

Contents

AINSE Council	2
Executive Committee	3
AINSE Staff and Consultants	3
Specialist Committees	4
Conference Planning Committees	8
Financial Statements	10
AINSE Postgraduate Research Awards	21
Summary of AINSE Awards	24
Summary of Experiments at ISIS	41
Publications	44
Performance Indicators for AINSE	69
University Codes	72
Specialist Committee Codes	72



AINSE Council 2002

Member Organisations and Representation

2 Council Meetings held in 2002

Organisation	Membership Commenced	Councillor	Meetings Attended
ANSTO	1958	Professor Helen Garnett	2
ANSTO, Environment		Professor Ann Henderson-Sellers	2
ANSTO, Materials		Dr George Collins	2
ANSTO, Nuclear Technology		Mr Jack Dillich	1
ANSTO, Physics		Dr Brian Spies	2
ANSTO, Radiopharmaceuticals		Dr Stuart Carr	2
The University of Queensland	1958	Professor John Boldeman	2
The University of New England	1958	Dr Peter Grave	1
The University of Sydney	1958	Professor Len Lindoy	2
The University of New South Wales	1958	Professor Hans Coster, Vice President	2
The Australian National University	1958	Professor John White	2
The University of Melbourne	1958	A/Professor Ron Cooper, President	2
University of Tasmania	1958	Professor Allan Canty	2
The University of Adelaide	1958	A/Professor Gerald Laurence	2
The University of Western Australia	1958	Professor Brian Stone	1
Monash University	1961	Dr Trevor Hicks	2
The University of Newcastle	1965	A/Professor Bruce King	2
Flinders University of SA	1966	Professor Peter Teubner	1
La Trobe University	1966	Dr Paul Pigram	1
Macquarie University	1966	Professor Peter Bergquist	0
James Cook University	1970	Professor Richard Keene	2
University of Wollongong	1975	Professor Anatoly Rozenfeld	0
University of Wollongong	1975	Professor Allan Chivas (invited for C1)	2
Griffith University	1975	A/Professor Greg Hope	2
Murdoch University	1985-1997 rejoined 1998	A/Professor Stephen Thurgate	2
University of Technology, Sydney	1988	E/Professor Evan Leitch	2
RMIT University	1988	Professor Dinesh Sood	1
Curtin University of Technology	1989	Professor Brian O'Connor	1
Central Queensland University	1991	Dr David Druskovich	2
University of South Australia	1991	Dr Bill Skinner	0
Swinburne University of Technology	1991	Dr Peter Alabaster	0
Swinburne University of Technology	1991	Dr Anthony Bartel	1
Queensland University of Technology	1992	Dr Riaz Akber	1
University of Western Sydney	1993	Dr Robyn Crumbie	2
Victoria University	1994	Professor Albert McGill	0

Organisation	Membership Commenced	Councillor	Meetings Attended
The University of Auckland	1995	Professor Jim Metson	2
Charles Sturt University	1995	A/Professor Michael Antolovich	2
Northern Territory University	1995	A/Professor Charles Webb	0
Northern Territory University	1995	A/Professor David Parry	1
Edith Cowan University	1996	Professor Patrick Garnett	0
University of Canberra	1996	A/Professor Andrew Cheetham	1
University of Canberra	1996	Professor Mohamed Khadra	0
The University of Southern Queensland	1996	Professor Malcolm McKay	0
Deakin University	1997	Professor Pip Hamilton	0
University of Ballarat	1997	Mr Stafford McKnight	1
Australian Catholic University	2001	Dr Neil Saintilan	1
Secretary to Council (non-voting)		Dr Dennis Mather, AINSE	2
Alternate Representatives			
Edith Cowan University		Dr Stephan Hinckley	2
Macquarie University		Professor Jim Piper	1
Northern Territory University		A/Professor David Parry	1
The Australian Catholic University		Dr Brian Bicknell	1
La Trobe University		A/Professor John Riley	1
The University of New England		Dr Peter Grave	1

