACT	Biophotonics Development	75,000
	Support for ARC Centre of Excellence for Quantum-Atom Optics	250,000
Cambridge Endowment for Research in Finance	International Financial Contagion: Theory and Evidence	14,355

Funding Agency	Fund Purpose	Amount (\$)
Central Land Council	TIOD for ELAs 9807, 9809, 10389 and 22617	5,850
Charles Sturt University	Special Research Centre for Applied Philosophy and Public Ethics	808,653
Chiang Ching-kuo Foundation for International Scholarly Exchange	Publication Subsidy for Indo-Pacific Prehistory: The Taipei Papers	13,333
Commonwealth Department of Health & Aged Care	Developing and Conducting a Master of Applied Epidemiology in Aboriginal Health Course 2001-2004	301,156
Commonwealth Scientific Industrial Research Organisation	Cross Disciplinary Bridges in Complex Systems Science	18,000
	Development of a Catchment Containment Cycle Model for Stakeholder Use	138,444
Community Health & Tuberculosis Australia	Detection Isolation and Characterisation of Novel Antiinfective Agents From Cultured Microfungi	40,143
CRC for Antarctic Climate and Ecosystems	ACE Sea Level Rise Research Program	622,765
CRC for Smart Internet Technology	CRC for Smart Internet Technology - Support for PhD Students	67,200
	Research Project- IE-05 IEContext Pelican II	136,000
	Student Agreement-Stipend Kee Siong Ng	39,600
CSIRO	Innovations in Australia: Measurement, Performance, Systems, Dynamics and Change	80,000
Deakin University	Working Students: reconceptualising the doctoral experience	87,099
Defence Science and Technology Org.	Feasibility Study on the use of Stacked Array Detectors to EO Threat Warning	55,000
	Research in Novel Opto-Electronic Device Fabrication	44,000
Dept. of Agriculture, Fisheries & Forestry	Development and Analysis of Continental Forest Monitoring Framework	22,000
	Postgraduate Research Scholarship for the Evaluation of the National Indigenous Forestry Strategy	111,100
Dept. of Communications Information Technology and the Arts	Demand Drivers for Broadband Takeup by Households and Businesses	107,319
Dept. of Defence	Professorship in Australian Defence History	560,000
	Support for Quantum Computing and Quantum Cryptography Research	49,000
Dept. of Education, Science & Training	Australian Partnership for Advanced Computing 2004-2006	29,000,000
	Cross platform studies of fusion Plasma confinement in tokamaks and stellerators	46,000
	Innovative and Practical Approach to Team Teaching in Large, First Year Classes (Australian Award for University Teaching)	50,000
	Management of the FEAST 4 Networking for Excellence Conference	50,000
	Provision of services under the Aboriginal Tutorial Assistance Scheme (ATAS) 91,367	
	Strategic Assessment of Research Performance Indicators	70,968
	Visit of NASA astronaut/scientist to collaborate with the ANU	22,500
	Workshops for Science Communicators	7,000
Dept. of Family & Community Services	Measuring the Size of the Australian Cash Economy	91,476

Funding Agency	Fund Purpose	Amount (\$)
Dept. of Family & Community Services	The Dynamics of Low Income, Welfare Reliance, and Changes in the Family Structure of Parents with Dependent Children	60,000
	Overcoming Mental Health Barriers to Social and Economic Participation	26,000
Dept. of Foreign Affairs and Trade	Strategic Outlook in the Asia Pacific	70,000
Dept. of Health & Aged Care	Australian Japan Partnership - Mental Health Literacy Survey	300,000
	PHCAP Indigenous Population Mobility Study	25,486
	Primary Care Indicators for Indigenous Specific Services and Programs Funded by OATSIH	75,762
Dept. of Health and Ageing	Estimation of Indigenous use of Mainstream Services for the Darwin Region and N.Metropolitan Area of Adelaide	65,000
	Internet assisted cognitive behaviour therapy in general practice	298,222
	Provision of Expert Advice to OATSIH on ATSI Substance Abuse	22,000
	Talking About Alcohol With Indigenous Patients - Flipchart	23,687
Dept. of Immigration & Multicultural Affairs	Contract Services for Training and Technical Advice for the Business Skills Centre	20,000
Dept. of Primary Industries	Understanding the fundamental interactions between grapevine Phylloxera and Vitis Species	75,000
Dept. of Sustainability & Environment (VIC)	Dendrochronological Reconstruction of Climate and Streamflow in the Cotton Catchment	30,000
	Integrated Natural Resources Management Project	6,500
Dept. of Sustainability and Environment	Estimation of errors in models from forest inventory data	65,000
Dept. of the House of Representatives	Parliamentary Inquiry on Wireless Broadband	20,000
Dept. of Tourism, Parks, Heritage & the Arts	FIRESCAPE-SWTAS Computer Simulation Project	20,136
Dept. of Transport & Regional Services	Kioloa Coastal Campus Conference Centre Feasibility Study.	25,680
Dept. of Treasury (Commonwealth)	Delivery of Economics Training for Treasury Analysts	104,328
Diabetes Australia	Dendritic Cell-Based Immunotherapy for the Reestablishment of Self Tolerance to Islet Beta Cells in NOD Mice	40,000
	Development of Vaccine for Type 1 Diabetes	40,000
	Molecular Mechanisms for Survival of Islet Tissue Allografts and Xenografts: a Role for the Transcription Factor c-Rel	40,000
Distilled Spirits Industry Council of Aust Inc.	Research Report on Underage Drinking	20,000
Earthwatch Institute	Australia's Forest Marsupials	41,290
Ecowise Environmental Pty Ltd	Endocrine Disrupting Compounds: An Assessment within Lower Molonglo WPCF and Assoc. Discharge Site- PHD Stuart Dennis	20,000
Elsevier Science	Elsevier Scholarship - Information Sciences	36,000
Embassy of France	Expressive Power and Complexity of Temporal Logics for Model-checking	8,600
	APEC Labour Market Information Database and Website	79,200
Employment, Workplace Relations and Small Business, Dept. of		
Environment ACT	Review and Assess Feasible Alternative Livelihoods for Traditional Indonesian Fishers who access the Mou Box, Timor Sea	40,700

Funding Agency	Fund Purpose	Amount (\$)
Environment Australia	Development of a Cane Toad Biological Control	6,800
	Survey of Small- to Medium-sized Mammals at Booderee Nat. Park	49,000
	Workshop on Turtle Conservation and Management in the Mou Box	35,431
Eraring Energy	From Compliance to Mindfulness	15,000
FEI Company	Development of Inert Gas Ion Beams for Fabrication of Nano-Structures	226,000
Flinders University of South Australia	Environmental and Technological Applications of Electron-Driven Processes	16,500
Ford Foundation	Preparation of a book <i>History and Impact of Indonesia's Family Planning and Reproductive Health Program</i>	104,019
Ford Motor Company	Stamp Forming of Lightweight Fibre-metal Laminate Systems	120,000
	Stamping Investigation Project	402,000
Fujitsu Laboratories of Europe Limited	ANU-Fujitsu Area 3 Fund	659,976
GalaxoSmithKlein Australia Pty Ltd	Identification and Characterisation of a MMGL homologue	13,200
Gambling Research Panel	2001-2002 Longitudinal Community Attitudes Survey and Validation of the Victorian Gambling Screen	71,598
Garvan Institute of Medical Research	Biostatistics Consultancy for Garvan Cancer Research Group	6,000
Geoscience Australia	Review of Modelling Methodology: Risk modelling Project	9,000
Grains Research & Development Corporation	Environmental Management Systems in Agriculture: A Comparative Analysis of Initiatives in the European Union and Australia	282,750
	Lectureship in Plant-Microbe Interactions	259,064
	Refurbishment of BOZO laboratories for take - all project	330,000
Griffith University	Protecting Community Interest and Building Corporate Integrity through Ethical Governance in the Queensland Gambling Industry	12,842
Hassall & Associates Pty Ltd	A policy to study under the Economics and Foreign trade training project: Competition Policy	30,000
Hermon Slade Foundation	A policy to Study under the Economics and Foreign Trade Training Program: Foreign Investment	30,000
	Conservation Ecology of a Nationally Threatened Reptile-Student Grant	32,830
	Inhibition of Plant Pathogen Adhesion and Virulence by Single Chain Recombinant Antibodies	57,366
Human Frontier Science Program	Phototransduction Mechanism in Cones (via Osaka University)	473,399
Human Rights & Equal Opportunity Comm.	Consultancy Services for Research for the 2003 Native Title Report	11,743
Ian Potter Foundation	Fusion	5,000
ICRAF SEA Regional Research Programme	Cassava Safety: Development and Evaluation of Simple Tests of the Cyanogenic Potential of Cassava Flour and Cassava Tubers	22,000
	The Impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia	91,102
Institute of Actuaries of Australia	Management, Processing and Analysis of Insured Disability Income Experience Data	79,200
International Tropical Timber Organization	Ex-Post Evaluation of ITTO Project 15/96 Rev 2 (M.I.)	13,333

Funding Agency	Fund Purpose	Amount (\$)
Japan Foundation	Survey of Japanese Studies in Australia and New Zealand	109,225
Juvenile Diabetes Foundation International	The Role of MHC Class I in Initiation and Preparation of IDDM	220,000
Kimberley Land Council	Argyle Mining Negotiation Project	38,223
Korea Research Foundation	The Third biennial Conference of the Korean Studies Association of Australasian	32,000
Korean Studies Association of Australasia	Korean Studies Association of Australia Graduate Program	71,838
Land & Water Resources Research & Dev Corp	Co-understanding of place, people and water in Central Australia	33,020
	Extending audit outcomes to enhance rural local government environmental capacity	148,700
	Improved Water Management incorporating Risk and Climate Awareness	50,000
	Improving NRM Program & Project Design, Implementation and Evaluation - Scholar: Arianne Lowe	84,000
	Social and Institutional Implications of Landscape and Land Use Change	11,500
Land and Water Australia	The Regulation of Indigenous Rights through Environmental Legislation	84,000
Lawrence Livermore National Laboratory	Nanoindentation of Films	14,638
Louisiana State Univ. Health Sciences Center	The Protective Efficacy of Prime-Boost Vaccination	87,649
Max-Planck-Institut	Imaging MOSS Spectrometer	149,840
Meat and Livestock Australia Ltd	Drug Discovery in Sheep Nematodes by Functional Genomics in <i>caenorhabditis elegans</i>	450,000
Melbourne University Private	Liberalising and Facilitating the Movement of Natural Persons under AFAS	48,381
	Public Policy and Training Project Ho Chi Minh National Political Academy (Phase 1)	172,350
	Study on Liberalisation and Harmonisation of ASEAN telecommunications	194,880
Michael Williams & Associates Pty Ltd.	Development Guidelines for Delivery of Conservation Incentives by Regional Organisations	12,100
Microsoft Corporation	Memory Management for the Rotor Virtual Machining	93,403
Ministry of Finance, Japan	Study on Future Financial Arrangements to Support Financial Development in East Asia	250,000
Monash University	Access Data Assimilation Project	45,000
	Geochronology	29,500
Multiple Sclerosis Research Office	Nitric Oxide (NO) as a Down Regulator of Central Nervous System Inflammation. Delivery of NO using genetically engineered encephalitogenic T cells	110,000
Museum Victoria	Anthropological and Aboriginal Perspectives on the Donald Thompson Collection: Material Culture, Collecting and Identity	90,000
National Capital Authority	Microbiological Examination and Development of Molecular Detection Techniques for Coliform Bacteria based on Lake Burley Griffin samples	196,717

Funding Agency	Fund Purpose	Amount (\$)
National Drug Law Enforcement Research Fund Secretariat	The Governance of Synthetic Drugs	121,803
National Geographic Society	Ecology and Conservation of the Green Pythons on Cape York Peninsula, Australia	29,032
National Health & Medical Research Council	A New Scrambled Antigen Vaccine (Savine) Approach: Proof-of-Concept in Non-Human Primates for HIV-I	120,700
	Auto MACS Cell Sorter	47,925
	Bio Rad Real Time PCR Machine	37,835
	Bio-Rad PDS-1000 Hepta Biolistic System plus Jevac Vacuum Pump	5,764
	Choice or Chance: the Social Context of Contraceptive Use by women with HCV and their Reproductive and Sexual Health Needs	255,400
	CLICs and GSTs: New Ion Channel Modulators	394,500
	Coenzyme A Synthesis in the Human Malaria Parasite Plasmodium Falciparum	405,000
	Control of Gastrointestinal Motility by Interstitial Cells and Neuronal Projections	385,504
	Critical Role of TNF in Host-Virus Interactions and Outcome of Infection: Involvement of Reverse signalling Through mTFN	489,750
	Dendritic Mechanisms Underlying Synaptic Plasticity	312,000
	Development of Primate Fovea	65,000
National Health & Medical Research Council	Effects of Mutations in the Conserved Cysteine Loop of the GABA-A Receptor	411,000
	Effects of sodium bicarbonate on pharmacokinetics and pharmacodynamics in clinical toxicology	85,296
	Electroretinogram Recordings of Human Scotopic Dark Adaption following Intense Bleaching Exposures	267,750
	Gel Documentation System	32,000
	Gradient PCR Machine	15,667
	How Do Nurses Deal With Illicit Drug Users: A Shealth Services Investigation	38,780
	Identification and characterisation of the genes and pathways in susceptibility to inflammatory bowel disease	520,500
	Improved Ways to Study the Effect of Transient Exposures on the Risk of an Illness, with Application to Flying and DVT	207,750
	Inverted Microscope for Imaging Cell and Organism Development	49,972
	Ion Transport in the Human Malaria Parasite Plasmodium Falciparu	225,000
	Micro Injection Apparatus - Expression of Metabolite and Ion Transporters in Xenopus Laevis Oocytes	9,000
	Microplate Luminometer	19,400
	Molecular Mechanisms of Photoreceptor Protection in Rat Models	277,480
	Mortality, Morbidity and Income Inequality in Australia	228,050



Funding Agency	Fund Purpose	Amount (\$)
National Health & Medical Research Council	Oxygen Toxicity as a Factor in Retinal Degenerations: Genetic and Environmental Mechanisms	265,500
	Reducing Deaths from Pesticide Poisoning - Establishing a Regional Toxicology Research	738,729
	Screening for Chlamydia Trachomatis with Routine Pap Smears in General Practice: A Randomised Controlled Trial	343,625
	Senior Principal Research Fellowship	316,750
	Thai Health and Risk Transition Cohort Study	1,231,215
	Upgrade of Light Microscopy Digital Imaging Facility	43,911
	Upper Bedding as a Prevention Measure in Childhood Asthma: A Randomised Controlled Trial	187,000
	Variation in the Expression of Subtypes of Intracellular IP3 and Ryanodine Calcium Stores Within and Between Arteries	99,365
National ICT Australia Ltd	NICTA - Library Resources Collection	550,000
National Institutes of Health	Genes for Immunity and Tolerance Consortium	2,816,720
National Library of Australia	In a New Light: Australian Photography 1850s-2000	18,645
National Multiple Sclerosis Society of USA	A Case Control Study of Past Sun Exposure and First Demyelinating Events	841,994
National Museum of Australia	The Human Elements: A Cultural History of Australian Weather	101,398
National Native Title Tribunal (Commth)	Wik Native Title Claimant Application	14,039
National Oceans Office	Support of the Australian Arafura and Timor Seas Expert Forum (ATSEF) Secretariat	50,000
National Parks & Wildlife Service, NSW	Research into Kinship with the Natural World	20,900
Netherlands Institute for War Documentation	New Orders: Crime and Authority	130,360
National Office for the Information Economy	Innovations in Australia: Measurement, Performance, Systems, Dynamics and Change	40,000
North Qld Land Council Aboriginal Corp	Anthropological Research & Connection Report for Dyrirbal Native Title Determination Application	12,100
Northern Land Council	Advice on Aboriginal Benefits Account	5,000
Northern Territory Government	NT Indigenous Arts Industry Review	33,000
	Provision of an In-House Academic Research Capacity	220,074
NSW Dept. of Education and Training	Indigenous Knowledge and Western Science: A comparative Analysis	49,500
NSW Dept. of Housing	Medium Term Projections Study on NSW Households	88,000
Origin Energy Retail Limited	Low Cost Photovoltaic Modules through Reduced Silicon Consumption	620,000
People's Trust for Endangered Species	Safeguarding Tasmania's Quolls and their Ancient Forest Home: Practical Conservation Outcomes for the Threatened Spotted-Tailed Quoll in Fragmented Forest Landscapes in Tasmania, Australia	15,042
Queensland University of Technology	Lifecourse Perspective on Health	55,000
Questacon - The National Science and Technology Centre	Questacon Virtual Reality Shark Encounter Theatre	100,000

Funding Agency	Fund Purpose	Amount (\$)
Retina Australia formerly Aust. Retinitis Pigmentosa Assoc.	Molecular Mechanisms of Photoreceptor Protection in Rat Models of Degenerative Retinal Disease	30,000
Rural Industries Research and Dev. Corp.	Genetic Improvement of low rainfall eucalypts for pest resistance and non-wood products	34,500
	Herbivore nutrition and competitive grazing impacts (Justin Billing as Scholar)	78,000
	Private Sector Conservation Enterprises	40,259
	RIRDC-Postgraduate Scholarship Award Top Up-Catherine Simpson	37,500
Stanford University	Research Initiative on the Environment, the Economy and Sustainable Welfare	114,000
State Forests NSW	Guiding early Silvicultural Interventions Through Predicting Canopy and Crown Dynamics in Plantations of Sub-Tropical Eucalypts	15,000
Sun Microsystems	Programming Paradigms, Tools and Algorithms for the Spectral Solution of the Electronic Schroedinger Equation on Non-Uniform Memory Parallel Processors	99,637
Sydney Catchment Authority	Cover Crops That Decrease Phosphorus (P) Transport from Agricultural Soils by increasing the Efficiency of P Fertiliser Application	30,000
The Cancer Council ACT	Coping Style and Severity of Toxicity from Adjuvant Chemotherapy for Early Breast Cancer	79,750
The Dept. of Nat Resources and Environment	Consultancy:- Monitoring Populations of Forest Vertebrates in the Central Highlands, Victoria	45,000
The Eldon and Anne Foote Trust	PHD Scholarship- Renewable Energy	90,000
The Macquarie Library Pty Ltd	The Macquarie Atlas of Indigenous Australia	6,000
The Research Foundation of SUNY	Water transport in the lacrimal gland	37,154
The Royal Society (UK)	Population and Individual-level Effects of Intensive Forestry Practice on Spotted-tailed Quolls ( <i>Dasyurus maculatus</i> ) in Tasmania	23,993
The Sasakawa Peace Foundation	Distance Education in the South-West Pacific Cultural Heritage Training Program	93,446
The University of Texas	Social Network of a Highly Active HIV/STD Core Group	69,493
The Wellcome Trust	Health and Mortality Transitions in Shanghai 1950-2000	182,583
The Wilderness Society	WildCountry Science Project	217,000
Torres Strait Regional Authority	Anthropological Inquiry in relation to Native Title in certain Torres Strait Seas	22,400
Toyota Foundation	Asian Civic Rights Network: National Security, Media and the Promotion of Rights in the 21st Century	114,054
Transparency International Australia	National Integrity System Country Studies: Pacific Isl. Countries	256,833
Uniquet Pty Ltd	Prevention and Control of SARS and Other Infectious Diseases Action Plan	18,000
United Nations Commission for the Comprehensive Nuclear-Test-Ban Treaty Org.	Post certification Activities: Warramunga Array NT Primary Seismic station PS2 and Infrasound Station 107AU	1,143,173
United Nations Development Programme	Baseline Study on Civic Education Needs and Attitudes Towards Democratic Governance of Fiji	50,360
United Nations Economic & Social Commission for Asia & the Pacific	UNESCO - United Nations Educational Scientific Organisation	20,000