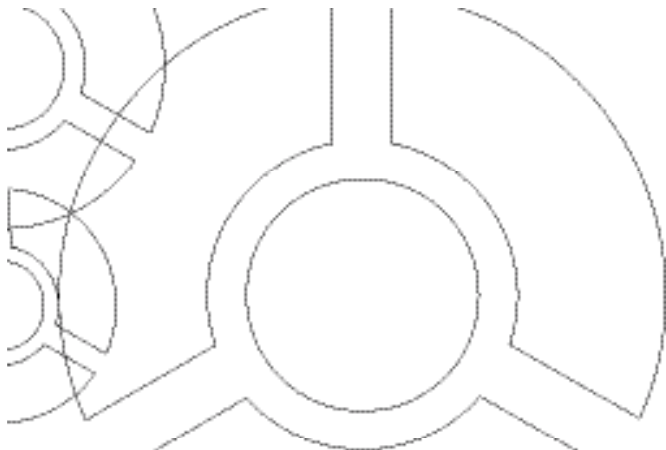
Executive Committee

4 Executive Meetings held in 2002

Councillor	Office/Position	Organisation	Meetings Attended
A/ Professor Ron Cooper	President	The University of Melbourne	4
Professor Hans Coster	Vice – President	The University of New South Wales	4
Professor John White		The Australian National University	4
Dr Brian Spies		ANSTO	4
Professor Ann Henderson-Sellers		ANSTO	4
Professor Helen Garnett		ANSTO	3
Dr Dennis Mather		AINSE	4

AINSE Staff

Scientific Secretary	Dr Dennis Mather
Secretariat	Mrs Irene Parker Mrs Nerissa Phillips Miss Tanya Irvine Mr Andrew Henriksen Mrs Sandy O'Connor (part-time)



Specialist Committees May 2002

The Scientific Secretary, AINSE, is an *ex-officio* (non-voting) member of all Committees
(a) indicates 'alternate'

Accelerator Science Specialist Committee

		Meetings Attended
Professor Dinesh Sood, Convenor	RMIT University	1
Professor Rob Elliman	The Australian National University	1
Dr Peter Grave	The University of New England	1
Professor John Boldeman	The University of Queensland	1
Dr David Cohen	Physics, ANSTO	1
Mr Paul Middleton	Physics, ANSTO	0
Dr Brian Spies	Director, Physics, ANSTO	1

Accelerator Mass Spectrometry Specialist Committee

Professor Allan Chivas, Convenor	University of Wollongong	1
Dr Mike Barbetti	The University of Sydney	1
Professor John Dodson	The University of Western Australia	0
Dr David Fink	Physics, ANSTO	1
Dr Brian Spies	Director, Physics, ANSTO (ex officio)	1
Mr Paul Middleton	Business Manager, Physics, ANSTO	1

AMS Advisory Group

Professor Ken Collerson	The University of Queensland	-
Professor Daniel Potts	The University of Sydney	-
Professor Eric Colhoun	The University of Newcastle	-
Dr Karl Heinz-Wyrwoll	The University of Western Australia	-
Dr Iain Davidson	The University of New England	-
Dr Peter Nixon	The University of Queensland	-
Dr Richard Roberts	University of Wollongong	-
Mr John Head	University of Wollongong	-
Dr Alan Watchman	The Australian National University	-
Dr Glenn Summerhayes	The Australian National University	-
Dr Peter Bellwood	The Australian National University	-

Radiopharmaceuticals & Neutron Irradiation Specialist Committee

Professor Hans Coster, Convenor	The University of New South Wales	1
A/Professor Roger Martin	The University of Melbourne	0
Professor Andrew Gleadow	The University of Melbourne	0
Dr Patrick Butler	St George Hospital	0
Professor Barry Kohn (a)	The University of Melbourne	1
Dr George Larcos (a)	The University of Sydney	1
Dr Andrew Katsifis	Radiopharmaceuticals, ANSTO	1
Mr Ken Suter	ARI, ANSTO	1
Dr Stuart Carr	Director, Radiopharmaceuticals, ANSTO	1

Radiopharmaceuticals & Neutron Irradiation Advisory Group

Professor Leon Kane-Maguire University of Wollongong -

Engineering, Materials & Nuclear Technology Specialist Committee

Professor Barry Muddle, Convenor Monash University 0
Dr Paul Pigram, Convenor La Trobe University 1
Dr Stephen Hinckley Edith Cowan University 1
Dr George Collins Director, Materials, ANSTO (ex officio) 1
Dr Dan Perera Materials, ANSTO 1
Mr Jack Dillich Director, Nuclear Technology, ANSTO (ex officio) 0
Mr John Blackley Business Manager, Materials, ANSTO 0
Mr Ray Brindley Business Manager, Nuclear Technology, ANSTO 0
Dr Kathryn Prince Environment, ANSTO 0

Environmental Science Specialist Committee

A/Professor Gerald Laurence, Convenor The University of Adelaide 1
Dr Andrew McMinn University of Tasmania 1
Professor Ann Henderson-Sellers Director, Environment, ANSTO (ex officio) 1
Dr David Garnett Becquerel Laboratories (ex officio) 1
Dr Riaz Akber Queensland University of Technology 0
Ms Rosalind Ti Business Manager, Environment, ANSTO 0
Dr Ross Jeffree Environment, ANSTO 1

Environmental Science Advisory Group

Dr Kathryn Prince Environment, ANSTO 0
Dr Henk Heijnis Environment, ANSTO 1

Neutron Scattering Specialist Committee

Dr Brendan Kennedy, Convenor The University of Sydney 1
Professor Brian O'Connor Curtin University of Technology 1
Professor John White The Australian National University 1
Dr Robert Robinson Director, Neutron Scattering, ANSTO (ex officio) 1
Dr Margaret Elcombe Physics, ANSTO 1
Dr Brian Spies Director, Physics, ANSTO (ex officio) 0
Mr Paul Middleton Business Manager, Physics, ANSTO 0

Plasma Fusion Specialist Committee

A/Professor Andrew Cheetham, Convenor University of Canberra 1
Professor Robin Storer Flinders University 1
A/Professor Rod Cross The University of Sydney 0
Dr Boyd Blackwell (a) The Australian National University 1
Professor Jeffrey Harris The Australian National University 0

Radiation Science Specialist Committee

A/Professor Ron Cooper, Convenor The University of Melbourne 1
Mr David Sangster AINSE (Honorary Fellow) 1
A/Professor David Hill The University of Queensland 1
Dr Dimitri Alexiev Physics, ANSTO 1
Dr Brian Spies Director, Physics, ANSTO (ex officio) 0
Mr Paul Middleton Business Manager, Physics, ANSTO 0
Dr Bob Anderson The University of Auckland 1

Radiation Advisory Group

Dr David Webb Australian Radiation Protection & Nuclear Safety Bureau -
Mr Gavin Gant Physics, ANSTO -
A/Professor Jan Gebicki Macquarie University -
A/Professor Doug Moore The University of Sydney -
Dr Roger Martin The University of Melbourne -



Specialist Committees October 2002

Archaeology and Geosciences Committee

		Meetings Attended
Professor Allan Chivas, Convenor	University of Wollongong	1
Dr Peter Grave	The University of New England	1
Professor Andrew Gleadow	The University of Melbourne	1
Dr David Garnett	Becquerel Laboratories (ex officio)	1
Dr David Fink	Physics, ANSTO	1
Dr Henk Heijnis	Environment, ANSTO	1
Dr Brian Spies	Director, Physics, ANSTO	1
Professor Ann Henderson-Sellers	Director, Environment, ANSTO	1
A/Professor Ron Cooper	The University of Melbourne	1

Archaeology and Geosciences Advisory Group

Professor Ken Collerson	The University of Queensland	-
Professor Daniel Potts	The University of Sydney	-
Professor Eric Colhoun	The University of Newcastle	-
Dr Karl Heinz-Wyrwoll	The University of Western Australia	-
Dr Iain Davidson	The University of New England	-
Dr Peter Nixon	The University of Queensland	-
Dr Richard Roberts	University of Wollongong	-
Mr John Head	University of Wollongong	-
Dr Alan Watchman	The Australian National University	-
Dr Glenn Summerhayes	The Australian National University	-
Dr Peter Bellwood	The Australian National University	-