Funding Agency	Fund Purpose	Amount (\$)
United Nations Educational Scientific and Cultural Organisation	Cultural Policies in Development	10,640
Univers Foundation, Japan	Promotion of a social security system in the modernization of traditional currency: potential for socio-economic support using shell money	11,378
University of Adelaide	Astrophysics with the CANGAROO III Gamma-ray Telescope	79,000
University of Cambridge	Subcontract for the China Epidemiology Project	52,075
University of London	Documenting Rongga : A Marginalised Small Language of South-Central Flores, Indonesia	269,455
	Jawoyn Cultural Texts, Dictionary and Grammar	138,832
University Of New South Wales	Illicit Drug Reporting System (IDRS) in the ACT 2003/4	47,898
	Party Drugs Initiative in the ACT 2003/2004	44,695
University of Queensland	New Generation Metalloenzyme Magnetic Circular Dichroism Spectrometer Systems	100,000
University of Rochester Medical Centre	Metabolism and Toxicity of Halogenated Hydrocarbons	81,688
University of Sydney	Sir Zelman Cowen Fund	18,948
University of Technology Sydney	Australian Survey of Social Attitudes 2003	17,000
URS Australia Pty Ltd	Annotated Bibliography of the Ethnic Groups of the Berau-Bintuni Bay Area of Irian Jaya	17,600
Victoria Police	The New Policing: Partnerships, Resources and Modes of Governance	198,009
Victorian Dept. of Innovation, Industry and Regional Development	Australian Geological Convention (Symposium: The Australian Synchrotron)	10,795
	Australian Synchrotron Summer School	30,000
	VUV14 Conference	20,000
Victorian Law Reform Commission	Victorian Law Reform Commission - Constitutional Advice	5,500
Vincent Fairfax Family Foundation	The University of Newcastle - Australian National University Fellowship in Epidemiology	177,273
WorldFish Centre	Sub-global Assessment of Coastal Small Island and Coral Reef Ecosystem in Papua New Guinea	28,160
Yirrikala Community Education Centre	Indigenous Knowledge & Western Science: A Comparative Analysis	16,500
<b>Sub-total</b>	<b>GRANTS \$5,000 and above</b>	<b>141,475,539</b>

## Donations

Donor	Purpose	Amount (\$)
ACT Government	Eccles Centenary Symposium	5,000
Agapitos, J & Wilson, R	Artwork Collection - ANU Drill Hall Gallery	12,953
Al Maktoum Foundation	Arab & Islamic Studies Centre	500,000
Allen, D C	Bragg Scholarship	120,000
Ambruster, J	Bok Honours Scholarship Endowment Fund	12,943
Anonymous	Chair of Drama, Faculty of Arts	4,435,114
	Scholarships in Chinese Studies	20,000
	Mount Stromlo Observatory Staff Bushfire Relief Fund	10,000
	Dean of Law Special Fund	6,000
Atkinson, W J	Landscape Management & Biodiversity Conservation	9,000
Australian Fulbright Association	W G Walker Fund	20,000
Australian Institute of Administrative Law	Law Alumni Chair	5,000
Babbage, R	General Research Activities - Research School of Pacific and Asian Studies	5,000
	The Baume Fund	5,000
Baume, P & J	Artwork Collection - ANU Drill Hall Gallery	11,750
Bennett, J H	Cambridge Commonwealth Fellowships - R A Fisher Science Research Scholarship	45,000
Blake Dawson Waldron	Blake Dawson Waldron Lectures	20,000
Bridgestar Pty Ltd	Oxford Australia Fund	10,000
Christian Media Association	Spiritual Art Prize	15,000
Clough Limited	Fulbright Scholarship Fund	30,000
Corrs Chambers Westgarth	Australian Services Industry Research Centre	5,000
CSIRO	Cambridge Commonwealth Fellowships	20,000
DePuy Australia Pty Ltd	ACT Orthopaedic & Musculoskeletal Research Foundation	10,000
Dewar, R L & M E	Research School of Physical Sciences and Engineering	10,951
Duffield, J D	Mt Stromlo Redevelopment Fund	25,000
Embassy of UAE	Middle Eastern & Central Asia Studies Centre	10,000
Estate of the Late Archibald Brown	Department of Theoretical Physics	5,000
Estate of the Late Dorothy Olive Cameron	Dorothy Cameron Bequest - School of Archaeology & Anthropology	15,000
Estate of the Late Elspeth Anne Young	Elspeth Young Bequest Fund, Jabal Centre	708,750
Estate of the Late Joan Thorpe	Joan Thorpe Visiting Professor/Artist Fund - School of Music	14,246
Estate of the Late Orde Poynton	Cambridge Commonwealth Fellowships - Orde Poynton Fund	628,134
Fenner, F	Fenner Hall - Bobbie Fenner Scholarships Fund	40,000
	Frank And Bobbie Fenner Endowment Fund	15,000
	Joyce Fildes Honours Scholarship	15,000
Foley, C	Margaret Dunstone Fund for Voice	15,000
Gage, P & Dulhunty, A & Board, P & M & Parish, C & B	Biotron Founders Fund	396,000

Donor	Purpose	Amount (\$)
Garnaut Family Trust	General Research Activities - Dept. of Economics, Research School of Pacific and Asian Studies	25,000
Greig, D W	Dean of Law Special Fund	5,000
Hayward, W	Cambridge Commonwealth Fellowships	5,000
Herbst, V & P	Peter Herbst Fund	30,000
Hope, G	General Research Activities -Research School of Pacific and Asian Studies	7,000
John, B G	Hilda John Bequest	25,000
Kent, K	Keith Family Clinical Haematology Research Fund	20,000
Koch, H J & G E	Teaching and Research - School of Language Studies	7,000
Mathy's Australia Pty Ltd	ACT Orthopaedic & Musculoskeletal Research Foundation	22,500
Minter Ellison	Australian Services Industry Research Centre	15,000
MIT Haystack Observatory	Mount Stromlo Redevelopment Fund	8,311
Osteoz Pty Ltd	ACT Orthopaedic & Musculoskeletal Research Foundation	10,000
Paterson, M S	Mervyn and Katalin Paterson Fellowship	10,000
Pfizer Pty Ltd	Neville Bonner Indigenous Scholarship Fund	30,000
Pivot Ltd	Australian Foundation For Mental Health Research	21,754
Rawson, B	Allan Martin Public Lectures in History	25,000
Rumble, G	Regional Access Scholarships	5,000
Santamaria, J G	University College Old Members Scholarship Fund	10,000
SCITECH Development Centre	Mount Stromlo Redevelopment Fund	5,403
Seoul Korea Foundation	Chair in Korean Studies	400,000
Smiles, D	Margaret Smiles Accompaniment Prize	5,000
Space Telescope Science Institute	Mount Stromlo Redevelopment Fund	5,454
Telstra Corporation Limited	Australian Services Industry Research Centre	50,000
Terrell, D	Endowment for Excellence	10,575
The British Council	Oxford Australia Fund	49,528
The Journal of Pacific History	Support Publication Costs for the Journal of Pacific History	40,000
	Scholarships and Research in Pacific History	7,000
The Pratt Family Foundation	Ken Wanganeen Fund	20,000
University of Sydney	Oxford Australia Fund	10,000
University of Tasmania	Oxford Australia Fund	10,000
Westende, L	Westende IOF Travelling Scholarship	5,000
Lady Wilson	Sir Roland Wilson Foundation	120,000
Sub-total	DONATIONS \$5,000 and above	8,250,366
Sub-total	GRANTS and DONATIONS \$5,000 and above	149,725,905
Other	GRANTS and DONATIONS under \$5,000	594,288
<b>TOTAL</b>	<b>GRANTS and DONATIONS</b>	<b>150,320,193</b>

# University Public Lectures 2003

## National Institutes Public Lectures

Monday 24 March

*Improving Aboriginal Torres Strait Islander Health*

Professor Ian Ring (112 in attendance)

Monday 24 March

*Violence, Dysfunction, Aboriginality*

Professor Mick Dodson (280)

Monday 24 March

*Evolutionary Computation: Darwinian Thinking to Solve Real-World Problems*

Dr David B Fogel (105)

Wednesday 9 April

*Islam and the West: Conflict or Co-operation?*

Wednesday 14 May

*Australian Economic Growth: Why Bill Gates and the*

*Ageing Pessimists are Wrong*

Professor Steve Dowrick (250)

Wednesday 28 May

*Beyond the Blue? Revisioning Gender and Sexuality on*

*Cook's Voyages in the Pacific*

Professor Margaret Jolly (65)

Wednesday 4 June

*The Use and Abuse of Accounting in the Public Sector*

*Financial Management Reform Process*

Emeritus Professor Allan Barton (115)

Thursday 12 June

*Meteorological Aspects of the Canberra Bushfires*

*of 18th January 2003*

Mr Clem Davis (95)

Friday 4 July

*Should we Fixate on Salinity Alone*

Professor Bob Wasson (150)

Wednesday 16 July,

*Fads, Fancies and Expensive Bungles with Information Technology*

Professor Shirley Gregor (110)

Wednesday 16 July

*Maternalists and Femocrats: Comparing Child Care*

*Policymaking in the United States and Australia*

Professor Sonya Michel (45)

Tuesday 22 July

*Glaucoma: The Sneak Thief of Sight*

Dr Ted Maddess (80)

Thursday 24 July

*Haunted Earth*

Professor Peter Read (115)

Thursday 24 July

*Time, Einstein and the Coldest Stuff in the Universe*

Professor William Phillips (390)

Friday 25 July

*Water in the Desert: The Sacred Resource*

Diana James and Inawinytji Williamson (75)

Monday 28 July

*Quantum Computer – Dream and Realisation*

Professor Rainer Blatt (75)

Monday 28 July

*Risk Assessment and SARS*

Professor Simon Grant (85)

Thursday 7 August 2003

*Is Smashing CSIRO the answer to the Research Funding Crisis?*

Senator Kim Carr (80)

Tuesday 12 August 2003

*Paying for Parties: Choices for Democrats*

Karen Fogg

Tuesday 19 August

*Animal, Vegetable or Mineral? – An Astrobiologist's journey from Marble Bar to Mars*

Professor Stephen Hyde (140)

Wednesday 20 August

*From Pisa to Mount Stromlo: the Old and The New*

Professor Mike Gore AM & Professor Penny Sackett (530)

Thursday 21 August, 12.30pm

*Shock Photographs, Monumental Photographs and Haptic Photographs*

Dr Martyn Jolly (110)

Monday 25 August

*The Neuroscience of Complex Decision-making*

Professor Elkhonon Goldberg (90)

## National Institutes Public Lectures (cont.)

Monday 1 September

*National Parks – History, People and Places*

Jane Carruther (80)

Tuesday 16 September

*Globalisation: The Convergence of technology, knowledge and creativity*

Prof Chong Ju Choi,

Tuesday 23 September

*The Human Genome: Decoding the body's disease-fighting manual*

Prof Christopher Goodnow (85)

Wednesday 24 September

*Back to the Future with Wireless Communications*

Prof Rodney Kennedy (86)

Tuesday 30 September

*World Food Futures: Can we feed the future world?*

Dr Robert Tony Watson

Wednesday 8 October

*Mental Health: What you don't know can harm you*

Professor Tony Jorm

Wednesday 29 October

*Is international law relevant to the war in Iraq and its aftermath?*

Professor Hilary Charlesworth

Wednesday 29 October

*Why Adam Never Met Eve*

Dr Alan Thorne

Wednesday 19 November

*How do animals learn about poisonous plants? & why can't they learn about Patterson's Curse?*

Dr Bill Foley

## Toyota-ANU Public Lecture Series

TOTAL ATTENDANCE FOR 2003: 6,501

Thursday 6 March

*University Research in the United States: A perspective from the Association of American University's*

Dr Nils Hasselmo (45 in attendance)

Thursday 6 March

Pamela Denoon Lecture

*The End of Equality? Australian Women and the Howard Government*

Anne Summers (380)

Wednesday 12 March

*When History was Rising Fast: Australian History and the Economic Historians, 1930-1960*

Professor Geoffrey Blainey AC (125)

Monday 24 March

*Improving Aboriginal Torres Strait Islander Health*

Professor Ian Ring (112)

Wednesday 16 April

*War and the Protection of Cultural Property*

Professor Lyndel Prott, Professor Patrick O'Keefe, Professor Amareswar Galla (80)

Thursday 24 April

*(White) Australia welcoming European Refugees*

Dr Val Colic-Peisker (36)

Wednesday 28 May

*Memoirs of the ACCC*

Professor Allan Fels (115)

Wednesday 28 May

*Genocide and Resistance in Cambodia and East Timor*

Professor Ben Kiernan (115)

Thursday 12 June

*Meteorological Aspects of the Canberra Bushfires of 18 January 2003*

Mr Clem Davis (95)

Monday 16 June

*The Mountains of our Mind*

Tim Macartney-Snape AM (125)

- Wednesday 16 July  
Sir Leslie Melville Lecture  
*Australia and the International Financial Architecture*  
– 60 years on  
Dr Ken Henry (70)
- Wednesday 16 July  
*Maternalists and Femocrats: Comparing Child Care Policymaking in the United States and Australia*  
Professor Sonya Michel (45)
- Monday 21 July  
*The Primacy of Justice*  
Professor Jeremy Waldron (130)
- Thursday 24 July  
*Time, Einstein and the Coldest Stuff in the Universe*  
Professor William Phillips (390)
- Monday 28 July  
*Quantum Computer – Dream and Realisation*  
Professor Rainer Blatt (75)
- Wednesday 13 August  
*Dismantling Barriers and Building Safeguards: Achieving Prosperity in an Era of Globalisation*  
Professor Anne Krueger (165)
- Wednesday 13 August  
*Britain and Australia: Sharing Global Responsibility*  
Mr Bill Rammell MP (60)
- Wednesday 15 August  
*Domestic Wood Fires: Helpful Warmth or Major Health Hazard*  
Dr David Williams (65)
- Monday 18 August – Friday 22 August  
*Weather in a Week: A Crash Course in Basic Meteorology*  
Dr Edward Lincarc (253)
- Wednesday 20 August  
*Science Communication: Beyond Public Understanding?*  
Professor Graham Durant (75)
- Monday 25 August  
*The Neuroscience of Complex Decision-making*  
Professor Elkhonon Goldberg (90)
- Wednesday 27 August  
*The Old Ace in the Hole*  
Annie Proulx (355)
- Wednesday 27 August  
*The Closest Look at Mars (2,000)*
- Monday 15 September  
*Climate Change: A Hazard to Human Health?*  
Professor Tony McMichael (50)
- Thursday 18 September  
Political Parties and the Reform Agenda in Indonesia:  
Prospects for 2004  
Professor Amien Rais (125)
- Tuesday 8 October  
*Tax morality: Paying tax as a 'badge of citizenship'*  
Sir Nicholas Montagu (160)
- Monday 13 October  
*Toyota's challenge on environmental issues*  
Mr Eishi Ohno (60)
- Wednesday 15 October  
*Superfractals*  
Professor Michael Barnsley (145)
- Thursday 16 October  
*Global Change and the Earth System: New Insights, New Challenges*  
Dr Will Steffen (80)
- Tuesday 21 October  
*Making Australia: Landscape, climate and tectonics*  
Professor Jim Bowler, Professor Mike Sandiford (110)
- Wednesday 22 October  
*Australia, America, Asia and the United Nations: The need for appropriate balances*  
Mr Richard Woolcott, AC (195)
- Tuesday 28 October  
*Leonardo's legacy and landscape as geology: Old wine in new bottles*  
Professor John Chappell (90)
- Wednesday 29 October  
*Wireless standards activity at the IEEE*  
Professor Michael S. Adler (75)
- Monday 10 November  
*The World from Islam*  
Mr George Negus (300)
- Wednesday 12 November  
*Research applications in removing parasites from swimming pools, watching paint dry and mixing oil and water*  
Professor Ric Pashley (60)
- Wednesday 26 November  
*Single molecules march to different drummers: jellyfish, cholesterol and quantum computing*  
Professor W E Moerner (50)



## Blake Dawson Waldron Public Lectures 2003

Tuesday 22 July

*Does Australia Need a New Defence Policy?*

Professor Paul Dibb AM (240)

Wednesday 24 September

*Management Lessons of the Bushfire Recovery &*

*The Olympics: What they tell us about Australia's capabilities*

Mr Sandy Hollway (130)

## Other Public Lectures

Monday 3 March

Manning Clark Lecture

*Fear: The Politics of Submission in Australian History*

Ms Judy Davis (270)

Wednesday 2 April

Bi-annual Mulvaney Lecture

*Images of Africa*

Emeritus Professor Graham Connah (180)

Friday 12 September

Deans Lecture Series, Faculty of Science

*Chemicals & Consciousness*

Baroness Susan Greenfield

Friday 12 September

Deans Lecture Series, Faculty of Science

*Tomorrow's People: Is Human Nature about to Change Forever?*

Baroness Susan Greenfield

# Freedom of Information Act 1982 Statement

This statement has been prepared to comply with section 8 of the Freedom of Information Act 1982 and is correct at 31 December 2003.

## 1. Organisation and Functions of the University's decision-making Council and Boards are as follows:

### Council

In accordance with the *Australian National University Act 1991(Cth)*, the Council is the governing authority of the University. The Act provides that the Council has the control and management of the University and is to act in all matters concerning the University in such manner as it thinks will best promote the interests of the University. The Council may enact delegated legislation, subject to the scrutiny of the Australian Parliament, known as Statutes, Rules and Orders.

The Council is chaired by the Chancellor and comprises 22 members which include elected officers of the University and other ex-officio members, representatives of both Houses of Parliament, persons appointed by the Governor-General, persons appointed by the Chief Minister of the ACT, representatives of various groups of the University's academic staff, representatives of the general staff, graduate and undergraduate students as well as Convocation, and one other person at the discretion of Council.

### Academic Structure of the University

The University's formal academic organisational structure consists of the Institute of Advanced Studies, The Faculties and University Schools and Centres.

The Institute of Advanced Studies comprises The John Curtin School of Medical Research and the Research Schools of Astronomy and Astrophysics, Biological Sciences, Chemistry, Earth Sciences, Information Sciences and Engineering, Pacific and Asian Studies, Physical Sciences and Engineering, and Social Sciences. It incorporates the Centre for Resource and Environmental Studies and the School of Mathematical Sciences (IAS component) and a number of mainly multidisciplinary academic centres.

The Faculties offer undergraduate and graduate programs in arts, Asian studies, economics and commerce, engineering and information technology, law, science, art and music, and new medical courses are in preparation for commencement in 2004.

The Council has also established a number of organisational structures called University Centres, which include members of staff from the Institute and The Faculties, or, in some other way draw their resources from the Institute and The Faculties. These Centres comprise the Asia-Pacific College of Diplomacy, Asia Pacific School of Economics and Government, Australian Primary Health Care Research Institute, Mathematical Sciences Institute, Centre for Cross Cultural Research, Humanities Research Centre, National Centre for Epidemiology and

Population Health, National Graduate School of Management, Centre for Educational Development and Academic Methods, Centre for Mental Health Research and the Centre for Aboriginal Economic Policy Research.

The University Academic structure can be viewed at: [www.anu.edu.au/admin/vc/documents/accorg1.php](http://www.anu.edu.au/admin/vc/documents/accorg1.php)

### Boards and Committees of the Council

Council is assisted in its functions by a number of Boards and Committees:

#### Academic Board

The Academic Board reports to, or advises, the Council on all aspects of the academic policy of the University, including the strategic academic direction of the University and the development of teaching, learning, scholarship, research and research training in all parts of the University.

The Board comprises the Vice-Chancellor, as Chair, the Deputy Vice-Chancellor, the Head of each Research School, the Dean of each Faculty) the Director of each University Centre, three members of general staff, the Chairperson of Board of the Institute of Advanced Studies and two other members of the academic staff elected from the members of that Board, the Chairperson of the Board of The Faculties and two other members of the academic staff elected from the members of that Board, the President of the Postgraduate and Research Students' Association Inc., and the President of the Australian National University Students' Association.

The following committees assist the Academic Board:

- Education Committee
- Research Committee
- Information Strategy Committee

#### Board of the Institute of Advanced Studies

The Board may advise the Council on any matter relating to education, learning or research or the academic work of the University. The Board reports to Council through the Academic Board.

The Board of the Institute of Advanced Studies comprises a chairperson appointed by the Council from among the professors in the Institute (who is also Director of the Institute of Advanced Studies), the Vice-Chancellor, each Deputy Vice-Chancellor, the Pro Vice-Chancellor, the head of each research school and centre in the IAS, three members of academic staff from each research school chosen by the respective faculty or faculty board, the Chairperson of the Board of The Faculties, the President, Postgraduate and Research Students' Association Inc., one other postgraduate graduate, and such other persons as the Council appoints.

#### Board of The Faculties

The Board, subject to the Statutes, may advise the Council on any matter relating to education, learning or research or the academic work of the University. The Board reports to Council through the Academic Board.