Biomedical Science and Biotechnology Committee

Dr Roger Martin, Convenor	The University of Melbourne	1
Dr George Larcos	The University of Sydney	1
Professor Hans Coster	The University of New South Wales	1
Dr Stuart Carr	Director, Radiopharmaceuticals, ANSTO	1
Dr Andrew Katsifis	Radiopharmaceuticals, ANSTO	1
Dr Bill Burch	Radiopharmaceuticals, ANSTO	1
Professor John White	The Australian National University	1
Dr Brian Spies	Director, Physics, ANSTO	1
Mr Nick Bertram	Radiopharmaceuticals, ANSTO	1

Biomedical Science and Biotechnology Advisory Group

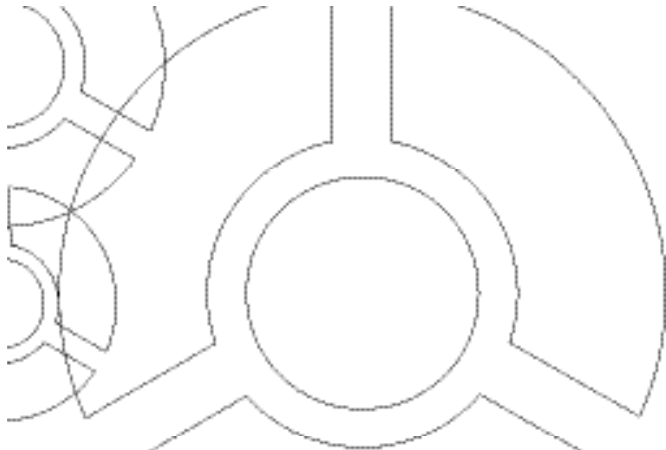
Professor Leon Kane-Maguire	University of Wollongong	-
-----------------------------	--------------------------	---

Materials Properties and Engineering Committee

Professor Barry Muddle, Convenor	Monash University	1
Dr Paul Pigram	La Trobe University	1

Dr Andrew Whittaker	The University of Queensland	1
Dr David Cohen	Physics, ANSTO	1
Dr Kathryn Prince	Environment, ANSTO	1
Dr Dan Perera	Materials, ANSTO	1
Professor John White	The Australian National University	1
A/Professor Ron Cooper	The University of Melbourne	1
Environmental Science Committee		
A/Professor Gerald Laurence, Convenor	The University of Adelaide	1
Dr Riaz Akber	Queensland University of Technology	1
Dr Andrew McMinn	University of Tasmania	0
Dr Derry McPhail (a)	The Australian National University	1
Dr Geraldine Jacobsen	Physics, ANSTO	1
Dr Andrew Smith	Physics, ANSTO	1
Dr Ross Jeffree	Environment, ANSTO	1
Professor Ann Henderson-Sellers	Director, Environment, ANSTO	1
Professor Hans Coster	The University of New South Wales	1
Environmental Science Advisory Group		
Dr Kathryn Prince	Environment, ANSTO	-
Dr Henk Heijnis	Environment, ANSTO	-
Materials - Structures and Dynamics Committee		
Dr Brendan Kennedy, Convenor	The University of Sydney	1
Professor Brian O'Connor	Curtin University of Technology	1
Professor John White	The Australian National University	1
Dr Ian Gentle	The University of Queensland	0
Dr Robert Robinson	Director, Neutron Scattering, ANSTO (ex officio)	1
Dr Wim Klooster	Physics, ANSTO	1
Dr Brian Spies	Director, Physics, ANSTO	1

The Scientific Secretary, AINSE, is an ex-officio (non-voting) member of all Committees
(a) indicates 'alternate'



Conference Planning Committees

Environmental Radioactivity: Migration, Measuring and Monitoring in the South Pacific - May 2002