The Board of The Faculties comprises a chairperson appointed by the Council from among the professors in The Faculties, the Vice-Chancellor, each Deputy Vice-Chancellor, the Pro Vice-Chancellor, the Dean of each Faculty, the Dean of Students, the President of The Australian National University Students' Association, the Chairperson of the Board of the Institute of Advanced Studies and one other member of the IAS, the Chairperson of the Board of the Institute of the Arts, the Director, School of Art, the Director, School of Music, the heads of departments and divisions, the heads of centres in the Faculty of Asian Studies, three professors of law, other representatives of academic staff and students, and such other persons as the Council appoints from time to time.

#### Finance Committee

The Finance Committee considers all matters relating to the financial affairs of the University and makes recommendations on these matters to the Council or, where the Committee holds the requisite delegations from the Council, it determines these matters on behalf of the Council. The Council appoints the Chair and members of the Finance Committee.

#### Audit Committee

The Audit Committee assists the University Council by assessing the quality of audits (both internal and external), advising on the efficiency and adequacy of University administrative, operating and accounting controls and appraises risk management planning and implementation within the University. Audit Committee comprises 5 members, of whom at least one must be a member of Council, and a Chair who is not a member of Council.

#### Honorary Degrees Committee

The Honorary Degrees Committee invites persons, within the terms of the Honorary Degree Rules, to accept nomination for honorary degrees and to recommend the names of those who accept nomination to the Council for admission

#### Executive Committee

The Executive Committee considers any matter relating to the University referred to it by the Council or, if Council is not sitting, transacts the business of the University except for matters solely within the competence of the Council. The Executive Committee comprises eight members of Council and is chaired by the Chancellor.

#### Other Committees

Other committees of Council that meet as required are the Committee on Conditions and Appointment of the Vice-Chancellor and Deputy Vice-Chancellors and the Emergency Appointment (Vice-Chancellor) Committee.

## 2. The functions of the University's Statutory Officers are as follows:

### Chancellor

The Chancellor presides at all meetings of Council and on all ceremonial occasions when available to do so. The Chancellor and the Vice-Chancellor sign the Annual Report of the University to the Parliament.

### Pro-Chancellor

In the absence of the Chancellor, the Pro-Chancellor presides at meetings of the Council and on ceremonial occasions.

### Vice-Chancellor

The Vice-Chancellor is the Chief Executive Officer of the University and has the responsibility of controlling and managing the affairs and concerns of the University including the control and management of real and personal property vested in or acquired by the University. The Vice-Chancellor has, and may exercise, such powers as are necessary or desirable to discharge those duties. The Vice-Chancellor also represents and acts for the University in its relations with the Commonwealth Government and other bodies.

## 3. Powers of the University

The University's powers are based on the Australian National University Act 1991. Subject to the Act, the University has power to do all things that are necessary or convenient to be done for, or in connection with, the performance of its functions. The University has made Statutes, Rules and Orders, which can be viewed at [www.anu.edu.au/cabs/](http://www.anu.edu.au/cabs/).

The only delegated legislation that affects members of the public who are not members of the University community are Statutes made concerning the management of traffic and parking on campus, which can also be found at [www.anu.edu.au/cabs/](http://www.anu.edu.au/cabs/).

#### **4. Documents available for purchase by the public or otherwise accessible in terms of the Freedom of Information Act 1982 are—**

- Council statutes, rules and orders
- Annual Report of the ANU to Parliament
- Annual reports of schools, faculties, centres and units to the Council
- Undergraduate Handbook
- Graduate School Handbook
- Purchasing Policy and Procedures
- Finance and Business Manual (electronic version only)
- Occupational Health and Safety Unit Information

Documents which are customarily made available to the public otherwise than under the Freedom of Information Act 1982, free of charge upon request, are the ANU Reporter, National Graduate, information pamphlets and booklets on courses and academic requirements in various disciplines, information on external scholarships, leaflets on academic appointments in the Institute of Advanced Studies and in The Faculties, Library Guides, and an accommodation brochure.

Internal working documents include internal user manuals, Financial Authorisations, Personnel and Payroll (General) Manuals and other policy and procedural documents.

#### **5. Facilities for access**

Limited facilities for the perusal of documents applicable to individual areas are available at the Staffing Services Branch of the Human Resources Division and/or Student and Academic Services. Many documents are also readily available through the internet at the University website <http://www.anu.edu.au>

#### **6. FOI procedures and initial contact points**

Applications for access to documents under the Freedom of Information Act 1982 (Cth) should be lodged in writing to the Manager, University Records. The written application should include details of the documents or information sought, the application fee (currently \$30.00) or a request for its remission, an address to which notices may be sent and, to facilitate contact with the applicant, a telephone number effective during normal business hours. Lodged applications for access to documents will be acknowledged and a decision notified to the applicant as quickly as possible in accordance with the FOI Act.

Enquiries regarding freedom of information and access to documents may be made at:

University Records  
Lower Ground Floor  
Chancery, Building No. 10a  
The Australian National University  
Canberra ACT 0200

T: 02 6125 4237

# Auditor-General's Report



5 April 2004

Professor I W Chubb AO  
Vice-Chancellor  
Australian National University  
Canberra ACT 0200

Dear Professor Chubb

**AUSTRALIAN NATIONAL UNIVERSITY  
FINANCIAL STATEMENTS 2003**

Returned herewith please find a copy of the University's signed financial statements for the year ended 31 December 2003 together with a copy of the unqualified audit report issued thereon. The audit report and a copy of the signed financial statements in being forwarded to the Minister for Education, Science and Training.

Yours sincerely

Allan M Thompson  
Executive Director



## INDEPENDENT AUDIT REPORT

To the Minister for Education, Science and Training

### Matters relating to the Electronic Presentation of the Audited Financial Report

This audit report relates to the financial report of the Australian National University for the year ended 31 December 2003 included on the Australian National University's web site. The Australian National University's Council members are responsible for the integrity of the Australian National University's web site.

The audit report refers only to the statements named below. It does not provide an opinion on any other information, which may have been hyperlinked to/from the audited financial report.

If the users of this report are concerned with the inherent risks arising from electronic data communications they are advised to refer to the hard copy of the audited financial report to confirm the information included in the audited financial report presented on this web site.

### Scope

I have audited the financial statements of the Australian National University for the year ended 31 December 2003. The financial statements include the consolidated financial statements of the consolidated economic entity comprising the Australian National University and the entities it controlled at the year's end or from time to time during the financial year. The financial statements comprise:

- Statement by Directors;
- Statements of Financial Performance, Financial Position and Cash Flows;
- Schedules of Commitments and Contingencies; and
- Notes to and forming part of the Financial Statements.

The members of the Council are responsible for the preparation and presentation of the financial statements and the information they contain. I have conducted an independent audit of the financial statements in order to express an opinion on them to you.

GPO Box 707 CANBERRA ACT 2601  
 Centenary House 19 National Circuit  
 BARTON ACT  
 Phone (02) 6203 7300 Fax (02) 6203 7777

The audit has been conducted in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards, to provide reasonable assurance as to whether the financial statements are free of material misstatement. Audit procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial statements and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with Accounting Standards and other mandatory professional reporting requirements in Australia and statutory requirements so as to present a view which is consistent with my understanding of the Australian National University's and the consolidated entity's financial position, their financial performance and their cash flows.

The audit opinion expressed in this report has been formed on the above basis.

**Audit Opinion**

In my opinion the financial statements:

- (i) have been prepared in accordance with Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997*; and
- (ii) give a true and fair view, in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Finance Minister's Orders, of the financial position of Australian National University and the consolidated entity as at 31 December 2003, and their financial performance and cash flows for the year then ended.

Australian National Audit Office



Allan M. Thompson  
Executive Director

Delegate of the Auditor-General

Canberra  
5 April 2004



# Financial Statements



THE HON EMERITUS PROFESSOR PETER BAUME AO  
Chancellor

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**CONSOLIDATED FINANCIAL STATEMENTS FOR YEAR ENDED  
31 DECEMBER 2003**

**STATEMENT BY DIRECTORS**

In the opinion of the Council the Financial Statements for the University and the consolidated Financial Statements for the Economic Entity give a true and fair view of the matters required by Schedule 1 of the Commonwealth Authorities and Companies (Financial Statements for reporting periods ending on or after 30 June 2003) Orders made under the Commonwealth Authorities and Companies Act 1997 (FMO's) and the Guidelines for the Preparation of Annual Financial Reports for the 2003 Reporting Period by Australian Higher Education Institutions issued by the Department of Education, Science and Training.

.....  
P E BAUME  
Chancellor

.....  
I W CHUBB  
Vice-Chancellor

2 April 2004

## THE AUSTRALIAN NATIONAL UNIVERSITY

STATEMENT OF FINANCIAL PERFORMANCE  
FOR THE YEAR ENDED 31 DECEMBER 2003

	Notes	Consolidated		University	
		2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>REVENUES FROM ORDINARY ACTIVITIES</b>					
Commonwealth Government financial assistance	2	311,156	292,421	311,156	292,421
Higher Education Contribution Scheme					
Commonwealth payments	3	19,919	20,316	19,919	20,316
Student contributions	3	5,991	5,315	5,991	5,315
Post Graduate Loans Scheme	4	3,711	2,327	3,711	2,327
State Government financial assistance	5	1,490	2,851	1,490	2,851
Fees and charges	6	35,407	27,814	35,407	27,814
Investment Revenue	7	38,746	24,859	38,573	24,878
Consultancy and contract research		41,018	43,754	35,416	32,246
Sales of goods and services	8	24,290	23,672	23,870	23,240
Gains on disposal of assets	15	320	2,805	314	2,805
Other revenue	9	53,946	31,744	47,724	27,509
<b>Total revenues from ordinary activities</b>		<b>535,994</b>	<b>477,878</b>	<b>523,571</b>	<b>461,722</b>
<b>EXPENSES FROM ORDINARY ACTIVITIES</b>					
Employees	10	277,079	257,714	274,653	255,156
Suppliers	11	151,470	146,961	142,146	134,066
Grants	12	41,404	29,341	41,434	29,351
Depreciation and amortisation	13	36,371	38,329	36,012	37,834
Write-down of assets	14	270	228	134	187
Losses on disposal of assets	15	4,365	654	4,365	654
Interest	16	4	31	4	11
Other	17	44,588	16,337	44,629	16,327
<b>Total expenses from ordinary activities</b>	18	<b>555,551</b>	<b>489,595</b>	<b>543,377</b>	<b>473,586</b>
Borrowing cost expense					
<b>Net operating surplus (deficit) from ordinary activities</b>		<b>(19,557)</b>	<b>(11,717)</b>	<b>(19,806)</b>	<b>(11,864)</b>
Net credit/(debit) from/(to) asset revaluation reserve	19	4,678	3,525	4,678	3,525
Other net credit/(debit) from/(to) equity	19	9,535	(8,975)	9,535	(8,975)
<b>TOTAL CHANGES IN EQUITY OTHER THAN THOSE RESULTING FROM TRANSACTIONS WITH OWNERS AS OWNERS</b>		<b>(\$5,344)</b>	<b>\$ (17,167)</b>	<b>(\$5,593)</b>	<b>(\$17,314)</b>

The above statement should be read in conjunction with the accompanying notes.

THE AUSTRALIAN NATIONAL UNIVERSITY

STATEMENT OF FINANCIAL POSITION  
AS AT 31 DECEMBER 2003

	Notes	Consolidated		University	
		2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>ASSETS</b>					
<b>FINANCIAL ASSETS</b>					
Cash	20	117,877	118,201	112,859	113,935
Receivables	21	52,361	34,650	50,452	33,037
Investments	22	607,440	587,177	614,597	594,357
<b>TOTAL FINANCIAL ASSETS</b>		<b>777,678</b>	<b>740,028</b>	<b>777,908</b>	<b>741,329</b>
<b>NON-FINANCIAL ASSETS</b>					
Land, buildings and infrastructure	23	737,038	632,887	730,458	626,577
Plant and equipment	23	133,482	132,762	133,386	132,553
Inventories	24	6,653	1,892	5,576	1,350
Intangibles	25	519	122	406	
Other	26	9,998	9,440	9,778	9,360
<b>TOTAL NON-FINANCIAL ASSETS</b>		<b>887,690</b>	<b>777,103</b>	<b>879,604</b>	<b>769,840</b>
<b>TOTAL ASSETS</b>		<b>1,665,368</b>	<b>1,517,131</b>	<b>1,657,512</b>	<b>1,511,170</b>
<b>LIABILITIES</b>					
<b>PROVISIONS AND PAYABLES</b>					
Employees	27	462,553	434,879	462,078	434,388
Suppliers	28	20,749	6,809	19,883	6,628
Other	29	90,337	65,144	84,493	59,793
<b>TOTAL LIABILITIES</b>		<b>573,639</b>	<b>506,832</b>	<b>566,454</b>	<b>500,809</b>
<b>TOTAL ASSETS AND LIABILITIES</b>		<b>\$1,091,729</b>	<b>\$1,010,299</b>	<b>\$1,091,058</b>	<b>\$1,010,360</b>
<b>EQUITY</b>					
<b>PARENT ENTITY INTEREST</b>					
Reserves	19	676,277	589,503	673,843	587,552
Accumulated surpluses		415,452	420,796	417,215	422,808
<b>TOTAL EQUITY</b>		<b>\$1,091,729</b>	<b>\$1,010,299</b>	<b>\$1,091,058</b>	<b>\$1,010,360</b>
<b>CURRENT LIABILITIES</b>		<b>149,031</b>	<b>110,888</b>	<b>142,388</b>	<b>105,476</b>
<b>NON-CURRENT LIABILITIES</b>		<b>424,608</b>	<b>395,944</b>	<b>424,066</b>	<b>395,333</b>
<b>CURRENT ASSETS</b>		<b>219,624</b>	<b>207,381</b>	<b>211,618</b>	<b>200,924</b>
<b>NON-CURRENT ASSETS</b>		<b>1,445,744</b>	<b>1,309,750</b>	<b>1,445,894</b>	<b>1,310,245</b>

The above statement should be read in conjunction with the accompanying notes.

## THE AUSTRALIAN NATIONAL UNIVERSITY

STATEMENT OF CASH FLOWS  
FOR THE YEAR ENDED 31 DECEMBER 2003

	Notes	Consolidated		University	
		2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>OPERATING ACTIVITIES</b>					
<b>Cash received</b>					
Revenues from Government:					
Commonwealth Government financial assistance		303,524	264,965	303,524	264,965
Other Commonwealth financial assistance		32,957	21,811	32,957	21,811
State Government financial assistance		2,973	1,908	2,973	1,908
Higher Education Contribution Scheme:					
Student payments		5,300	7,078	5,300	7,078
Higher Education Trust Fund		18,447	20,719	18,447	20,719
Post Graduate Loans Scheme		3,049	2,327	3,049	2,327
Research grants and other contracts		38,095	49,971	40,186	33,815
Interest and other investment earnings		13,571	14,981	13,398	15,000
Dividends received		29,366	15,631	29,366	15,631
Other receipts		134,463	94,526	118,134	89,859
<b>Total cash received</b>		<b>581,745</b>	<b>493,917</b>	<b>567,334</b>	<b>473,113</b>
<b>Cash used</b>					
Payments to employees and pensioners		(292,218)	(268,296)	(289,792)	(267,354)
Direct investment expenses		(2,486)	(4,613)	(2,486)	(4,593)
Payments to suppliers		(211,373)	(192,071)	(201,174)	(175,664)
<b>Total cash used</b>		<b>(506,077)</b>	<b>(464,980)</b>	<b>(493,452)</b>	<b>(447,611)</b>
<b>NET CASH FROM OPERATING ACTIVITIES</b>	31	<b>75,668</b>	<b>28,937</b>	<b>73,882</b>	<b>25,502</b>
<b>INVESTING ACTIVITIES</b>					
<b>Cash received</b>					
Proceeds from sales of property, plant and equipment		1,323	1,151	1,317	1,151
Loan repayments		2	3	1,002	3
Proceeds from sale and maturity of investments		654,788	535,132	654,788	535,132
<b>Total cash received</b>		<b>656,113</b>	<b>536,286</b>	<b>657,107</b>	<b>536,286</b>
<b>Cash used</b>					
Loan Advances			(3)		(3)
Acquisition of property, plant and equipment		(72,578)	(37,521)	(72,562)	(37,435)
Acquisition of investments		(659,527)	(525,233)	(659,503)	(525,229)
<b>Total cash used</b>		<b>(732,105)</b>	<b>(562,757)</b>	<b>(732,065)</b>	<b>(562,667)</b>
<b>NET CASH FROM INVESTING ACTIVITIES</b>		<b>(75,992)</b>	<b>(26,471)</b>	<b>(74,958)</b>	<b>(26,381)</b>
<b>NET INCREASE (DECREASE) IN CASH HELD</b>					
Cash at 1 January	20	(324)	2,466	(1,076)	(879)
		118,201	115,735	113,935	114,814
<b>CASH AT 31 DECEMBER</b>	20	<b>\$117,877</b>	<b>\$118,201</b>	<b>\$112,859</b>	<b>\$113,935</b>

The above statement should be read in conjunction with the accompanying notes.

THE AUSTRALIAN NATIONAL UNIVERSITY

SCHEDULE OF COMMITMENTS  
AS AT 31 DECEMBER 2003

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>BY TYPE</b>				
<b>CAPITAL COMMITMENTS</b>				
Property, plant and equipment	22,226	37,740	22,226	37,740
<b>TOTAL CAPITAL COMMITMENTS</b>	<b>22,226</b>	<b>37,740</b>	<b>22,226</b>	<b>37,740</b>
<b>OTHER COMMITMENTS</b>				
Operating leases	1,007	742		
Other commitments	7,198	6,963	7,198	6,963
<b>TOTAL OTHER COMMITMENTS</b>	<b>8,205</b>	<b>7,705</b>	<b>7,198</b>	<b>6,963</b>
<b>COMMITMENTS RECEIVABLE</b>	<b>(2,675)</b>	<b>(4,064)</b>	<b>(2,675)</b>	<b>(4,064)</b>
<b>NET COMMITMENTS PAYABLE</b>	<b>\$27,756</b>	<b>\$41,381</b>	<b>\$26,749</b>	<b>\$40,639</b>
<b>BY MATURITY</b>				
<b>All net commitments</b>				
One year or less	26,915	40,543	26,734	39,801
From one to five years	467	838	15	838
Greater than five years	374			
<b>NET COMMITMENTS PAYABLE</b>	<b>\$27,756</b>	<b>\$41,381</b>	<b>\$26,749</b>	<b>\$40,639</b>
<b>Operating/Finance lease commitments</b>				
One year or less	181	742		
From one to five years	452			
Greater than five years	374			
<b>NET OPERATING LEASE COMMITMENTS PAYABLE</b>	<b>\$1,007</b>	<b>\$742</b>		

NB: Commitments are GST inclusive where relevant

SCHEDULE OF CONTINGENCIES AS AT 31 DECEMBER 2003

Notes	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>CONTINGENT LIABILITIES</b>				
Guarantees	385	2,524	385	2,524
Claims for damages/costs		569		569
<b>TOTAL CONTINGENT LIABILITIES</b>	<b>40 385</b>	<b>3,093</b>	<b>385</b>	<b>3,093</b>
<b>CONTINGENT ASSETS</b>				
Claims for damages/costs	495	570	495	570
<b>TOTAL CONTINGENT ASSETS</b>	<b>40 495</b>	<b>570</b>	<b>495</b>	<b>570</b>

The above schedule should be read in conjunction with the accompanying notes.

The Australian National University

**NOTES TO AND FORMING PART OF THE ACCOUNTS**

<b>Note</b>	<b>Contents</b>
1	Significant Accounting Policies
2	Commonwealth Government Grants
3	Higher Education Contribution Scheme (HECS)
4	Post Graduate Loans Scheme (PELS)
5	State Government Financial Assistance
6	Fees and Charges
7	Investment Income
8	Sale of Good and Services
9	Other Revenue
10	Employees
11	Suppliers
12	Grants
13	Depreciation and Amortisation
14	Write-down of Assets
15	Gains/(Losses) On Disposal of Assets
16	Interest
17	Other Expenses
18	Expenses Attributed to Functions
19	Reserves
20	Cash
21	Receivables
22	Investments
23	Land and Buildings, and Infrastructure, Plant and Equipment
24	Inventories
25	Intangibles
26	Other Non-Financial Assets
27	Employees
28	Suppliers
29	Other Provisions and Payables
30	Financial Instruments
31	Reconciliation of Operating Result to Net Cash Flows from Operations
32	Land
33	Remuneration of Officers
34	Remuneration of Auditors
35	Number of Employees
36	Superannuation Commitments
37	Cooperative Research Centres
38	Mt Stromlo Observatory
39	Related Party Disclosures
40	Contingent Liabilities
41	Segment Information
42	Economic Dependency
43	Special Account
44	Post Balance Date Event

## NOTES continued

**1. SIGNIFICANT ACCOUNTING POLICIES****1.1 Basis of Accounting**

The financial statements are a general purpose financial report and have been prepared in accordance with:

- *Schedule 1 of the Commonwealth Authorities and Companies (Financial Statements for reporting periods ending on or after 30 June 2003) Orders* made under the *Commonwealth Authorities and Companies Act 1997* (FMOs) which require that the financial statements are prepared in compliance with Australian Accounting Standards and Accounting Interpretations issued by the Australian Accounting Standards Board, and having regard to Australian Statements of Accounting Concepts;

- the Consensus Views of the Urgent Issues Group; and

- the *Guidelines for the Preparation of Annual Financial Reports for the 2003 Reporting Period by Australian Higher Education Institutions* (the Guidelines) issued by the Department of Education, Science and Training (DEST).

The financial statements have been prepared on an accrual basis and are in accordance with historical cost convention, except for certain assets which, as noted, are at valuation as shown in Notes 1.8 and 1.10.

**1.2 Change in Accounting Policy**

There were no changes in accounting policy during 2003.

**1.3 Principles of Consolidation**

The consolidated financial report of the economic entity include the accounts of the parent entity, The Australian National University, and the accounts of the wholly and beneficially owned subsidiary company Anutech Pty Limited incorporated in the Australian Capital Territory. The accounting policies adopted in preparing the financial report have been consistently applied by entities in the consolidated entity except as otherwise indicated. The balances, and effects of transactions, between controlled entities included in the consolidated financial reports have been eliminated.

**1.4 Significant Revenues and Expenses**

Significant revenues and expenses are transactions that are considered significant by reason of their size, nature or effect on the University's financial performance for the year. The financial impact of these transactions are included within the revenue and expenses from ordinary activities.

**1.5 Revenue Recognition**

The University's operating revenue consists of Commonwealth Government Financial Assistance, Higher Education Contribution Scheme, Post Graduate Education Loans Scheme, ACT Government Financial Assistance, Fees and charges, Consultancy and contract research, Investment income, Sales of goods and services, Gains on disposal of assets, and Other revenue.

The University has treated operating grants and research income received from the Commonwealth and other funding bodies in 2003 as income in the year of receipt, except to the extent that the income relates to a future period, or can be reliably measured as relating to a future period, in which case such revenues are treated as income in advance.

Fees and charges are recognised as income in the year of receipt, except to the extent that fees and charges relate to courses to be held in future periods. Such income is treated as income in advance. Conversely fees and charges relating to debtors are recognised as revenue in the year to which the prescribed course relates.

Interest income is recognised as it accrues. Dividend income is recognised as it is received. Other investment revenue is recognised as it is received, with the exception of unrealised gains and losses which arise from the year end valuation process as described in Note 1.8.

Revenue from sales of goods and services is recognised as it is received.

Gains on disposal of asset sales not originally purchased for the intention of resale are included as revenue at the date of the disposal.



## NOTES continued

**1. SIGNIFICANT ACCOUNTING POLICIES continued****1.6 Goods and Services Tax**

Revenues, expenses and assets are recognised net of the amount of Goods and Services Tax (GST), except where the amount of GST incurred is not recoverable from the Australian Taxation Office (ATO). In these circumstances the GST is recognised as part of the cost of acquisition of the asset or as part of the item of expense. Receivables and payables are stated with the amount of GST included. The net amount of GST recoverable from, or payable to, the ATO is included as a current asset or liability in the statement of financial position. Cash flows are included in the statement of cash flows on a gross basis. The GST components of cash flows arising from investing and financing activities which are recoverable from, or payable to, the ATO are classified as operating cash flows.

**1.7 Cash Flows**

Cash for the purposes of the Statement of Cash Flows, includes cash on hand, deposits at call with banks and money market investments readily convertible to cash.

**1.8 Investments**

University Funds are invested using guidelines approved by the Council of the University in the following categories:

- Bank accepted bills
- Convertible notes
- Corporate bonds
- Debentures
- Exchanging instalment notes
- Floating rate notes
- Government and semi-government stocks and bonds
- Managed investment funds
- Negotiable certificates of deposit
- Overseas managed investment funds
- Promissory notes
- Properties
- Property trusts
- Shares and share options
- Short term money market deposits
- Stapled securities
- Term deposits
- Transferable certificates of deposit

Investment assets of the University are stated at market value. Market value in relation to investments has been determined as:

Land and buildings - all valuations are based on the deprival methodology which values investment land and buildings at its current market buying price. The University revalued investment land and buildings as at 31 December 2002;

Shares in public companies, stapled securities and convertible notes - the official market quotation price as listed by the Australian Stock Exchange at the close of business on 31 December 2003;

Fixed interest securities, such as semi government bonds - Calculated from yield provided by UBS Warburg Rate Sheet as at 31 December 2003; and

Managed investment funds and Overseas managed investment funds - unit valuation supplied by the fund management groups as at 31 December 2003.

## NOTES continued

**1. SIGNIFICANT ACCOUNTING POLICIES continued****1.9 Inventories**

Inventories held for sale are valued at the lower of cost or net realisable value. Costs are assigned to inventories using last purchase cost including costs incurred in bringing each product to its present location and condition. Consumables in store are valued at weighted average unit cost. Equipment being constructed for onsale to third parties is held as work in progress at the cost of construction as at balance date.

**1.10 Property, Plant and Equipment****1.10.1 Depreciation and Amortisation**

Depreciable property, plant and equipment assets are written off to their estimated residual value over their estimated remaining useful lives to the University using, in all cases, the straight line method of depreciation.

Depreciation and amortisation rates are generally based on remaining useful lives determined by valuation or as per the following schedule:

	Years
Dwelling and Campus Buildings	40
Plant and equipment	
Motor vehicles	7
Computing equipment	5
Research / teaching equipment	7
Other	10

The aggregate amount of depreciation allocated for each class of assets during the reporting period is disclosed in Note 13.

**1.10.2 Valuation**

Plant and equipment were revalued in 2002. The valuation was performed by an independent valuer, the Australian Valuation Office. The valuation was on the basis of fair value. Non-electronic musical instruments were also included in this revaluation process. Plant and equipment purchased subsequent to the valuation are disclosed at cost. These assets are revalued every three years.

Rare library materials were revalued in 2001. The valuation was completed by independent qualified valuers, The Antique Bookshop and Curios.

Land except for holdings in Fiji as identified in Note 31, has been brought to account. Substantially all of the land in the Australian Capital Territory and the Northern Territory was revalued in 2001. The valuation was completed by an independent valuer, The Australian Valuation Office. The valuation was on the basis of market value for existing use which is consistent with the establishment of the concept of Deprival Value for financial reporting purposes. These sites are provided free of charge by lease in perpetuity and the resultant valuation increment has been credited directly to the asset revaluation reserve.

The initial value of land valued for the first time in 2001 was taken directly to the Statement of Financial Performance in accordance with AASB1018 *'Statement of Financial Performance'*.

Substantially all of the campus buildings and dwellings were revalued in 2003. The valuation was completed by an independent valuer, International Valuation Consultants Pty Ltd. The Depreciated Replacement Cost approach was used to establish the Market Value for the Existing Use of the properties. The net revaluation decrement was debited directly to the asset revaluation reserve. Campus buildings completed subsequent to the valuation are disclosed at cost. These assets are revalued every three years.

Land and dwellings managed by University Accommodation Services were valued independently during 2002 at current market prices by Egan National Valuers. All valuations were estimates of the amounts for which the assets could be exchanged between a knowledgeable willing buyer and a knowledgeable willing seller in an arm's length transaction at the valuation date. These assets are revalued every three years.

*Intangible assets*

The costs of developing major administrative systems are currently being captured and recognised within plant and equipment and amortised.

Intellectual property developed internally has not been brought to account because it cannot be reliably measured.

## NOTES continued

**1. SIGNIFICANT ACCOUNTING POLICIES continued****1.11 Employee Entitlements**

The liability for long service leave is recognised and measured at the present value of the estimated future cash flows to be made in respect of all employees at 31 December 2003. In determining the present value of the liability, probabilities of taking long service leave, and attrition rates and pay increases through promotion and inflation have been taken into account.

The provision for annual leave reflects the value of total annual leave entitlements of all employees at 31 December 2003 and is recognised at its nominal value.

No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken by employees is less than the annual entitlement for sick leave.

Provision is also made for separation and redundancy payments in circumstances where the University has formally identified positions as excess to requirements and a reliable estimate of the amount of the payments can be determined.

**1.12 Foreign Currency Transactions**

Transactions denominated in a foreign currency are converted at the rate of exchange prevailing at the date of the transaction. At balance date, amounts receivable and payable in a foreign currency are translated at the exchange rate prevailing at that date and any exchange differences are brought to account in the Statement of Financial Performance.

**1.13 Comparative figures**

Where necessary, comparative figures have been adjusted to conform with changes in presentation in these financial statements.

**1.14 Deferred Research and Development Costs**

Anutech Pty Limited's research and development costs are charged against income as incurred, except to the extent that such costs, together with unamortised deferred costs in relation to a project, are expected, beyond any reasonable doubt, to be recoverable.

The deferred costs are amortised over the period in which the corresponding benefits are expected to arise, commencing with the commercial production of the product. The period over which benefits are expected to arise is reviewed regularly to recognise the effects of potential emerging technology and competitive products.

The unamortised balance of research and development costs deferred in previous periods is reviewed regularly and at each reporting date, to ensure the criterion for deferral continues to be met. Where such costs are no longer considered recoverable, they are charged to the profit and loss statement in the financial year.

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

2. COMMONWEALTH GOVERNMENT GRANTS

The information provided in this note is only relevant to the University - consolidated figures are not provided.

	University	
	2003	2002
	\$'000	\$'000
<b>2.1 COMMONWEALTH GOVERNMENT FINANCIAL ASSISTANCE (excl HECS/PELS)</b>		
<b>Grants pursuant to the <i>Higher Education Funding Act 1988</i> , excluding HECS/PELS:</b>		
TEACHING AND LEARNING		
Operating purposes excluding HECS	192,596	227,915
AUSTRALIAN RESEARCH COUNCIL		
Discovery - Project (Large Grants)	14,758	8,100
Discovery - Fellowships	3,206	4,368
Discovery - Federation Fellowship	2,195	1,105
Discovery - Indigenous Researchers Initiatives	22	5
Strategic Partnerships with Industry	2,884	1,675
Linkage - Infrastructure	1,915	3,015
Linkage - International Researcher Exchange	159	135
Linkage - Centres of Excellence	2,754	1,133
Linkage - Special Research Initiatives	70	43
High performance computer centres (Australian Partnership for Advanced Computing (APAC))		9,762
DEST		
Institutional Grants Scheme	16,358	315
Research Training Scheme	22,344	
Systemic Infrastructure Initiative	10,255	
Research Infrastructure Block	8,582	7,335
Australian Postgraduate Awards	4,618	4,808
International Postgraduate Research Scholarships	1,282	1,725
Sub-total pursuant to the <i>Higher Education Funding Act 1988</i>	283,998	271,439
<b>Other Commonwealth Government Grants:</b>		
Health and Aged Care	15,875	9,364
Industry, Science and Resources	2,988	2,403
Foreign Affairs and Trade	2,164	3,606
Agriculture, Fisheries and Forestry	2,100	2,471
Environment and Heritage	259	1,492
Communications, Information Technology & the Arts	156	22
Defence	522	326
Education, Science and Training	963	247
Prime Minister and Cabinet	60	86
Transport and Regional Services	24	
Family and Community Services	204	
Other	1,843	965
Total Other Commonwealth Government Grants	27,158	20,982
<b>TOTAL COMMONWEALTH GOVERNMENT FINANCIAL ASSISTANCE</b>	<b>\$311,156</b>	<b>\$292,421</b>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	University	
	2003	2002
	\$'000	\$'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS</b>		
<b>TEACHING AND LEARNING</b>		
<b>Operating grant, excluding HECS/PELS</b>		
Grants in advance (paid in the previous reporting period for the current reporting period including Commonwealth superannuation supplementation)	18,297	18,238
<i>Plus</i> Grants received during reporting period (including Commonwealth superannuation supplementation)	189,912	228,689
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)	(14,740)	(18,297)
Accrual adjustments		
Prior year adjustments		
Income in advance brought forward	1,354	639
Income in advance carried forward	(2,227)	(1,354)
<b>Revenue attributed to the reporting period</b>	<b>192,596</b>	<b>227,915</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>192,596</b>	<b>227,915</b>
<i>Less</i> Expenses for the current period	(192,596)	(227,915)
<b>Surplus/deficit for reporting period</b>		
<b>AUSTRALIAN RESEARCH COUNCIL</b>		
<b>Discovery - Project (Large Grants)</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	1,698	
<i>Plus</i> Grants received during reporting period	19,330	10,393
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(1,698)
Accrual adjustments		
Prior year adjustments		(253)
Income in advance brought forward	3,323	2,981
Income in advance carried forward	(9,593)	(3,323)
<b>Revenue attributed to the reporting period</b>	<b>14,758</b>	<b>8,100</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>14,758</b>	<b>8,100</b>
<i>Less</i> Expenses for the current period	(14,758)	(8,100)
<b>Surplus/deficit for reporting period</b>		
<b>Discovery - Fellowships</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	226	
<i>Plus</i> Grants received during reporting period	3,070	4,607
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(226)
Accrual adjustments		
Prior year adjustments		(263)
Income in advance brought forward	1,245	1,495
Income in advance carried forward	(1,335)	(1,245)
<b>Revenue attributed to the reporting period</b>	<b>3,206</b>	<b>4,368</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>3,206</b>	<b>4,368</b>
<i>Less</i> Expenses for the current period	(3,206)	(4,368)
<b>Surplus/deficit for reporting period</b>		

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	University	
	2003	2002
	\$'000	\$'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS continued</b>		
<b>AUSTRALIAN RESEARCH COUNCIL continued</b>		
<b>Discovery - Federation Fellowships</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	142	
<i>Plus</i> Grants received during reporting period	2,530	1,892
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(142)
Accrual adjustments		
Income in advance brought forward	645	
Income in advance carried forward	(1,122)	(645)
<b>Revenue attributed to the reporting period</b>	<b>2,195</b>	<b>1,105</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>2,195</b>	<b>1,105</b>
<i>Less</i> Expenses for the current period	(2,195)	(1,105)
<b>Surplus/deficit for reporting period</b>		
<b>Discovery - Indigenous Researchers' Development</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	(6)	25
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		
Accrual adjustments		
Income in advance brought forward	32	12
Income in advance carried forward	(4)	(32)
<b>Revenue attributed to the reporting period</b>	<b>22</b>	<b>5</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>22</b>	<b>5</b>
<i>Less</i> Expenses for the current period	(22)	(5)
<b>Surplus/deficit for reporting period</b>		
<b>Strategic Partnerships with Industry</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	99	
<i>Plus</i> Grants received during reporting period	3,355	2,124
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(99)
Accrual adjustments		
Prior year adjustments		(216)
Income in advance brought forward	923	789
Income in advance carried forward	(1,493)	(923)
<b>Revenue attributed to the reporting period</b>	<b>2,884</b>	<b>1,675</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>2,884</b>	<b>1,675</b>
<i>Less</i> Expenses for the current period	(2,884)	(1,675)
<b>Surplus/deficit for reporting period</b>		

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	University	
	2003	2002
	\$'000	\$'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS continued</b>		
<b>AUSTRALIAN RESEARCH COUNCIL continued</b>		
<b>Linkage - Infrastructure</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	2,049	900
<i>Plus</i> Grants received during reporting period	102	2,959
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(2,049)
Accrual adjustments		
Income in advance brought forward	315	1,520
Income in advance carried forward	(551)	(315)
<b>Revenue attributed to the reporting period</b>	<b>1,915</b>	<b>3,015</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>1,915</b>	<b>3,015</b>
<i>Less</i> Expenses for the current period	(1,915)	(3,015)
<b>Surplus/deficit for reporting period</b>		
<b>Linkage - International Researcher Exchange</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	7	
<i>Plus</i> Grants received during reporting period	148	141
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		(7)
Accrual adjustments		
Prior year adjustments	58	59
Income in advance carried forward	(54)	(58)
<b>Revenue attributed to the reporting period</b>	<b>159</b>	<b>135</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>159</b>	<b>135</b>
<i>Less</i> Expenses for the current period	(159)	(135)
<b>Surplus/deficit for reporting period</b>		
<b>Linkage - Centres of Excellence</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	3,667	905
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)		
Accrual adjustments		
Income in advance brought forward	378	606
Income in advance carried forward	(1,291)	(378)
<b>Revenue attributed to the reporting period</b>	<b>2,754</b>	<b>1,133</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>2,754</b>	<b>1,133</b>
<i>Less</i> Expenses for the current period	(2,754)	(1,133)
<b>Surplus/deficit for reporting period</b>		

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	University	
	2003	2002
	\$'000	\$'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS continued</b>		
<b>AUSTRALIAN RESEARCH COUNCIL continued</b>		
<b>Linkage - Special Research Initiatives</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	389	51
Accrual adjustments		
Income in advance brought forward	11	3
Income in advance carried forward	(330)	(11)
<b>Revenue attributed to the reporting period</b>	<b>70</b>	<b>43</b>
<b>Funds available for the reporting period</b>	<b>70</b>	<b>43</b>
<i>Less</i> Expenses for the current period	(70)	(43)
<b>Surplus/deficit for reporting period</b>		
<b>High Performance Computer Centres</b>		
Accrual adjustments		
Income in advance brought forward		9,762
Income in advance carried forward		
<b>Revenue attributed to the reporting period</b>		<b>9,762</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>		<b>9,762</b>
<i>Less</i> Expenses for the current period		(9,762)
<b>Surplus/deficit for reporting period</b>		
<b>DEST RESEARCH GRANTS</b>		
<b>Institutional Grants Scheme</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	17,877	
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)	(1,278)	
Accrual adjustments		
Income in advance brought forward	99	414
Income in advance carried forward	(340)	(99)
<b>Revenue attributed to the reporting period</b>	<b>16,358</b>	<b>315</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>16,358</b>	<b>315</b>
<i>Less</i> Expenses for the current period	(16,358)	(315)
<b>Surplus/deficit for reporting period</b>		



## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	University	
	2003 S'000	2002 S'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS continued</b>		
<b>DEST RESEARCH GRANTS continued</b>		
<b>Research Training Scheme</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	24,264	
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)	(1,920)	
Accrual adjustments		
Income in advance brought forward		
Income in advance carried forward		
<b>Revenue attributed to the reporting period</b>	<b>22,344</b>	
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>22,344</b>	
<i>Less</i> Expenses for the current period	(22,344)	
<b>Surplus/deficit for reporting period</b>		
<b>Systemic Infrastructure Initiative</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	23,455	
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)	(4,120)	
Accrual adjustments		
Income in advance brought forward		
Income in advance carried forward	(9,080)	
<b>Revenue attributed to the reporting period</b>	<b>10,255</b>	
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>10,255</b>	
<i>Less</i> Expenses for the current period	(10,255)	
<b>Surplus/deficit for reporting period</b>		
<b>Research Infrastructure Block Grants</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	685	341
<i>Plus</i> Grants received during reporting period	8,745	7,679
<i>Less</i> Grants in advance (received in the reporting period for the next reporting period)	(848)	(685)
Accrual adjustments		
Income in advance brought forward		
Income in advance carried forward		
<b>Revenue attributed to the reporting period</b>	<b>8,582</b>	<b>7,335</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>8,582</b>	<b>7,335</b>
<i>Less</i> Expenses for the current period	(8,582)	(7,335)
<b>Surplus/deficit for reporting period</b>		

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	University	
	2003	2002
	\$'000	\$'000
<b>2.2 ACQUITTAL OF COMMONWEALTH GOVERNMENT GRANTS - AMOUNTS RECEIVED AND EXPENDED PURSUANT TO THE HIGHER EDUCATION FUNDING ACT 1988 EXCLUDING HECS/PELS continued</b>		
<b>DEST RESEARCH GRANTS continued</b>		
<b>Australian Postgraduate Awards</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	4,722	4,704
Accrual adjustments		
Income in advance brought forward	(104)	
Income in advance carried forward		104
<b>Revenue attributed to the reporting period</b>	<b>4,618</b>	<b>4,808</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>4,618</b>	<b>4,808</b>
<i>Less</i> Expenses for the current period	(4,618)	(4,808)
<b>Surplus/deficit for reporting period</b>		
<b>International Postgraduate Research Scholarships</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)		
<i>Plus</i> Grants received during reporting period	1,282	1,291
Accrual adjustments		
Income in advance brought forward		434
Income in advance carried forward		
<b>Revenue attributed to the reporting period</b>	<b>1,282</b>	<b>1,725</b>
<i>Plus</i> Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	<b>1,282</b>	<b>1,725</b>
<i>Less</i> Expenses for the current period	(1,282)	(1,725)
<b>Surplus/deficit for reporting period</b>		

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	University 2003 S'000	University 2003 S'000	University 2003 S'000
<b>2.3 SUMMARY OF UNSPENT GRANTS</b>			
<b>Category of grant</b>	<b>Unspent grant</b>	<b>Unspent grant for carry forward<sup>1</sup></b>	<b>Unspent grant to be recovered<sup>2</sup></b>
Operating purpose, excluding HECS/PELS	2,227	2,227	0
Discovery - Project (Large Grants)	9,593	9,593	0
Discovery - Fellowships	1,335	1,335	0
Discovery - Federation Fellowships	1,122	1,122	0
Discovery - Indigenous Researchers Initiatives	4	4	0
Strategic Partnerships with Industry	1,493	1,493	0
Linkage - Infrastructure	551	551	0
Linkage - International Researcher Exchange	54	54	0
Linkage - Centres of Excellence	1,291	1,291	0
Linkage - Special Research Initiatives	330	330	0
Institutional Grants Scheme	340	340	0
Systematic Infrastructure Initiative	9,080	9,080	0
Total unspent grants	<u>\$27,420</u>	<u>\$27,420</u>	<u>\$0</u>

1. Amount of unspent grant that it is more likely will be approved by the Commonwealth for carry forward.
2. Amount of unspent grant that it is more likely will be recovered by the Commonwealth.