Mr John Twining	ANSTO
Professor Ann Henderson-Sellers	ANSTO
Ms Sue Brown	ANSTO
Dr Gillian Peck	ANSTO
Dr Paul Brown	ANSTO
Ms Renate Domel	ANSTO
Dr Ross Jeffree	ANSTO
Dr John Harries	ANSTO
Mr Ron Szymczak	ANSTO
Mr Andrew Jenkinson	ANSTO
Dr Dennis Mather	AINSE
Mrs Irene Parker	AINSE

19th AINSE Nuclear & Particle Physics Conference in collaboration with 15th National Congress of Australian Institute of Physics, Physics and Industry Working Together - July 2002

Dr Stuart Tovey	The University of Melbourne
Dr Aidan Byrne	The Australian National University
Professor George Dracoulis	The Australian National University
Dr Brian Robson	The Australian National University
Professor John Boldeman	The University of Queensland
Dr Kevin Varvell	The University of Sydney
A/Professor Tony Williams	The University of Adelaide
Dr Brian Spies	ANSTO
Dr Dennis Mather	AINSE

24th AINSE Plasma conference in association with the 11th International Congress on Plasma Physics, ICPP 2002 - July 2002

Professor Robert Dewar	The Australian National University
Dr Ian Falconer	The University of Sydney
Professor Marcela Bilek	The University of Sydney
Professor Rod Boswell	The Australian National University
Dr Iver Cairns	The University of Sydney
Dr Robert Carman	Macquarie University
Dr Reynaldo Castillo	University of Western Sydney
A/Professor Andrew Cheetham	University of Canberra
Professor Keith Cole	La Trobe University
Dr George Collins	ANSTO
Dr Neil Cramer	The University of Sydney
A/Professor Rod Cross	The University of Sydney
Professor Brian Fraser	The University of Newcastle
Professor Jeffrey Harris	The Australian National University
Professor Heinrich Hora	The University of New South Wales

Dr John Howard	The Australian National University
A/Professor Brian James	The University of Sydney
Dr John Lowke	CSIRO
Professor Peter Robinson	The University of Sydney
A/Professor Stephen Simpson	The University of Sydney
Professor Robin Storer	Flinders University
Professor John O'Connor (Ex officio)	The University of Newcastle

Workshop on Neutrons for Engineering at Australia's Replacement Research Reactor - September 2002

Dr Oliver Kirstein	ANSTO
Professor Masud Behnia	The University of New South Wales
Dr Shane Kennedy	ANSTO
Dr Robert Robinson	ANSTO
Dr Dennis Mather	AINSE

Workshop on Neutron-Beam Applications to Earth Sciences – December 2002

Dr Brett Hunter	ANSTO
Dr Shane Kennedy	ANSTO
Dr Robert Robinson	ANSTO
Dr David Garnett	Becquerel Laboratories
Dr Dennis Mather	AINSE

15th International Symposium of Radiopharmaceutical Chemistry - August 2003

Dr Andrew Katsifis	ANSTO
Mr Bill Burch	ANSTO
Dr Dennis Mather	AINSE
Ms Pam Keenan	ANSTO
Dr Stuart Carr	ANSTO
Dr Suzanne Smith	ANSTO
Dr Therese Donlevy	ANSTO
Ms Fiona Driver, Karen Leis	Tourhosts

International Congress of Radiation Research 2003 Conference – August 2003

Professor Lester Peters, Conference President	Peter McCallum Cancer Institute
Professor Martin Lavin, Conference Chairman	Queensland Institute of Medical Research
A/Professor Ron Cooper	The University of Melbourne
Dr Roger Martin	Peter McCallum Cancer Institute
Dr Graeme Dickie	Royal Brisbane Hospital
Dr Suzanne Smith	ANSTO
Dr Dennis Mather	AINSE
Ms Lidia Dalton	ICMS
Mr Alex Zapantis	Environment Australia

Auditors' Report

To the Members of the Australian Institute of Nuclear Science and Engineering Incorporated

Scope

We have audited the attached special purpose financial report of the Institute for the financial year ended 31 December, 2002 as set out on schedules 1 to 9. The Institute's Executive Committee is responsible for the preparation and presentation of the financial report and the information contained therein, and have determined that the basis of accounting used is appropriate to the needs of the members. We have conducted an independent audit of the financial report in order to express an opinion to the members of the Institute on its preparation and presentation. No opinion is expressed as to whether the basis of accounting used is appropriate to the needs of the members.