	University	
	2003 S'000	2002 S'000
<b>3. HIGHER EDUCATION CONTRIBUTION SCHEME (HECS)</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	1,472	1,617
Plus Grants received during reporting period	20,341	20,171
Less Grants in advance (received in the reporting period for the next reporting period)	(1,894)	(1,472)
Commonwealth payments	19,919	20,316
Plus Contributions actually received from students	5,991	5,315
<b>Revenue attributed to the reporting period</b>	<u>25,910</u>	<u>25,631</u>
Plus Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	25,910	25,631
Less Expenses for the current period	(25,910)	(25,631)
<b>Surplus/deficit for reporting period</b>	<u></u>	<u></u>
<b>4. POST GRADUATE LOANS SCHEME (PELS)</b>		
Grants in advance (paid in the previous reporting period for the current reporting period)	-359	
Plus Grants received during reporting period	3,407	1,968
Add Grants due (outstanding claim for the current reporting period)	663	359
<b>Revenue from Commonwealth payments attributed to the reporting period</b>	<u>3,711</u>	<u>2,327</u>
Plus Surplus/deficit prior year		
<b>Funds available for the reporting period</b>	3,711	2,327
Less Expenses for the current period	(3,711)	(2,327)
<b>Surplus/deficit for reporting period</b>	<u></u>	<u></u>

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	University	
	2003 \$'000	2002 \$'000
<b>5. STATE GOVERNMENT FINANCIAL ASSISTANCE</b>		
ACT Government grants for the following purposes were received by the University during the reporting period :		
Contributions for operating purposes	904	1,297
Contributions to research projects	586	1,554
Other contributions		
Total state government financial assistance	<u>\$1,490</u>	<u>\$2,851</u>

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>6. FEES AND CHARGES</b>				
Fees and charges collected during the reporting period were:				
Continuing education	2,868	4,228	2,868	4,228
Full fee paying overseas students	28,265	19,626	28,265	19,626
Fees-approved post graduate award students	3,563	3,448	3,563	3,448
Other fees and charges	2,023	1,843	2,023	1,843
less disbursement of fees to student bodies and refunds	(1,312)	(1,331)	(1,312)	(1,331)
Total fees and charges	<u>\$35,407</u>	<u>\$27,814</u>	<u>\$35,407</u>	<u>\$27,814</u>
<b>7. INVESTMENT INCOME</b>				
Interest	21,484	21,340	21,311	21,359
Dividends	33,019	16,815	33,019	16,815
<b>Other investment revenue</b>				
Rentals from investment properties	1,883	2,117	1,883	2,117
<i>Investments unrealised during the period</i>				
Overseas managed investment funds	(6,420)	(2,772)	(6,420)	(2,772)
<i>Investments realised during the period</i>				
Corporate bonds	(239)	(772)	(239)	(772)
Debentures		(22)		(22)
Government and semi-government securities	(533)	75	(533)	75
Property	4,275		4,275	
Overseas managed investment funds		(4,582)		(4,582)
Transferrable Certificates of Deposit	(7)		(7)	
Shares and share options	(12,230)	(2,747)	(12,230)	(2,747)
	(13,271)	(8,703)	(13,271)	(8,703)
Direct investment expenditure	(2,486)	(4,593)	(2,486)	(4,593)
Total other investment income less direct investment expenditure	<u>(15,757)</u>	<u>(13,296)</u>	<u>(15,757)</u>	<u>(13,296)</u>
Total investment income	<u>\$38,746</u>	<u>\$24,859</u>	<u>\$38,573</u>	<u>\$24,878</u>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>8. SALE OF GOODS AND SERVICES</b>				
Parking permits	1,329	1,255	1,329	1,255
Rentals and hire facilities	3,781	3,369	3,781	3,369
Sales	7,857	8,394	7,437	7,962
Tariffs	11,323	10,654	11,323	10,654
Total sale of goods and services	<u>\$24,290</u>	<u>\$23,672</u>	<u>\$23,870</u>	<u>\$23,240</u>

**9. OTHER REVENUE**

Sundry income	31,227	11,848	25,005	7,613
Recovery of direct expenditure from outside bodies	13,451	13,075	13,451	13,075
Workers compensation reimbursements	332	285	332	285
Scholarships and prizes	245	233	245	233
Donations and bequests	8,691	6,303	8,691	6,303
Total other revenue	<u>\$53,946</u>	<u>\$31,744</u>	<u>\$47,724</u>	<u>\$27,509</u>

**10. EMPLOYEES**

Academic staff salaries	102,019	89,924	102,154	89,949
Academic staff salary related costs <sup>1</sup>	29,418	26,765	29,418	26,765
Non-academic staff salaries <sup>2</sup>	104,826	100,207	102,818	98,179
Non-academic staff salary related costs <sup>1</sup>	40,816	40,818	40,263	40,263
Total cost of employees	<u>\$277,079</u>	<u>\$257,714</u>	<u>\$274,653</u>	<u>\$255,156</u>

1. Salary related expenses during the reporting period (including costs for staff separation and redundancy payments) comprise::

Contributions to superannuation and pension schemes	31,225	27,656	31,040	27,456
Payroll tax	17,217	15,568	17,076	15,416
Workers compensation	1,577	1,419	1,540	1,412
Long service leave expense	7,566	9,360	7,533	9,322
Annual leave expense	12,649	13,580	12,492	13,422
Total salary related expenses	<u>\$70,234</u>	<u>\$67,583</u>	<u>\$69,681</u>	<u>\$67,028</u>

2. Non academic staff salaries comprise:

Administrative staff	66,078	62,394	64,070	60,366
Technical staff	20,597	21,056	20,597	21,056
Research officers	9,136	8,463	9,136	8,463
Service staff including security	5,320	4,769	5,320	4,769
Librarians	1,602	1,773	1,602	1,773
Trade staff	2,093	1,752	2,093	1,752
Total non academic staff salaries	<u>\$104,826</u>	<u>\$100,207</u>	<u>\$102,818</u>	<u>\$98,179</u>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>11. SUPPLIERS</b>				
Site maintenance and servicing <sup>1</sup>	36,778	36,610	36,778	36,616
Consumables, research and training materials	84,629	82,041	75,392	67,846
Travel, conferences and fieldwork	20,200	17,910	20,202	17,944
Miscellaneous operating expenses <sup>2</sup>	9,863	10,400	9,774	11,660
<b>Total supplies of goods and services</b>	<b>\$151,470</b>	<b>\$146,961</b>	<b>\$142,146</b>	<b>\$134,066</b>
1. Site maintenance and servicing includes:				
Building repairs and maintenance	18,556	21,555	18,556	21,555
Electricity and gas	5,984	6,052	5,984	6,052
Cleaning expenses	4,893	3,734	4,893	3,734
Municipality charges	1,251	1,501	1,251	1,501
Grounds maintenance	3,370	1,613	3,370	1,613
Other Site Maintenance and servicing expenses	2,724	2,155	2,724	2,162
<b>Total Site Maintenance and servicing</b>	<b>\$36,778</b>	<b>\$36,610</b>	<b>\$36,778</b>	<b>\$36,616</b>
2. Miscellaneous operating expenses includes:				
Cost of goods sold	535	390		
Advertising	2,197	1,879	2,197	1,879
Management fees	751	1,374	751	836
Membership - professional bodies	626	756	626	756
Staff development	889	1,129	891	742
Audit expenses, internal and external	654	544	654	544
Patent, copyright and royalties	298	1,034	569	1,017
Legal expenses, settlements	586	474	593	474
Other Miscellaneous operating expenses	3,327	2,820	3,493	5,412
<b>Total Miscellaneous operating expenses</b>	<b>\$9,863</b>	<b>\$10,400</b>	<b>\$9,774</b>	<b>\$11,660</b>
<b>12. GRANTS</b>				
Subsidies/grants	14,023	6,040	14,023	6,040
Scholarships	27,381	23,301	27,411	23,311
	<b>\$41,404</b>	<b>\$29,341</b>	<b>\$41,434</b>	<b>\$29,351</b>
<b>13. DEPRECIATION AND AMORTISATION</b>				
Property at cost	1,024	1,532	1,024	1,532
Property at valuation	13,754	11,434	13,543	11,231
Plant, equipment and motor vehicles at cost	3,486	6,056	3,347	5,912
Plant, equipment and motor vehicles at valuation	18,065	19,159	18,065	19,159
License Agreement	33		33	
Goodwill	9	9		
Research & Development		139		
<b>Total depreciation and amortisation</b>	<b>\$36,371</b>	<b>\$38,329</b>	<b>\$36,012</b>	<b>\$37,834</b>
<b>14. WRITE-DOWN OF ASSETS</b>				
Financial assets				
Receivables for goods and services - bad debts expense	270	228	134	187
<b>Total write-down of assets</b>	<b>\$270</b>	<b>\$228</b>	<b>\$134</b>	<b>\$187</b>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Notes	Consolidated		University	
		2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>15. GAINS / (LOSSES) ON DISPOSAL OF ASSETS</b>					
Gain on disposal of property, plant, equipment and motor vehicles		320	2,805	314	2,805
Loss on disposal of property, plant, equipment and motor vehicles		(4,365)	(654)	(4,365)	(654)
Net gains / (losses) on disposal of assets		<u>(\$4,045)</u>	<u>\$2,151</u>	<u>(\$4,051)</u>	<u>\$2,151</u>
<b>16. INTEREST</b>					
Finance charges on lease liabilities		4	31	4	11
Total interest expense		<u>\$4</u>	<u>\$31</u>	<u>\$4</u>	<u>\$11</u>
<b>17. OTHER EXPENSES</b>					
Doubtful debts expense		(109)	(360)	(68)	(370)
<i>Commonwealth Superannuation Account</i>					
General administrative expenses					
Pension payments		18,134	15,509	18,134	15,509
Employee superannuation entitlements expense		26,563	1,188	26,563	1,188
Total other expenses		<u>\$44,588</u>	<u>\$16,337</u>	<u>\$44,629</u>	<u>\$16,327</u>
<b>18. EXPENSES ATTRIBUTED TO FUNCTIONS</b>					
<b>18.1 SUMMARY OF EXPENSES ATTRIBUTED TO FUNCTIONS</b>					
Academic activities	18.2	318,989	307,953	314,987	298,783
Libraries	18.3	19,561	18,787	19,562	18,787
Academic support services	18.4	20,667	21,767	13,794	14,659
Student services	18.5	59,124	44,635	59,157	44,868
Public services	18.6	6,589	4,836	6,589	4,836
Buildings and grounds	18.7	29,809	27,943	29,809	27,943
Administration and other general institutional services	18.8	51,585	46,424	50,347	46,531
Other expenses	18.9	49,227	17,250	49,132	17,179
Total expenses from ordinary activities		<u>\$555,551</u>	<u>\$489,595</u>	<u>\$543,377</u>	<u>\$473,585</u>
<b>18.2 ACADEMIC ACTIVITIES</b>					
<i>Salary and related expenses</i>					
Academic staff salaries		100,950	89,315	101,085	89,340
Academic staff salary related costs		29,173	26,561	29,173	26,561
Non-academic staff salaries		59,257	56,268	59,257	56,396
Non-academic staff salary related costs		23,464	24,536	23,464	24,536
<i>Depreciation expense</i>					
Property at cost		467	620	467	620
Property at valuation		9,458	7,582	9,458	7,582
Plant, equipment and motor vehicles		14,582	18,479	14,582	18,479
<i>Other expenses</i>					
Site maintenance and servicing		9,677	9,192	9,677	9,198
Consumables, research and teaching materials		50,033	52,310	45,984	42,671
Travel, conferences and fieldwork		17,569	16,165	17,571	16,199
Miscellaneous operating expenses		4,359	6,925	4,269	7,201
Total academic activities expenses		<u>\$318,989</u>	<u>\$307,953</u>	<u>\$314,987</u>	<u>\$298,783</u>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

Notes	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>18.3 LIBRARIES</b>				
<i>Salary and related expenses</i>				
Non-academic staff salaries	5,759	5,943	5,759	5,943
Non-academic staff salary related costs	2,192	2,456	2,192	2,456
<i>Depreciation expense</i>				
Property at cost	128	170	128	170
Property at valuation	287	693	287	693
Plant, equipment and motor vehicles	162	270	162	270
<i>Other expenses</i>				
Site maintenance and servicing	766	796	766	796
Consumables, research and teaching materials <sup>1</sup>	10,037	8,289	10,037	8,289
Travel, conferences and fieldwork	77	85	77	85
Miscellaneous operating expenses	153	85	154	85
Total libraries expenses	\$19,561	\$18,787	\$19,562	\$18,787
1. Includes library materials.				
<b>18.4 ACADEMIC SUPPORT SERVICES</b>				
<i>Salary and related expenses</i>				
Non-academic staff salaries	6,885	6,762	5,345	5,134
Non-academic staff salary related costs	2,497	2,653	2,008	2,203
<i>Depreciation expense</i>				
Property at cost	0	2		2
Property at valuation	192	377	192	377
Plant, equipment and motor vehicles	3,003	2,445	3,003	2,445
<i>Other expenses</i>				
Site maintenance and servicing	315	280	315	280
Consumables, research and teaching materials	7,198	8,708	2,354	3,677
Travel, conferences and fieldwork	374	300	374	300
Miscellaneous operating expenses	203	240	203	241
Total academic support services expenses	\$20,667	\$21,767	\$13,794	\$14,659
<b>18.5 STUDENT SERVICES</b>				
<i>Salary and related expenses</i>				
Non-academic staff salaries	5,214	4,560	5,214	4,560
Non-academic staff salary related costs	1,642	1,607	1,642	1,607
<i>Depreciation expense</i>				
Property at cost	56	216	56	216
Property at valuation	2,013	1,186	2,013	1,186
Plant, equipment and motor vehicles	192	286	192	286
<i>Other expenses</i>				
Site maintenance and servicing	3,929	3,772	3,929	3,772
Consumables, research and teaching materials	3,254	2,826	3,257	2,831
Travel, conferences and fieldwork	790	546	790	546
Scholarships	41,404	29,341	41,434	29,351
Miscellaneous operating expenses	630	295	630	513
Total student services expenses	\$59,124	\$44,635	\$59,157	\$44,868



## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003	2002	2003	2002
	\$'000	\$'000	\$'000	\$'000
<b>18.6 PUBLIC SERVICES</b>				
<i>Salary and related expenses</i>				
Academic staff salaries	1,069	609	1,069	609
Academic staff salary related costs	245	204	245	204
Non-academic staff salaries	1,517	1,302	1,517	1,302
Non-academic staff salary related costs	615	407	615	407
<i>Depreciation expense</i>				
Property at cost	0	4		4
Property at valuation	129	160	129	160
Plant, equipment and motor vehicles	58	17	58	17
<i>Other expenses</i>				
Site maintenance and servicing	58	101	58	101
Consumables, research and teaching materials	1,981	1,447	1,981	1,447
Travel, conferences and fieldwork	219	131	219	131
Miscellaneous operating expenses	698	454	698	454
Total public services expenses	\$6,589	\$4,836	\$6,589	\$4,836
<b>18.7 BUILDINGS AND GROUNDS</b>				
<i>Salary and related expenses</i>				
Non-academic staff salaries	6,304	5,958	6,304	5,958
Non-academic staff salary related costs	2,291	2,229	2,291	2,229
<i>Depreciation expense</i>				
Property at cost	365	477	365	477
Property at valuation	554	271	554	271
Plant, equipment and motor vehicles	513	359	513	359
Amortisation Agreement	33		33	
<i>Other expenses</i>				
Site maintenance and servicing	18,126	18,205	18,126	18,205
Consumables, research and teaching materials	1,408	787	1,408	787
Travel, conferences and fieldwork	95	44	95	44
Miscellaneous operating expenses	120	-387	120	(387)
Total buildings and grounds expenses	\$29,809	\$27,943	\$29,809	\$27,943
<b>18.8 ADMINISTRATION AND OTHER GENERAL INSTITUTIONAL SERVICES</b>				
<i>Salary and related expenses</i>				
Non-academic staff salaries	19,890	19,414	19,422	18,886
Non-academic staff salary related costs	8,115	6,930	8,051	6,825
<i>Depreciation expense</i>				
Property at cost	8	43	8	43
Property at valuation	1,121	1,165	910	962
Plant, equipment and motor vehicles	3,041	3,498	2,902	3,215
Goodwill	9	9		
<i>Other expenses</i>				
Site maintenance and servicing	3,907	4,264	3,907	4,264
Consumables, research and teaching materials	10,718	7,674	10,371	8,144
Travel, conferences and fieldwork	1,076	639	1,076	639
Miscellaneous operating expenses	3,700	2,788	3,700	3,553
Total administration and other general institutional services expenses	\$51,585	\$46,424	\$50,347	\$46,531

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>18.9 OTHER</b>				
Bad debts	270	228	134	187
Doubtful debts expense	(109)	(360)	(68)	(370)
Interest expense	4	31	4	11
Loss on disposal of plant, equipment and motor vehicles	4,365	654	4,365	654

*Commonwealth Superannuation Account*

General administrative expenses				
Pension payments	18,134	15,509	18,134	15,509
Employee superannuation entitlements expense	26,563	1,188	26,563	1,188
Total other expenses	\$49,227	\$17,250	\$49,132	\$17,179

**19. RESERVES**

**19 (a) - Analysis of Equity**

**Consolidated**

Item	Accumulated Results \$'000	Asset Revaluation Reserve \$'000	Other Reserves (Special Reserves) \$'000	Total Reserves \$'000	TOTAL EQUITY \$'000
Opening Balance 1 January 2003	420,796	536,795	52,708	589,503	1,010,299
Operating surplus/(deficit) from ordinary activities	(5,344)				(5,344)
Net revaluation increase/(decrease)		100,987		100,987	100,987
Transfers to/(from) reserves		(4,678)	(9,535)	(14,213)	(14,213)
Closing Balance 31 December 2003	\$415,452	\$633,104	\$43,173	\$676,277	\$1,091,729

**University**

Item	Accumulated Results \$'000	Asset Revaluation Reserve \$'000	Other Reserves (Special Reserves) \$'000	Total Reserves \$'000	TOTAL EQUITY \$'000
Opening Balance 1 January 2003	422,808	534,844	52,708	587,552	1,010,360
Operating surplus/(deficit) from ordinary activities	(5,593)				(5,593)
Net revaluation increase/(decrease)		100,504		100,504	100,504
Transfers to/(from) reserves		(4,678)	(9,535)	(14,213)	(14,213)
Closing Balance 31 December 2003	\$417,215	\$630,670	\$43,173	\$673,843	\$1,091,058

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000

**19 (b) - Reserves**

Asset revaluation - Property	537,672	457,254	535,238	455,303
Asset revaluation - Plant & Equipment	65,760	66,321	65,760	66,321
Asset revaluation - Investments	24,079	7,636	24,079	7,636
Asset revaluation - Crown Lease	960	960	960	960
Asset revaluation - Rare Library Materials	4,633	4,624	4,633	4,624
	633,104	536,795	630,670	534,844

*Special Reserves:*

Building	20,508	25,169	20,508	25,169
Equipment	11,994	10,729	11,994	10,729
Development and Restructuring	5,256	10,434	5,256	10,434
Self insurance of dwellings and buildings	5,313	6,176	5,313	6,176
Equipment Replacement	102	200	102	200
Total special reserves	43,173	52,708	43,173	52,708
Total reserves	\$676,277	\$589,503	\$673,843	\$587,552

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

## 19. RESERVES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>Summary of movements in reserves during the year ended 31 December 2003</b>				
Balance at beginning of year	589,503	607,580	587,552	606,039
Transfer to/(from) retained surpluses on revaluation	(4,678)	(3,525)	(4,678)	(3,525)
Transfer to/(from) retained surpluses other	(9,535)	8,975	(9,535)	8,975
Transfer to provisions and payables				
Increments/(decrements) on revaluation	101,287	(23,527)	100,504	(23,937)
Balance at end of year	\$676,577	\$589,503	\$673,843	\$587,552
<b>Movements in reserves</b>				
<i>Asset revaluation - Property</i>				
Balance at beginning of year	457,254	452,814	455,303	451,273
Increments/(decrements) on revaluation of				
Land		410		
Buildings	80,418	4,030	79,935	4,030
Balance at end of year	\$537,672	\$457,254	\$535,238	\$455,303
<b>Movements in reserves continued</b>				
<i>Asset revaluation - Plant and Equipment</i>				
Balance at beginning of year	66,321	53,080	66,321	53,080
Increments/(decrements) on revaluation	(561)	13,241	(561)	13,241
Balance at end of year	\$65,760	\$66,321	\$65,760	\$66,321
<i>Asset revaluation - Investments</i>				
Balance at beginning of year	7,636	52,411	7,636	52,411
Transfer to retained surpluses	(4,678)	(3,525)	(4,678)	(3,525)
Increments/(decrements) on revaluation	21,121	(41,250)	21,121	(41,250)
Balance at end of year	\$24,079	\$7,636	\$24,079	\$7,636
<i>Asset revaluation - Crown Lease</i>				
Balance at beginning of year	960	960	960	960
Transfer to retained surpluses				
Increments on revaluation				
Balance at end of year	\$960	\$960	\$960	\$960
<i>Asset revaluation - Rare Library Materials</i>				
Balance at beginning of year	4,624	4,582	4,624	4,582
Transfer to retained surpluses				
Increments on revaluation	9	42	9	42
Balance at end of year	\$4,633	\$4,624	\$4,633	\$4,624

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

19. RESERVES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<i>Building</i>				
Balance at beginning of year	25,169	11,756	25,169	11,756
Transfer from retained surpluses	9,223	14,633	9,223	14,633
Transfer to retained surpluses	(13,884)	(1,220)	(13,884)	(1,220)
Transfer to provisions and payables				
Balance at end of year	\$20,508	\$25,169	\$20,508	\$25,169
<i>Equipment</i>				
Balance at beginning of year	10,729	10,013	10,729	10,013
Transfer from retained surpluses	3,166	1,473	3,166	1,473
Transfer to retained surpluses	(1,901)	(757)	(1,901)	(757)
Balance at end of year	\$11,994	\$10,729	\$11,994	\$10,729
<i>Development and Restructuring</i>				
Balance at beginning of year	10,434	16,401	10,434	16,401
Transfer from retained surpluses	505	589	505	589
Transfer to retained surpluses	(5,683)	(6,556)	(5,683)	(6,556)
Balance at end of year	\$5,256	\$10,434	\$5,256	\$10,434
<i>Self insurance of dwellings and buildings</i>				
Balance at beginning of year	6,176	5,563	6,176	5,563
Transfer from retained surpluses	697	761	697	761
Transfer to retained surpluses	(1,560)	(148)	(1,560)	(148)
Balance at end of year	\$5,313	\$6,176	\$5,313	\$6,176
<i>Equipment Replacement</i>				
Balance at beginning of year	200		200	
Transfer from retained surpluses	(98)	200	(98)	200
Balance at end of year	\$102	\$200	\$102	\$200

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>20. CASH</b>				
Cash on hand	56	52	56	52
Bank	9,465	4,308	6,961	2,042
Deposits at call	108,356	113,841	105,842	111,841
	<u>\$117,877</u>	<u>\$118,201</u>	<u>\$112,859</u>	<u>\$113,935</u>
<b>Reconciliation of Cash</b>				
Cash at end of the financial year as shown in the statement of cash flow	<u>\$117,877</u>	<u>\$118,201</u>	<u>\$112,859</u>	<u>\$113,935</u>

The total cash available, includes \$43,173,000 (University \$43,173,000) which has been retained for future expenditure as outlined in the Special Reserves (see Note 19).

**21. RECEIVABLES***Current receivables:*

Goods and services	22,016	16,809	20,107	14,155
Less: Provision for doubtful debts	(680)	(789)	(680)	(748)
	<u>21,336</u>	<u>16,020</u>	<u>19,427</u>	<u>13,407</u>
Income due	17,575	7,929	17,575	7,929
Interest receivable	5,935	4,926	5,935	4,926
GST receivable	1,820	753	1,820	753
	<u>46,666</u>	<u>29,628</u>	<u>44,757</u>	<u>27,015</u>

*Non-current receivables:*

Loans	5,695	5,022	5,695	6,022
Total non-current receivables	<u>5,695</u>	<u>5,022</u>	<u>5,695</u>	<u>6,022</u>
Total receivables	<u>\$52,361</u>	<u>\$34,650</u>	<u>\$50,452</u>	<u>\$33,037</u>

*Ageing of receivables (gross):*

Not overdue	43,697	28,325	41,795	26,671
Less than 30 days overdue	2,958	3,076	2,951	3,076
30 to 60 days overdue	1,016	1,193	1,016	1,193
60 to 90 days overdue	692	1,443	692	1,443
More than 90 days	4,678	1,402	4,678	1,402
	<u>\$53,041</u>	<u>\$35,439</u>	<u>\$51,132</u>	<u>\$33,785</u>

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>22. INVESTMENTS</b>				
<i>Current investments:</i>				
<i>Investments at valuation (see Note 1.4)</i>				
Corporate bonds	12,123	26,252	12,123	26,252
Debentures	5,000	6,000	5,000	6,000
Government and semi-government securities		506		506
Transferable certificate of deposits	9,925	9,000	9,925	9,000
Floating rate notes	11,600	7,506	11,600	7,506
<b>Total current investments</b>	<b>\$38,648</b>	<b>\$49,264</b>	<b>\$38,648</b>	<b>\$49,264</b>
<i>Non-current investments:</i>				
<i>Investments at valuation (see Note 1.4)</i>				
Convertible notes	2,050	1,751	2,050	1,751
Corporate bonds	119,825	125,265	119,825	125,265
Floating rate notes	52,441	17,692	52,441	17,692
Government and semi-government securities	46,222	49,139	46,222	49,139
Managed investment funds	35,028	31,127	35,028	31,127
Overseas managed investment funds	28,144	28,276	28,144	28,276
Properties <sup>1</sup>	21,000	33,500	21,000	33,500
Property trusts	17,813	26,434	17,813	26,434
Shares and share options <sup>2</sup>	241,621	222,072	241,578	222,052
Shares in subsidiary			7,200	7,200
Transferable certificate of deposits	4,043	2,069	4,043	2,069
Other	605	588	605	588
<b>Total non-current investments</b>	<b>568,792</b>	<b>537,913</b>	<b>575,949</b>	<b>545,093</b>
<b>Total investments</b>	<b>\$607,440</b>	<b>\$587,177</b>	<b>\$614,597</b>	<b>\$594,357</b>

1. The land at 380 LaTrobe Street (valued at \$10m in the Properties class of investments) has been used as collateral to secure a loan of \$59m taken out by the University's joint venture partners to fund its development

2. \$1,727,000 of securities are being held by Bell Potter Securities Limited as security against present and future trades made by the University.

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>23. LAND AND BUILDINGS, AND INFRASTRUCTURE, PLANT AND EQUIPMENT</b>				
Work in progress	44,516	13,998	44,516	13,998
Site infrastructure at cost		13,831		13,831
Accumulated depreciation		(5,605)		(5,605)
Land at Cost	272		272	
Dwellings at cost		3,235		3,235
Accumulated depreciation		(27)		(27)
Campus buildings at cost		38,553		38,553
Accumulated depreciation		(1,407)		(1,407)
Property at Cost	272	48,580	272	48,580
Site infrastructure at valuation	18,987	562	18,987	562
Accumulated depreciation	(164)	(77)	(164)	(77)
Land at valuation	38,280	38,280	38,280	38,280
Dwellings at valuation	12,740	9,989	12,740	9,989
Accumulated depreciation	(81)	(152)	(81)	(152)
Campus buildings at valuation	624,805	546,922	618,225	540,612
Accumulated depreciation	(4,917)	(28,015)	(4,917)	(28,015)
Property at Valuation	689,650	567,509	683,070	561,199
Crown Lease	3,000	3,000	3,000	3,000
Accumulated amortisation	(400)	(200)	(400)	(200)
Amortised crown lease	2,600	2,800	2,600	2,800
Total land, buildings and infrastructure	\$737,038	\$632,887	\$730,458	\$626,577
Work in progress	939	907	939	907
Plant, equipment and motor vehicles at cost	34,235	9,143	32,651	7,559
Accumulated depreciation	(4,990)	(1,817)	(3,502)	(442)
Plant, equipment and motor vehicles at valuation	107,217	110,272	107,217	110,272
Accumulated depreciation	(19,734)	(1,283)	(19,734)	(1,283)
	116,728	116,315	116,632	116,106
Works of art at cost	395	153	395	153
Works of art at valuation	8,509	8,487	8,509	8,487
	8,904	8,640	8,904	8,640
Rare library materials at valuation	6,911	6,900	6,911	6,900
	6,911	6,900	6,911	6,900
Total plant and equipment	\$133,482	\$132,762	\$133,386	\$132,553
Total land, buildings, infrastructure, plant and equipment	\$870,520	\$765,649	\$863,844	\$759,130

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

23. LAND AND BUILDINGS, AND INFRASTRUCTURE, PLANT AND EQUIPMENT continued

Table A: Reconciliation of the opening and closing balances of land and buildings, and infrastructure, plant and equipment (Consolidated only)

	Land \$'000	Buildings \$'000	Other infrastructure \$'000	Total land and buildings and other infrastructure \$'000	Plant and equipment \$'000	Total \$'000
<b>Gross value</b>						
As at 1 January 2003	38,280	598,699	31,391	668,370	135,862	804,232
Additions	272	10,072		10,344	26,676	37,020
Revaluations		30,487	4,652	35,139		35,139
Disposals					(2,088)	(2,088)
Write offs		(1,713)	(57)	(1,770)	(2,244)	(4,014)
Other movements			30,517	30,517		30,517
As at 31 December 2003	38,552	637,545	66,503	742,600	158,206	900,806
<b>Accumulated depreciation / amortisation</b>						
As at 1 January 2003		29,601	5,882	35,483	3,100	38,583
Disposals					(242)	(242)
Write offs		(196)	(57)	(253)	(124)	(377)
Charge for the reporting period		14,140	638	14,778	21,551	36,329
Revaluations		(38,547)	(5,898)	(44,445)	438	(44,007)
Other movements						
As at 31 December 2003		4,998	565	5,563	24,723	30,286
Net book value as at 31 December 2003	\$38,552	\$632,547	\$65,938	\$737,037	\$133,483	\$870,520
Net book value as at 1 January 2003	\$38,280	\$569,098	\$25,509	\$632,887	\$132,762	\$765,649

Table B: Reconciliation of the opening and closing balances of land and buildings, and infrastructure, plant and equipment (University only)

Item	Land \$'000	Buildings \$'000	Other infrastructure \$'000	Total land and buildings and other infrastructure \$'000	Plant and equipment \$'000	Total \$'000
<b>Gross value</b>						
As at 1 January 2003	38,280	592,389	31,391	662,060	134,278	796,338
Additions	272	10,068		10,340	26,628	36,968
Revaluations		30,223	4,650	34,873		34,873
Disposals					(2,072)	(2,072)
Write offs		(1,713)	(57)	(1,770)	(2,244)	(4,014)
Other movements			30,517	30,517	33	30,550
As at 31 December 2003	38,552	630,967	66,501	736,020	156,623	892,643
<b>Accumulated depreciation / amortisation</b>						
As at 1 January 2003		29,601	5,882	35,483	1,725	37,208
Disposals					(215)	(215)
Write offs		(196)	(57)	(253)	(124)	(377)
Charge for the reporting period		13,929	638	14,567	21,412	35,979
Revaluations		(38,336)	(5,898)	(44,234)	438	(43,796)
Other movements						
As at 31 December 2003		4,998	565	5,563	23,236	28,799
Net book value as at 31 December 2003	\$38,552	\$625,969	\$65,936	\$730,457	\$133,387	\$863,844
Net book value as at 1 January 2003	\$38,280	\$562,788	\$25,509	\$626,577	\$132,553	\$759,130



## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

## 23. LAND AND BUILDINGS, AND INFRASTRUCTURE, PLANT AND EQUIPMENT continued

Table C: Reconciliation of the opening and closing balances of land and buildings, and infrastructure, plant and equipment at valuation (Consolidated only)

Item	Land \$'000	Buildings \$'000	Other infrastructure \$'000	Total land and buildings and other infrastructure \$'000	Plant and equipment \$'000	Total \$'000
<b>Gross value</b>						
As at 1 January 2003	38,280	556,911	3,562	598,753	125,659	724,412
Additions		10,068		10,068	33	10,101
Revaluations		72,281	18,482	90,763	942	91,705
Disposals					(1,992)	(1,992)
Write offs		(1,713)	(57)	(1,770)	(2,005)	(3,775)
Other movements						
As at 31 December 2003	38,280	637,547	21,987	697,814	122,637	820,451
<b>Accumulated depreciation / amortisation</b>						
As at 1 January 2003		28,167	277	28,444	1,283	29,727
Disposals					(198)	(198)
Write offs		(196)	(57)	(253)	(108)	(361)
Charge for the reporting period		13,164	383	13,547	18,065	31,612
Revaluations		(36,137)	(39)	(36,176)	692	(35,484)
Other movements						
As at 31 December 2003		4,998	564	5,562	19,734	25,296
Net book value as at 31 December 2003	\$38,280	\$632,549	\$21,423	\$692,252	\$102,903	\$795,155
Net book value as at 1 January 2003	\$38,280	\$528,744	\$3,285	\$570,309	\$124,376	\$694,685

Table D: Assets under construction (Consolidated only)

Item	Land \$'000	Buildings \$'000	Other infrastructure \$'000	Total land and buildings and other infrastructure \$'000	Plant and equipment \$'000	Total \$'000
As at 31 December 2003						
Gross value		44,516		44,516	939	45,455
Accumulated depreciation/amortisation						
Net book value	\$0	\$44,516	\$0	\$44,516	\$939	\$45,455
As at 31 December 2002						
Gross value		13,998		13,998	907	14,905
Accumulated depreciation/amortisation						
Net book value	\$0	\$13,998	\$0	\$13,998	\$907	\$14,905

THE AUSTRALIAN NATIONAL UNIVERSITY

NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>24. INVENTORIES</b>				
Inventory held for sale	1,200	741	123	199
Consumables in store	1,103	1,151	1,103	1,151
WIP equipment for sale	4,350		4,350	
	<u>\$6,653</u>	<u>\$1,892</u>	<u>\$5,576</u>	<u>\$1,350</u>
<b>25. INTANGIBLES</b>				
<i>Current assets:</i>				
Goodwill on acquisition	181	181		
Amortisation of goodwill	(68)	(59)		
License agreements	439		439	
Amortisation of License agreements	(33)		(33)	
<i>Total current assets:</i>	<u>\$519</u>	<u>\$122</u>	<u>\$406</u>	
<b>26. OTHER NON-FINANCIAL ASSETS</b>				
<i>Current assets:</i>				
Advance payments and prepaid expenditure	9,780	9,396	9,778	9,360
<i>Non-current assets:</i>				
Deferred research and development costs	218	44		
Total other non-financial assets	<u>\$9,998</u>	<u>\$9,440</u>	<u>\$9,778</u>	<u>\$9,360</u>
<b>27. EMPLOYEES</b>				
<i>Current liability:</i>				
Accrued salary and related expenses		3,429		2,958
Superannuation levy		1,068		1,068
Payroll tax		595		595
Workers' compensation		82		82
Accrued pension payments				
Employee superannuation entitlements	17,806	16,252	17,806	16,252
Annual Leave entitlements	16,370	13,602	16,053	13,602
Long Service Leave entitlements	4,269	4,497	4,153	4,497
	<u>38,445</u>	<u>39,525</u>	<u>38,012</u>	<u>39,054</u>
<i>Non-current liability:</i>				
Employee superannuation entitlements	384,893	359,885	384,893	359,885
Long Service Leave entitlements	39,215	35,469	39,173	35,449
	<u>424,108</u>	<u>395,354</u>	<u>424,066</u>	<u>395,334</u>
Total provisions and payables to employees	<u>\$462,553</u>	<u>\$434,879</u>	<u>\$462,078</u>	<u>\$434,388</u>

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>28. SUPPLIERS</b>				
Trade creditors	20,749	6,809	19,883	6,628
Total provisions and payables to suppliers	\$20,749	\$6,809	\$19,883	\$6,628
<b>29. OTHER PROVISIONS AND PAYABLES</b>				
<i>Other current provisions and payables:</i>				
Income in advance	83,263	56,076	82,708	55,993
Other creditors	1,785	3,800	1,785	3,800
Construction Project Liability	1,270	1,696		
Intellectual Property Provision	9			
Lease Liability	7	25		
Research account	59	229		
Incomplete project revenue	3,444	2,735		
Total other current provisions and payables	89,837	64,561	84,493	59,793
<i>Other non-current provisions and payables:</i>				
Income in advance	500	583		
Total other non-current provisions and payables	500	583		
Total other provisions and payables	\$90,337	\$65,144	\$84,493	\$59,793

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

## 30. FINANCIAL INSTRUMENTS

## 30.1 TERMS, CONDITIONS AND ACCOUNTING POLICIES

Financial Instrument	Notes	Accounting Policies and Methods	Nature of underlying instrument
<i>Financial assets</i>		Financial assets are recognised when control over future economic benefits is established and the amount of the benefit can be reliably measured.	
Cash at bank and deposits at call	20	Cash at bank and deposits are recognised at their nominal amounts. Interest is credited to revenue as it accrues.	Temporarily surplus funds, mainly from fortnightly drawdowns of funding payments and surplus investment funds, are placed on deposit at call with authorised banks. Interest is earned on the daily balance at the prevailing daily rate for money on call and is paid at month end.
Receivables for goods & services	21	Receivables are recognised at the nominal amounts due less any provision for bad and doubtful debts. Provisions are made when collection of the debt is judged to be less rather than more likely.	The University's credit terms are net 30 days. Settlement periods for entities consolidated range from 14-60 days.
Government and semi-government securities (G&SGS) and corporate bonds	22	Commonwealth and State Government Bonds are recognised at market value. Interest is credited to revenue as it accrues.	G&SGS have terms of up to 15 years. G&SGS are guaranteed by the issuing Government and are traded in active markets. Coupons are usually received on the anniversary of the maturity date and six months from the anniversary date. Investment in corporate bonds is restricted to debt securities issued by authorised banks and companies with an A+ credit rating. Terms up to 10 years.
Debentures	22	The debentures held are recognised at market value. Interest is recognised as it accrues.	Investment in debentures is restricted to companies with an A+ credit rating and affiliated with an authorised bank. Interest is paid quarterly or half yearly.
Transferable certificates of deposits (TCDs)	22	TCDs are recognised at market value. Interest is accrued as it is earned.	TCDs are purchased from authorised banks. Terms are variable but normally less than 5 years.
Overseas managed investment funds and managed investment funds	22	Managed investment funds are carried at the market value of the underlying asset. Converted to AUD at the prevailing spot rate.	Managed funds comprise assets made up of listed companies on world stock markets, foreign cash balances and cash in Australian dollars. Distributions are reinvested in new units.
Convertible notes	22	Convertible notes are quoted on the Australian Stock Exchange and are valued at the last sale price on the day of valuation. Movements in these values between reporting dates are accounted for in accordance with the provisions of AASB 1041 "Revaluation of non-Current Assets".	Convertible notes convert to ordinary shares on a predetermined date.
Properties	22	Physical properties held in the investment portfolio are carried at market value. Formal independent valuations are obtained every three years and internal valuations based on market research are used for interim years.	Physical property held for investment purposes.
Property trusts	22	Property trusts held by the University are quoted on the Australian Stock Exchange and are valued at the last sale price.	Listed property trusts have underlying assets comprising physical properties and cash balances. Distributions are received in cash.
Shares in listed companies	22	These shares are carried at their quoted last sale price. Movements in these values between reporting dates are accounted for in accordance with the provisions of AASB 1041 "Revaluation of non-Current Assets". Dividend income is recognised when dividends are declared.	A mixture of ordinary and preference shares are held.
Floating rate notes (FRNs)	22	Carried at face value plus accrued interest from last coupon payment date.	Income quarterly. Coupon set quarterly at a premium to 90 day Bank Bill Swap Reference Rate. Fixed term. Investment is restricted to FRNs issued by authorised banks or companies with A+ credit ratings.