The financial report has been prepared for distribution to members for the purpose of fulfilling the Executive committee's accountability requirements under the Institute's constitution. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

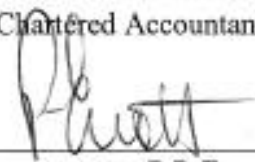
Our audit has been conducted in accordance with Australian Auditing Standards. Our procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial report and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial report is presented fairly in accordance with the basis of accounting described in Note 1 to the Financial Statements. (These policies do not require the application of all Accounting Standards and UIG Consensus Views).

The audit opinion expressed in this report has been formed on the above basis.

Audit Opinion

In our opinion the financial report presents fairly, in accordance with Accounting policies described in note 1 to the financial statements, as well as the provisions of the Associations Incorporation Act 1984, the financial position of the Institute, as at 31 December, 2002 and the results of its operations and cash flows for the year then ended.

Escott Aston
Chartered Accountants



P R Escott
Partner

Sydney, dated this 3rd day of March 2003

Australian Institute of Nuclear Science & Engineering

Executive Committee's Report

The Executive Committee of the Australian Institute of Nuclear Science and Engineering Incorporated submits the financial accounts of the Institute for the financial year ended 31 December 2002.

Committee Members

Associate Professor Ron Cooper, President

Professor Hans Coster, Vice President

Professor John White

Professor Helen Garnett

Dr Brian Spies

Professor Ann Henderson-Sellers

Dr Dennis Mather, Scientific Secretary

Principal Activities

The Principal activities of the Institute during the financial year were

- To carry out research and investigations in connection with matters associated with nuclear science and engineering;
- To arrange for the training of scientific research workers and the establishment and award of scientific research studentships in matters associated with nuclear science and engineering;
- To collect and distribute information relating to nuclear science and engineering.

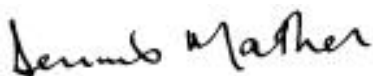
Significant Changes

No significant change in the nature of these activities occurred during the year.

Operating Result

The deficit for the year amounted to \$398,392.

Signed in accordance with a resolution of the Members of the Committee.



Dr Dennis Mather

Public Officer & Scientific Secretary

Dated this third day of March 2003

Balance Sheet

Schedule 1

as at 31 December 2002

	Notes	31-Dec-02 \$	31-Dec-01 \$
Current Assets			
Cash	2	388,098	122,068
Receivables	3	86,332	67,912
Investments	4	2,771,234	5,061,205
Other	5	168,854	900,513
Total Current Assets		3,414,519	6,151,698
Non-Current Assets			
Plant and Equipment	6	2,714,485	39,777
Total Non-Current Assets		2,714,485	39,777
Total Assets		6,129,003	6,191,475
Current Liabilities			
Creditors	7	956,593	826,068
External Grants Received in Advance	8	1,267,278	1,217,496
Other Payments Received in Advance	9	1,186,373	1,043,000
Provisions for Employee Entitlements	10	29,755	17,794
Total Current Liabilities		3,440,000	3,104,358
Non-Current Liabilities			
Provisions for Employee Entitlements	10	25,080	24,803
Total Non-Current Liabilities		25,080	24,803
Total Liabilities		3,465,080	3,129,161
NET ASSETS		2,663,923	3,062,314
Equity			
Awards Reserve	16	2,520,936	2,519,919
Long Term Projects Reserve	16	500,000	500,000
Accumulated results of operations		(357,013)	42,395
TOTAL EQUITY		2,663,923	3,062,314