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

## 30.1 TERMS, CONDITIONS AND ACCOUNTING POLICIES (continued)

Financial Instrument	Notes	Accounting Policies and Methods	Nature of underlying instrument
<i>Financial liabilities</i>		Financial liabilities are recognised when a present obligation to another party is entered into and the amount of the liability can be reliably measured.	
Trade creditors	28	Creditors and accruals are recognised at their nominal amounts, being the amounts at which the liabilities will be settled. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).	Settlement is usually made net 30 days.

## 30.2 INTEREST, CURRENCY, MARKET, CASH FLOW AND CREDIT RISK

	Less than 1 year \$'000	Between 1 and 5 years \$'000	Greater than 5 years \$'000	Total carrying amount \$'000	Fair Value \$'000	Weighted average interest rate %
<b>FINANCIAL ASSETS</b>						
<i>Interest Rate Risk</i>						
Corporate bonds	12,123	115,121	4,704	131,948	131,948	6.75
Debentures	5,000			5,000	5,000	5.02
Government and semi-government bonds		21,858	24,364	46,222	46,222	5.66
Transferable certificates of deposit	9,925	4,043		13,968	13,968	5.26
<i>Currency Risk</i>						
Overseas managed investment funds			28,144	28,144	28,144	
<i>Market Risk</i>						
Convertible notes			2,050	2,050	2,050	4.40
Managed investment funds			35,028	35,028	35,028	
Properties			21,000	21,000	21,000	
Property trusts			17,813	17,813	17,813	
Shares and share options			241,621	241,621	241,621	
<i>Cash Flow Risk</i>						
Cash	117,877			117,877	117,877	5.46
Floating rate notes	11,600	51,441	1,000	64,041	64,041	5.94
Other		605		605	605	
<i>Credit Risk</i>						
Receivables	52,361			52,361	52,361	
<b>Total Financial Assets</b>	<b>\$208,886</b>	<b>\$193,068</b>	<b>\$375,724</b>	<b>\$777,678</b>	<b>\$777,678</b>	
<b>FINANCIAL LIABILITIES</b>						
<i>Credit Risk</i>						
Trade creditors	20,749			20,749	20,749	
<b>Total Financial Liabilities</b>	<b>\$20,749</b>			<b>\$20,749</b>	<b>\$20,749</b>	

The information provided has been prepared for consolidated activity only.

*Interest rate risk* is the risk that the realisable value of a financial instrument will fluctuate due to changes in market interest rates.

*Currency risk* is the risk that the value of a financial instrument will fluctuate due to changes in foreign exchange rates.

*Market risk* is the risk that the value of a financial instrument will fluctuate as a result of changes in market prices.

*Cash flow risk* is the risk that realisable future cash flows associated with a monetary financial instrument will fluctuate in amount.

*Credit risk* is the risk that one party to a financial instrument will fail to discharge an obligation and cause the other party to incur a financial loss.

The University's maximum exposures to credit risk at 31 December 2003 in relation to each class of recognised financial assets is the carrying amount of those assets as indicated in the Statements of Financial Position. The University has no significant exposures to any concentration of credit risk. All figures for credit risk referred to do not take into account the value of any collateral or other security.

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

Notes	Consolidated		University	
	2003 \$'000	2002 \$'000	2003 \$'000	2002 \$'000
<b>31. RECONCILIATION OF OPERATING RESULT TO NET CASH FLOWS FROM OPERATIONS</b>				
Reported net operating surplus/(deficit) from ordinary activities	(19,557)	(11,717)	(19,806)	(11,864)
Depreciation and amortisation of property, plant and equipment	36,371	38,329	36,012	37,834
Net (Gain)/Loss on disposal of assets	4,045	(2,151)	4,051	(2,151)
Provision for doubtful debts	134	228	134	187
Provision for Intellectual Property Protection	(4)	5		
Unrealised gain on investments	6,420	2,772	6,420	2,772
Dividend reinvestment				
(Increase)/Decrease in operating assets				
Receivables	(4,878)	9,011	(6,538)	5,504
Advance payments and prepaid expenditure	1,060	286	1,200	315
Inventories	(4,761)	149	(4,226)	(241)
Other				
Increase/(Decrease) in operating liabilities				
Provision for employee entitlements	28,650	5,226	28,669	5,265
Employee related liabilities	(978)	709	(978)	709
Trade Creditors	8,879	(1,520)	9,097	(332)
Other provisions and payables	24,831	(6,769)	24,301	(6,875)
Other	(4,544)	(5,621)	(4,454)	(5,621)
Net cash flows from operating activities	\$75,668	\$28,937	\$73,882	\$25,502

**32. LAND****Australian Capital Territory**

The major teaching and research facilities of the University are located on the Acton Campus site of 148 hectares and the Mt Stromlo site of 81 hectares. These sites are provided free of charge and held on lease in perpetuity. The use of this land is restricted to Australian National University activities.

The University occupies other sites of 224 hectares within the Australian Capital Territory on varying leasehold terms and conditions. The value of this land has been assessed and brought to account.

**New South Wales**

The University owns 148 hectares of freehold land at Coonabarabran on which is located the Siding Spring Observatory and a further 3 hectares is held by the University at Coonabarabran under permissive occupancy. The value of this land has been brought to account.

The University owns 349 hectares of freehold land at Kioloa. The value of this land has been assessed and brought to account.

**Northern Territory**

The University occupies 26,500 hectares near Tennant Creek held on lease in perpetuity on which is located the Warramunga Seismic Station. The value has been assessed and brought to account.

The University owns 4 hectares of freehold land at Darwin on which is located field research headquarters. The value of this land has been brought to account.

**Fiji**

The University occupies 1 hectare at Suva held on a 75 year lease from November 1965 which is used for field research purposes. The value of this site has not been assessed nor brought to account.

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

## 33. REMUNERATION OF OFFICERS

	Consolidated		University	
	2003 \$	2002 \$	2003 \$	2002 \$
Income received or due and receivable by officers <sup>1</sup>	\$9,483,624	\$8,095,024	\$9,247,255	\$7,904,492

1. Aggregate remuneration disclosed relates only to those officers captured within the \$10,000 bands above \$100,000. An 'officer' is defined as a person who is concerned in, or takes part in, the management of the agency. The directors of entities consolidated are considered officers of the consolidated entity.

The number of officers included in these figures are shown below in the relevant income bands

	Consolidated		University	
	2003 Number	2002 Number	2003 Number	2002 Number
\$100,000 - \$109,999	5	2	5	2
\$110,000 - \$119,999	6	7	6	7
\$120,000 - \$129,999	3	3	3	3
\$130,000 - \$139,999	4	6	4	6
\$140,000 - \$149,999	9	8	9	8
\$150,000 - \$159,999	3	6	3	6
\$160,000 - \$169,999	4	4	4	4
\$170,000 - \$179,999	4	2	4	2
\$180,000 - \$189,999	2	2	2	2
\$190,000 - \$199,999	2	4	2	3
\$200,000 - \$209,999	3	2	3	2
\$210,000 - \$219,999	3		3	
\$220,000 - \$239,999	3		2	
\$240,000 - \$249,999		1		1
\$250,000 - \$259,999	1		1	
\$260,000 - \$269,999	3	1	3	1
\$270,000 - \$279,999		1		1
\$460,000 - \$469,999		1		1
\$480,000 - \$489,999	1		1	
	<u>56</u>	<u>50</u>	<u>55</u>	<u>49</u>

The aggregate amount of separation and redundancy payments during the year to officers was nil.

Fees are not payable to members of Council with the exception of one Director who receives remuneration as Director of Anutech P/L (\$12,000) and Board Chairman of Australia Scientific Instruments P/L (\$15,000). Employees of the University who are members of Council do not receive remuneration for Council service other than their salaries.

## Members of Council during the year were:

The Hon Emeritus Professor P E Baume AO  
The Hon Justice A C Bennett SC  
Professor I W Chubb AO  
Professor M Gillies  
Professor J P Hearn  
Dr M S Keating AC AO  
Mr I F Grigg AM  
Ms G Carnegie  
Senator B Mason  
Senator K Carr  
Mr M Delaney  
Ms B Arndt  
Ms K Hill  
Mr M Alexander  
Mr J F Muir AO  
Ms T Kyprianou  
Dr P McCullagh  
Professor D J Evans  
Dr I Morgan  
Dr A Hyslop  
Mr S Michelson (to 30 Nov 03)  
Mr M Jegenathan (from 1 Dec 03)

## 34. REMUNERATION OF AUDITORS

	Consolidated		University	
	2003 \$	2002 \$	2003 \$	2002 \$
Remuneration to the Auditor-General for auditing the financial statements for the reporting period <sup>1</sup>	204,000	192,850	169,000	160,850
Total remuneration paid to the Auditor-General	<u>\$204,000</u>	<u>\$192,850</u>	<u>\$169,000</u>	<u>\$160,850</u>

1. Amounts shown exclude GST paid on these services

## NOTES continued

**35. NUMBER OF EMPLOYEES**

The number of employees at the end of the reporting period was 3,704 for University and 3,771 for the consolidated entity.

**36. SUPERANNUATION COMMITMENTS****36.1 Commonwealth Superannuation Account**

Since 1949, the University has maintained an account, on conditions approved by the Treasurer of the Commonwealth, to meet the emerging costs of the employer's liability to the Commonwealth Superannuation Scheme. The Commonwealth Government has now closed this Scheme.

Transfers are made to the account each fortnight in accordance with a predetermined formula approved by Council and based on advice from the Commonwealth Actuary. The University's contribution rate in 2003 was 14 per cent of eligible employee superannuable salaries (equivalent to the contribution rate the University is required to make for all employees who are members of UniSuper, formerly known as the Superannuation Scheme for Australian Universities). The University's 2003 contribution was \$2,252,209 (2002 \$2,386,576). Pensions are met on an emerging cost basis and paid to the Commonwealth Superannuation Administration. Pension payments amounted to \$18,133,904 for 2003 (2002 \$15,509,000).

The estimated liability as at 31 December 2003 as provided by the Commonwealth Actuary is \$402,700,000 (2002 \$376,136,849). The next actuarial assessment is due to be undertaken as at 30 June 2004.

The financial transactions and balances of the Commonwealth Superannuation Account have been included with the accounts of the University.

**36.2 Superannuation Scheme for Australian Universities**

New continuing staff members employed by the University since 1 April 1983 have been required to join the Superannuation Scheme for Australian Universities (SSAU) until 30 September 2000. From 1 October 2000, SSAU and the Tertiary Education Superannuation Scheme merged to become a single scheme, UniSuper. This merged scheme continues to have a defined benefits component which is managed independently of the University. The University contributes to the Scheme at the rate equivalent to 14 per cent of members' salaries. The University's contributions in 2003 were \$39,627,405 (2002 \$20,624,212).

UniSuper has advised that as at 30 June 2003, the amount of UniSuper vested benefits applicable to the University was \$247,086,518 (2002 \$241,613,080) and accrued benefits applicable to the University was \$206,460,324 (2002 \$193,178,807). The estimated market value of assets of UniSuper for current members at 30 June 2003 available to pay UniSuper superannuation liabilities of the University was \$206,460,324 (2002 \$224,739,779). Thus the difference between the estimated net market value of UniSuper assets and accrued benefits at 30 June 2003 apportioned to the current members of the University is a surplus of \$11,266,813 (2002 \$16,873,301 Deficit). Note that values assigned to accrued benefits in this note are based on calculations arising from a change in accounting policy by the Trustees.

**36.3 Public Sector Superannuation Scheme**

The University has a small number of employees who are members of the Public Sector Superannuation Scheme to which the University contributes at the rate of 9.7 per cent of members salaries. During 2003, the University's contributions amounted to \$100,585 (2002 \$107,491). This scheme is closed to new members of the University's staff.

**36.4 Employee Non Contributory Productivity Superannuation Schemes**

The University's contributions for employees who are contributors to the Commonwealth Superannuation and Public Sector Superannuation Schemes are paid to the Commonwealth Superannuation Administration. The University contributes to the Schemes between 2 to 3 per cent of members' salaries. During 2003, the University's contributions were \$388,088 (2002 \$418,220) and \$29,266 (2002 \$30,006) respectively.

The University paid contributions for eligible employees, other than employees who are contributors to the Commonwealth Superannuation and Public Sector Superannuation Schemes, to the Tertiary Education Superannuation Scheme until 30 September 2000, and since then to the newly established UniSuper. The new scheme continues to offer a cash accumulation component. The University contributes to the Scheme at a rate of 3 per cent of members' salaries for full-time University employees. The University's contributions in 2003 were \$11,007,670 (2002 \$9,345,304).



## NOTES continued

**37. COOPERATIVE RESEARCH CENTRES**

The University received Commonwealth Funding under the Cooperative Research Centres Program for the establishment of the following Cooperative Research Centres:

*Australian Photonics* - an unincorporated collaborative venture established in 1992. The current partners include the University, The University of Melbourne, The University of New South Wales, The University of Sydney, RMIT University, TAFE NSW, DSTO and 20 industry partners. The Centre's area of research, development and commercialisation is telecommunications - new and improved hardware components to facilitate more efficient and effective telecommunications services. The objectives of the CRC include to be a centre of excellence in photonics with internationally recognised, commercially relevant research programs; to improve the international competitiveness of Australian industry through transfer of photonic technology; and to provide industry with knowledge and skills in photonics through educational programs with emphasis on high quality postgraduate training. The University's contribution (representing 13.47 per cent of the total of the partners' contributions) in the form of staff and equipment resources and cash from 1992 has an approximate value of \$10,482,000. The Centre is administered by Australian Photonics Pty Ltd.

*Biological Control of Pest Animals* - a cooperative research centre which began operations on 1 July 1999 that will continue through to June 2006. The Centre's core participants are CSIRO, the University, Agricultural Protection Board, Western Australia, the Department of Conservation and Land Management, Western Australia, the University of Adelaide, the University of Western Australia and the University of Sydney. The Centre is developing biological control agents that will reduce the birth rate of feral pests. The University's in kind contribution (representing 15 per cent of the total partners' contributions) will be \$5,625,000 over the life of the Centre. The Centre Agent is CSIRO.

*Landscape Evolution and Mineral Exploration* - a cooperative research centre established in 1995 with the core participants being the CSIRO, the University, the Australian Geological Survey Organisation, and the University of Canberra. The Centre is developing a framework to increase the understanding of the evolution of the Australian Landscape to improve the ability to recognise major new mineral deposits. The Centre's agreement was renewed for seven years from 1 July 2001. The University's in-kind contribution (representing 8.2 per cent of the total of the partners' contributions) will be \$11,416,000 over seven years from 2001. The Centre is administered by the CSIRO.

*Australian CRC for Renewable Energy Ltd* - a cooperative research centre with the core participants being the University, Murdoch University, Northern Territory University, Curtin University, University of Technology Sydney, University of Newcastle, University of New South Wales, CSIRO, Electricity Corporation, Centre for Appropriate Technology Inc., Powercorp Pty Ltd, Integrated Technical Services Pty Ltd, PowerSearch Ltd, GP & GF Hill Pty Ltd, ZBB (Australia) Ltd, ANUTECH Pty Ltd, Northern Territory Power and Water Authority, Energy Australia, Silicon Technologies Australia Limited, Queensland University of Technology and Industrial Research Limited (NZ). The centre was established in 1996 to carry out research, training and commercialisation programs in the field of renewable energy and related greenhouse gas abatement technologies. The University's in-kind contribution (representing 14 per cent of the total of the partners' contributions) will be \$5,805,000 over seven years from 1996. The Centre has assumed the role of Centre Agent.

*Greenhouse Accounting* - a cooperative research centre with the core participants being the Australian Greenhouse Office, the University, the Bureau of Rural Sciences, the CSIRO, the Department of Conservation and Land Management (WA), the Departments of Natural Resources and Primary Industries (QLD) and State Forests (NSW). The Centre is developing methods of accounting for carbon emissions and sinks in Australian landscapes and for reducing greenhouse gases through responsible management of Australian ecosystems. The University's in kind contribution (representing 45 per cent of the total of the partners' contributions) will be \$23,878,000 over seven years from 1999. The University acts as the Centre Agent.

## NOTES continued

## 37. COOPERATIVE RESEARCH CENTRES (continued)

*Topical Plant Protection* - a cooperative research centre with the core participants being the University, the Bureau of Sugar Experiment Stations, CSIRO, the Departments of Agriculture, Fisheries and Forestry (Australian Quarantine Inspection Service and the National Office of Animal and Plant Health), Primary Industries (QLD), Primary Industries and Fisheries (NT), the Northern Territory University, RhoBio, the University of Queensland. The centre's objective includes establishing programs for improved plant disease and pest management, with major emphasis on improved disease and pest prevention strategies and the increased utilisation of plant resistance to diseases and pests. The University's in kind contribution (representing 2.13 per cent of the total of core participants' contributions) will be \$1,092,000 over seven years from 1999. The University of Queensland acts as the Centre Agent.

*Innovative Dairy Products* - a cooperative research centre with the core partners being Monash University, CSIRO, Genetics Australia Co-operative Limited, the University of Sydney, Dairy Research and Development Corporation, Australian Dairy Farmers Federation and Bonlac Foods Limited. The mission of the centre is to develop and commercialise new genomic technologies and products to underpin a highly innovative, progressive and internationally competitive Australian Dairy industry. As an associate partner, the University's in kind contribution (representing two per cent of the total of core and supporting participants' contributions) will be \$1,112,000 over seven years from July 2001. The agreement provides for the establishment of a propriety limited company for management purposes.

*Functional Communication Surfaces* - a cooperative research centre with the core partners being the University, Monash University, CSIRO, Amcor Packaging (Australia) Pty Ltd, Carter Holt Harvey Tissues Pty Ltd, Norske Skog Paper Mills (Australia) Ltd, Note Printing Australia Ltd and PaperlinX Ltd. The mission of the centre is to establish a self-funding R&D capability able to fully leverage the market opportunities offered by the rapidly expanding requirements for "smart" print surfaces. The University's in kind contribution (representing 17.1 per cent of the total of core partners' contributions) will be \$5,999,000 over seven years from July 2001. Monash University acts as the Centre Agent.

*Smart Internet Technology* - a cooperative research centre with the core partners including the University, Adacel, Hewlett Packard, Motorola, NSW GTA, Telstra, the Universities of New South Wales, Sydney and Wollongong. The centre combines research in artificial intelligence, social interaction and network development to create enabling technologies for smart Internet applications that will allow users and network providers to manage this complexity. The University's in kind contribution (representing 9.5 per cent of the total of core partners' contributions) will be \$4,200,000 over seven years from July 2001. The centre will operate as an incorporated management company (CRCSIT Pty Limited).

*Sustainable Production Forestry* - a cooperative research centre with the core participants University of Tasmania, CSIRO, Southern Cross University, Griffith University, University of Queensland, and 10 industry partners. The Centre is to undertake high quality research that contributes to national forestry objectives including economic and social development. It also aims to ensure that Australian industry captures the benefits of research by active involvement in the Centre. The University's in kind contribution (representing 14.4 per cent of the total of the core participants' contributions) will be \$1,231,000 over seven years from July 1997. The Centre agent is University of Tasmania.

Costs for all Cooperative Research Centres are expensed as incurred except where future benefits are expected beyond reasonable doubt to exceed these costs. In 2003 all costs were expensed.

## 38. MT STROMLO OBSERVATORY

The University lost significant assets at the Research School of Astronomy and Astrophysics, Mt Stromlo Observatory as a result of the Canberra firestorms on 18 January 2003. The assets were the subject of an insurance policy and some buildings were also heritage listed.

The University has received an amount of \$16,401,760 in insurance claims to date. The final figure for losses will not be known until all heritage rebuilding requirements are assessed. Negotiations with the insurance company for further compensation are still continuing.

## THE AUSTRALIAN NATIONAL UNIVERSITY

## NOTES continued

**39. RELATED PARTY DISCLOSURES**

The University enters into a number of transactions for the provision of goods and services under normal commercial terms and conditions with student organisations based on campus.

**40. CONTINGENT LIABILITIES**

Guarantees of \$57,000 have been given to The Credit Union of Canberra Ltd for loans made to needy students. Guarantees of \$14,000 have been given to the National Australia Bank for the balances of loans provided pursuant to the Legal Workshop Loan Scheme. Guarantees of \$314,000 have been given various property lessors in respect of ANU student tenancy agreements for 2004 student accommodation.

The University is currently involved in a number of legal matters. The total maximum liability of the University in respect of these matters is estimated to be \$29,450.

The University is currently the plaintiff in a legal action. Financial settlement was agreed to on 21 January 2004 and the amount due to the University is anticipated to be \$495,000 including costs.

Anutech Pty Limited is involved in a legal action arising in 1994, which was within Anutech Pty Limited's normal course of business. Anutech Pty Limited's professional indemnity insurers have denied liability in respect of the transaction. The amount of liability that may become payable cannot be reliably calculated.

**41. SEGMENT INFORMATION**

The Economic Entity operates predominantly in the Australian Capital Territory for the purpose of teaching and research.

**42. ECONOMIC DEPENDENCY**

The University is to a significant extent dependant on monies received pursuant to the Higher Education Funding Act 1988 to fund its operations. In 2003, funding from the Act (\$283,999,000) represented 54 per cent (2002 58 per cent) of the total operating revenues (before abnormal items).

**43. SPECIAL ACCOUNT**

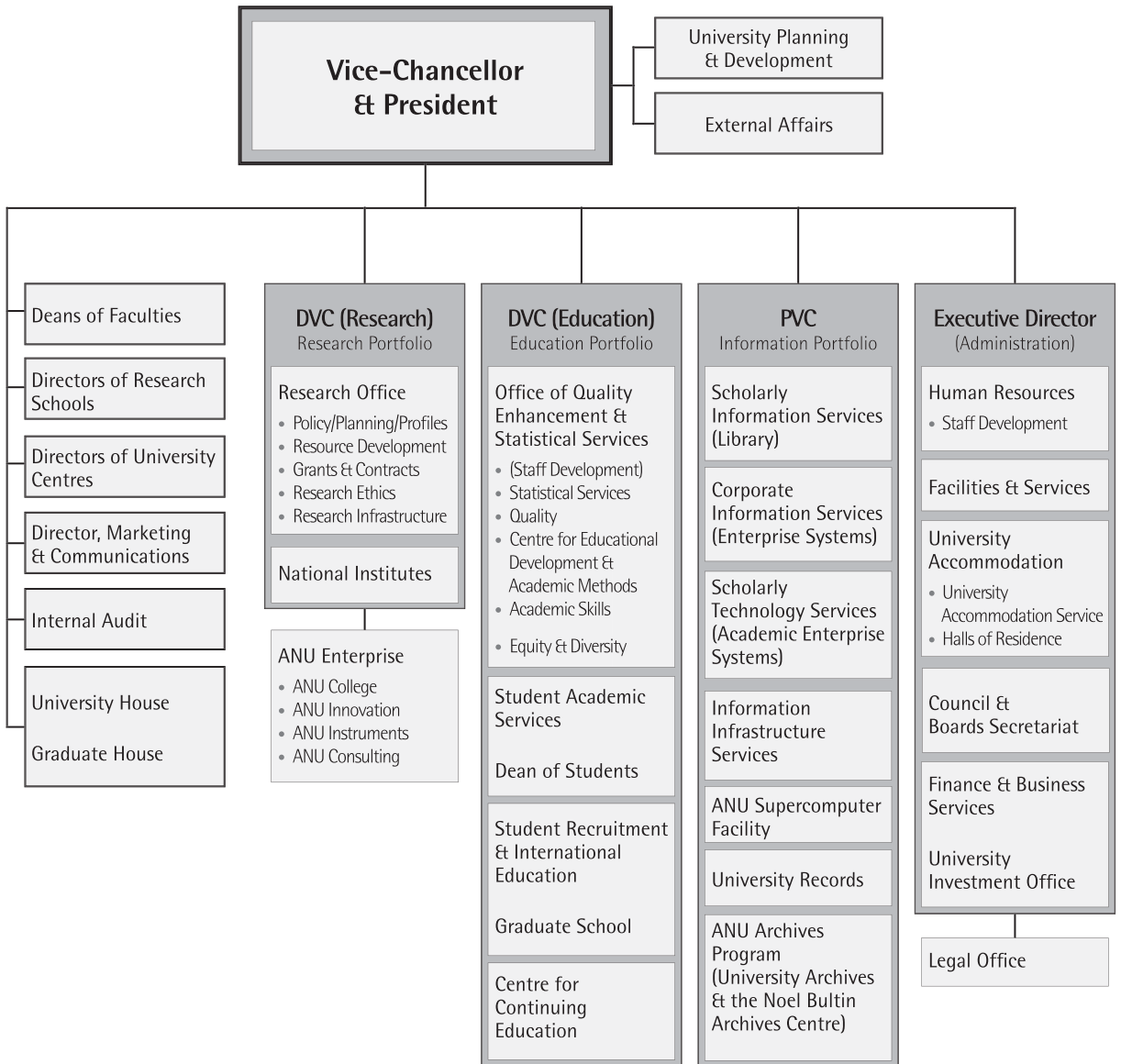
The University has established 'The Australian National University ADS Students Third Party Payments ADS Special Account'. The Account holds funds used to meet costs for students sponsored by Ausaid. The monies are placed in a special bank account and expended on Student stipends in accordance with the terms of the Ausaid agreement. The monies are not available for other purposes of the University and are not recognised in the financial statements.

	University 2003 \$'000	2002 \$'000
Balance carried forward from previous year	122	102
Receipts during the year	7,110	2,179
Interest received	66	15
Available for payments	7,298	2,296
Payments made	(7,068)	(2,174)
Balance carried forward to next year	<u>\$230</u>	<u>\$122</u>

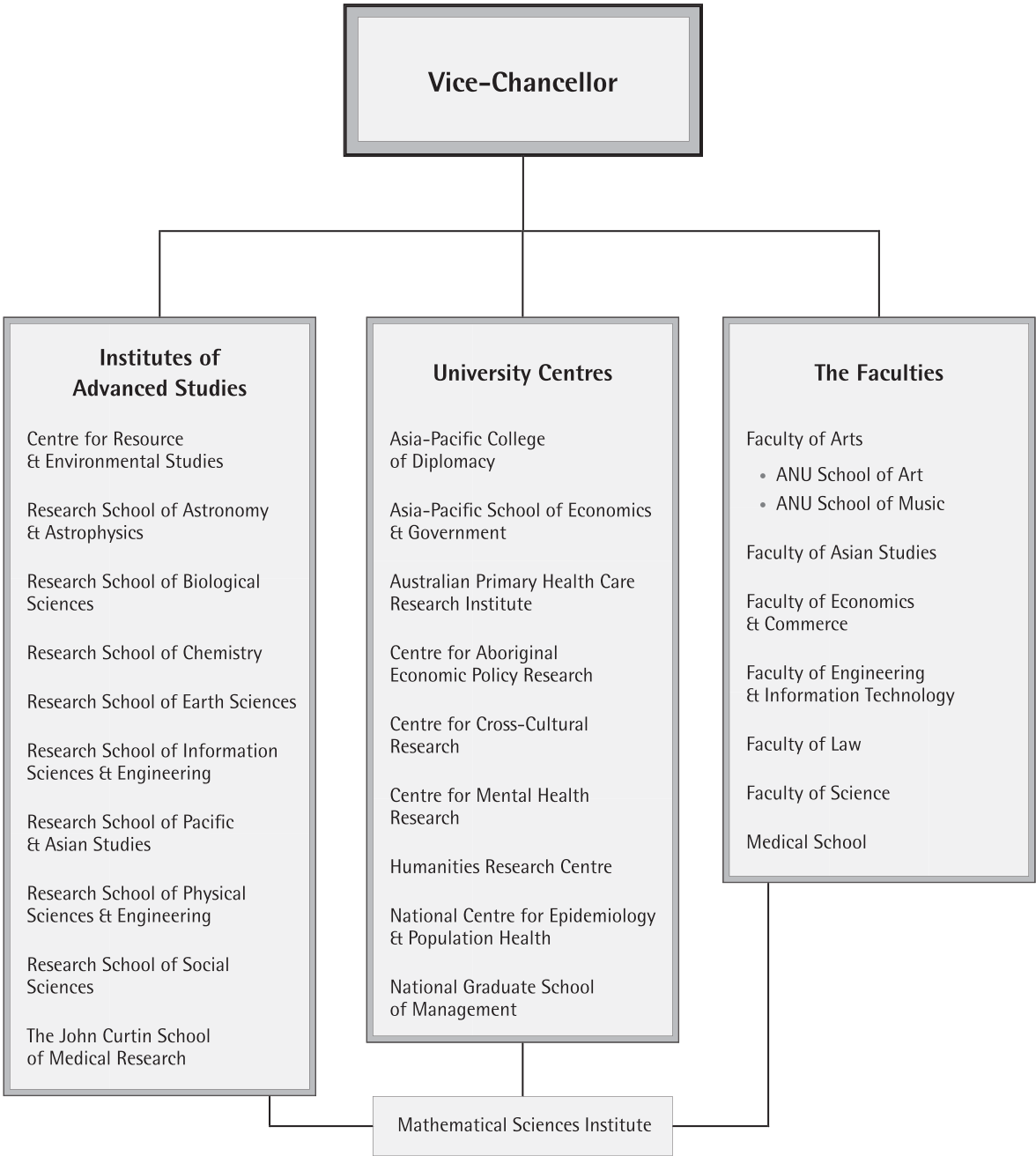
**44. POST BALANCE DATE EVENT**

In February 2004 the University was granted approval by the Federal Treasurer to undertake capital raising of \$120,000,000 through the issue of indexed annuity bonds, to meet capital expenditure requirements.

# University Organisational Structure



# Academic Structure



## ANU acronyms

ACSPRI	Australian Consortium for Social and Political Research Inc.	FEIT	Faculty of Engineering and Information Technology
ACSR	ACSPRI Centre for Social Research	GSIA	Graduate Studies in International Affairs
AMPL	Atomic and Molecular Physics Laboratories	GSSD	Graduate Studies in Strategy and Defence
APCD	Asia-Pacific College of Diplomacy	HRC	Humanities Research Centre
APSEG	Asia Pacific School of Economics and Government	IIS	Information Infrastructure Services
APHRI	Australian Primary Healthcare Research Institute	JCSMR	The John Curtin School of Medical Research
BaMBi	School of Biochemistry and Molecular Biology	MAC	Marketing and Communications Division
BoZo	School of Botany and Zoology	MSI	Mathematical Sciences Institute
CAEPR	Centre for Aboriginal Economic Policy Research	NCEPH	National Centre for Epidemiology and Population Health
CAIS	Centre for Arab and Islamic Studies (The Middle East & Central Asia)	NEC	National Europe Centre
CbiS	Centre for Bioinformation Science	NGSM	National Graduate School of Management
CCE	Centre for Continuing Education	NHMRC	National Health and Medical Research Council
CCR	Centre for Cross-Cultural Research	RegNet	Regulatory Institutions Network
CEDAM	Centre for Educational Development and Academic Methods	RSAA	Research School of Astronomy and Astrophysics
CMA	Centre for Mathematics and its Applications	RSBS	Research School of Biological Sciences
CMHR	Centre for Mental Health Research	RSC	Research School of Chemistry
CPAS	National Centre for the Public Awareness of Science	RSES	Research School of Earth Sciences
CRC	Cooperative Research Centre	RSISE	Research School of Information Sciences and Engineering
CRES	Centre for Resource and Environmental Studies	RSPAS	Research School of Pacific and Asian Studies
CSES	Centre for Sustainable Energy Systems	RSPHysSE	Research School of Physical Sciences and Engineering
CSIT	Computer Science and Information Technology	RSSS	Research School of Social Sciences
DOI	Division of Information	SA	School of Art (Faculty of Arts)
EcComm	Faculty of Economics and Commerce	SM	School of Music (Faculty of Arts)
FACS	Flourescent Activated Cell Sorta, JCSMR	SRES	School of Resources, Environment and Society

# Index

## A

Aboriginal Economic Policy Research, Centre for	68, 139
Academic Board	20
Academic Structure	172, 223
Annual Student Load 2003	22
Anthropology, Department of	37, 104
ANU acronyms	224
Applied Mathematics	40, 108
Applied Photonics Group	43, 114
Archaeology and Natural History, Department of	37, 104
Arts, Faculty of	53, 126
Asia Pacific School of Economics & Government	67, 138
Asian Studies, Faculty of	57, 128
Astronomy and Astrophysics, Research School of	31, 78
Atomic and Molecular Physics Laboratories	41, 109
Audit Committee	21, 173
Auditor-General's Report	175
Australian Centre for Social Policy Research	49, 119
Australian Dictionary of Biography	50, 119
Australian National Seismic Imaging Resource	36
Awards and achievements	14

## B

Biochemical Reactions and Molecular Recognition	90
Biochemistry and Molecular Biology, School of	60, 129
Bioinformation Science, Centre for	50, 120
Biological Sciences, Research School of	32, 81
Blake Dawson Waldron Public Lectures 2003	171
Boards and Committees of the Council	172
Botany and Zoology, School of	60, 130
Budget decisions	17

## C

Central Nervous System Stability and Degeneration	82
Chancellor	173
Chemistry, Department of	61, 131
Chemistry, Research School of	32, 90
Committee on Conditions of Appointment of the Vice-Chancellor and Deputy Vice-Chancellor	21
Comparative Genomics	32, 81
Completions 2002	25
Computational Quantum Chemistry	90
Computer Sciences Laboratory	36, 102
Conclusion	18
Continuing Education, Centre for Cooperation with Government and other Public Institutions	69
Coordination Chemistry and Spectro-electro Chemistry	30
Council and Council Committees	20
Council	7, 20, 172
Cross-Cultural Research, Centre for	69, 140
CSIRO Student Research Scheme	95

## D

Demography and Sociology Program	44, 116
Development Studies Network	50
Disordered Materials	91
Diversity	16
Donations	166

**E**

Earth and Marine Sciences, Department of (formerly Geology)	61
Earth Chemistry	34, 95
Earth Environment	34, 96
Earth Materials	35, 98
Earth Physics	36, 99
Earth Sciences, Research School of	34, 95
Economics and Commerce, Faculty of	129
Economics Program	45, 117
Economics, Division of	38, 106
Ecosystem Dynamics	32, 82
Educational Development and Academic Methods, Centre for	70, 140
Electrochemistry	95
Electron Microscopy Unit	32, 89
Electronic Materials Engineering	41, 110
Emergency Appointment (Vice-Chancellor) Committee	21
Engineering and Information Technology, Faculty of	59, 129
Enrolments 2003	24
Environmental Biology	32, 83
Events and outreach	16
Executive Committee of Council	20
Externally Funded Research Collaborations	95

**F**

Faculties, The	53, 126
Finance Committee	21
Financial Statements	179
Freedom of Information Act 1982 Statement	172

**G**

Gender Relations Centre	39, 107
Genomic Interactions	85
Graduate School, The	75
Grants	147

**H**

Herbert and Valmae Freilich Foundation, The	72
High Blood Pressure Research Unit	52, 126
Highlights	10
History Program	46, 118
Home Region of Overseas Students 2003	26
Honorary Degrees Committee	21
Human Geography, Department of	37, 104
Humanities Research Centre	70, 141

**I**

ICAM	62, 135
Immigration and Multicultural Studies, Centre for	50
Immunology and Genetics, Division of	51, 120
Indigenous initiatives	16
Information Sciences and Engineering, Research School of	36, 102
Institute of Advanced Studies	30, 76
International Relations, Department of	38, 105

**J**

John Curtin School of Medical Research, The	50, 120
Joint Research Projects undertaken with Universities, CSIRO and other Institutions	76

**L**

Laser and Optical Spectroscopy	91
Laser Physics Centre	42, 111
Law Program (incl. Regulatory Institutions Network)	47, 118
Linguistics, Department of	38, 105
Liquid State Chemical Physics	91

**M**

Mathematical Sciences Institute	72, 142
Mathematics and its Applications, Centre for	72, 142
Mathematics, Department of	61, 133
Medical School	65, 136
Mental Health Research, Centre for	70, 141
Molecular Bioscience, Division of	52, 123
Molecular Genetics & Evolution	32, 85
Molecular Plant Physiology	32, 86



## N

National Centre for Epidemiology and Population Health	74, 144
National Graduate School of Management	75, 146
National Institutes Public Lectures	168
Neuroscience, Division of	52, 125
Nonlinear Physics Group	44, 114
Nuclear Magnetic Resonance	92
Nuclear Physics	42, 112

## O

Officers for Ceremonial Occasions	9
Optical Sciences Centre	44
Organic Synthesis	92
Organic Synthesis, Methodology and Host-guest Chemistry	92
Organisational Structure	222
Organotransition Metal Chemistry	91
Overview of The Australian National University	10

## P

Pacific and Asian History, Division of	39, 106
Pacific and Asian Studies, Research School of	37, 104
Pacific Manuscripts Bureau	39, 107
Philosophy Program	48
Photobioenergetics	87
Physical Sciences and Engineering, Research School of	40, 108
Physics, Department of	62, 134
Plant Cell Biology	32, 88
Plasma Research Laboratory	43, 114
Political and Social Change, Department of	38, 105
Political Science Program	48, 118
Principal Grants and Donations	147
PRISE	36
Pro-Chancellor	173
Protein Crystallography and Engineering	92
Protein Synthesis and Evolution	92
Psychology, School of	62, 133
Public Lectures	168

## R

Regulatory Institutions Network	47, 118
Research Evaluation and Policy Project	50, 120
Research performance	12
Resource and Environmental Studies, Centre for	30, 76
Resource Management in Asia Pacific Project	39, 107
Resources, Environment and Society (including ICAM), School of	62, 135

## S

Science, Faculty of	60, 129
Social and Political Theory Program	49, 119
Social Sciences, Research School of	44, 116
Solid State Inorganic Chemistry	93
Solid State Molecular Science	93
Staff	14, 29
State, Society and Governance in Melanesia Project	39, 108
Statistics	22
Strategic and Defence Studies Centre	40, 108
Structural Biology and Biophysics by NMR	94
Students	13
Sustainability programs	17
Synthesis and Mechanism	94
Systems Engineering, Department of	37, 102

## T

Tax System Integrity, Centre for	50, 119
Telecommunications Engineering, Department of	102
Theoretical Chemical Physics	94
Theoretical Physics	44, 115
Theory Cluster	43, 114
Toyota-ANU Public Lecture Series	169

## U

University Executive	18
University Officers	7
University Schools and Centres	67, 138

## V

Vice-Chancellor	18, 173
Visual Sciences	32, 88