Income And Expenditure Statement

Schedule 2

For the Period Ended 31 December 2002

	Notes	31-Dec-02 \$	31-Dec-01 \$
COST OF SERVICES			
Operating Revenue			
Payments from members		2,057,103	2,045,856
External Grants	13	494,090	250,292
Interest Received		209,664	276,748
Profit on sale of assets	-	-	
Other	15	4,860	14,726
Total Operating Revenue		2,765,717	2,587,622
Operating Expenses			
Wages & Salaries		201,356	186,709
Superannuation		26,020	27,901
AINSE Awards			
Students	11	413,957	413,098
Research Awards	11	1,676,662	1,392,277
Conference Subsidies		53,670	51,655
External Grants	13	643,381	400,412
Other Expenses	14	149,063	165,780
Total Operating Expenses		3,164,109	2,637,832
Surplus/(Deficit) for the year		(398,392)	(50,210)
Accumulated funds brought forward		42,395	(132,195)
Funds Available		(355,996)	(182,405)
Less: transfer to Reserves			
Grants Reserve	16	1,017	(224,800)
Accumulated results of operations at end of financial year		(357,013)	42,395

Statement of Cash Flows

Schedule 3

For Period Ended 31 December 2002

		31-Dec-02	31-Dec-01
		\$	\$
	Notes	Inflows/(Outflows)	Inflows/(Outflows)
CASH FLOWS PROVIDED BY (USED IN) OPERATING ACTIVITIES			
Inflows:			
Receipts from members		2,186,916	3,099,916
Receipts from grants		543,872	332,290
Interest received		226,649	278,449
		<u>2,957,437</u>	<u>3,710,655</u>
Outflows:			
Grant expenditures		(2,787,670)	(1,907,442)
Payments to suppliers and employees		(361,845)	(697,589)
		<u>(3,149,515)</u>	<u>(2,605,031)</u>
Net cash flows provided by (used in) operating activities	17	<u>(192,078)</u>	<u>1,105,624</u>
CASH FLOWS PROVIDED BY (USED IN) INVESTING ACTIVITIES			
Outflows:			
Plant and equipment		(1,831,863) *	(867,057)
Net cash flows provided by (used in) investing activities		<u>(1,831,863)</u>	<u>(867,057)</u>
Net increase in cash held		<u>(2,023,941)</u>	<u>238,567</u>
Cash at beginning of reporting period as at 31/12/01*		5,183,272	4,944,705
Cash at end of reporting period		<u>3,159,331</u>	<u>5,183,272</u>

For the purposes of the Statement of Cashflows, the cash balance as at 31 December 2002 comprises Cash-Operating, Money Market and Other Deposits. A reconciliation of cash at the end of the reporting period to the Balance Sheet is set out as follows:

Balance Sheet	Cash	388,098	122,068
	Investment	2,771,233	5,061,205
Cash Flow Statement		<u>3,159,331</u>	<u>5,183,273</u>

* Amendment to Comparative Figures

The comparative figures used in the Statement of Cash Flows for the year have been amended so as to transfer the deposit on the Tandem Accelerator of \$856,996 which was paid in the 2001 year, from Cash Flows used in Operating Activities to CASH Flows used in Investing Activities.

Notes to and Forming Part of the Accounts

Schedule 4

1. Statement of accounting policies

(a) Basis of accounting

These financial statements are a special purpose financial report prepared in order to provide accounts which satisfy the requirements of the Institute's constitution and the Associations Incorporation Act NSW to prepare accounts. The Executive Committee has determined that the Institute is not a reporting entity and therefore, as there is no requirement to apply Accounting Standards and other mandatory professional reporting requirements (Urgent Issues Group Consensus Views) in the preparation and presentation of these statements, they have been adopted only to the extent shown in Note 1 to the accounts.

The statements have been prepared in accordance with the requirements of the Associations Incorporation Act. The statements are prepared on an accrual basis of accounting. They are based on historic costs and do not take into account changing money values, or except where specifically stated, current valuations of non-current assets.

The Executive Committee has, however prepared the financial report in accordance with all Australian Accounting Standards with the following exceptions:

- AAS1 Profit and Loss or other operating statements
- AAS22 Related party disclosures
- AAS30 Accounting for employee entitlements

The accounting policies have been consistently applied, unless otherwise stated. The following is a summary of the significant accounting policies adopted by the Institute in the preparation of the financial statements.

(b) Depreciation of property, plant and equipment

Property, plant and equipment are stated at cost and depreciated over their useful lives using the straight line method.

(c) Employee Entitlements

Recreation Leave and Long Service Leave entitlements are provided for annually.

(d) Inventories

As at 31 December 2002 AINSE did not hold any inventory.

(e) Membership subscriptions

Membership subscriptions are paid to the Institute by its members.

(f) Grants

All grant monies received have been treated as a balance sheet item under the heading of 'Grants Received In Advance'. As money is expended on the grants the equivalent amount of expenditure is drawn down from the balance sheet to grants income.

Tandem Accelerator

Grants have been received from the ARC and Members to assist in the purchase of the Tandem Accelerator. These are shown in the Balance Sheet as Grants Received In Advance as follows:

Note 8 AINSE Grant ARC Tandem	\$1,021,769
Note 9 Members Tandem Contribution	\$1,154,998
	\$2,176,767

During the period to 31 December 2002, \$2,680,065 has been spent on the purchase of the Tandem Accelerator. As the Tandem Accelerator is not yet operational it has been disclosed on the Balance Sheet at Note 6, Plant and Equipment as Asset Under Construction.

AINSE will contribute approximately \$500,000 of its own fund towards the cost of the Tandem Accelerator from its Long Term Projects Reserve.

When the asset is commissioned and operational, its cost will be amortised over its useful economic life.

In accordance with AINSE policy noted above, as the asset is amortised, an amount equivalent to the amortisation expense will be drawn from Grants Received In Advance to Grant Income.

Notes to the Financial Statements

Schedule 5

Notes	31-Dec-02 \$	31-Dec-01 \$
2. CASH		
Operating Account	387,598	121,568
Petty Cash	500	500
	388,098	122,068
Commitments for Expenditure		
Tandem	506,418	2,042,656
ISIS	25,000	25,000
Trade Creditors	992,179	826,068
EA/IRMS	210,099	340,000
Awards and Studentships Awarded in 2001 for payment in 2002 Note A	2,520,936	2,519,919
	4,254,632	5,753,643
<p>Note A: Invoices for membership fees are raised in January and payment is subsequently received over the first three quarters. Grant reserve was established in line with advice from the auditors. Accordingly, funds received from membership fees in 2002 are used for grants and studentships during 2003. Note B: Existing studentships at 31 December 2002 and committed for years 2003 and 2004 amount to \$453,729</p>		
3. RECEIVABLES		
Trade Debtors	3,527	1,992
Other Receivables	82,806	65,920
	86,332	67,912
4. INVESTMENTS		
Cash Deposit Account	771,234	1,561,205
Term Deposit Account	2,000,000	3,500,000
	2,771,234	5,061,205
5. OTHER CURRENT ASSETS		
Prepayments	145,429	860,103
Interest Accrued	23,425	40,410
	168,854	900,513
6. PLANT AND EQUIPMENT		
Plant & Equipment		
Costs	94,065	92,265
Additions/(Disposals)	-	-
Accumulated Depreciation	83,833	75,655
Closing Written Down Value	10,233	16,610
Plant & Equipment Accruals		
Asset Under Construction	2,680,065	-
Motor Vehicles		
Costs	27,382	27,366
Additions/(Disposals)	-	-
Accumulated Depreciation	3,195	4,199
Closing Written Down Value	24,187	23,167
Total	2,714,485	39,777

Notes to the Financial Statements

Schedule 6

Notes	31-Dec-02 \$	31-Dec-01 \$
7. CREDITORS		
AINSE - Trade Creditors	1,121	30,126
Other Creditors	67,403	1,832
GST Collected on Outputs	-	6,334
Accrued Charges - ISIS	405,631	400,000
Accrued Charges - Other	482,439	387,775
	956,593	826,067
8. EXTERNAL GRANTS RECEIVED IN ADVANCE		
AINSE ARC N/S Grant '99	-	113,729
AINSE ISIS Grant 2003	245,509	-
AINSE Grant ARC Tandem	1,021,769	1,103,767
	1,267,278	1,217,496
9. OTHER PAYMENTS RECEIVED IN ADVANCE		
Member Tandem Contribution	1,154,998	1,043,000
Other	31,375	-
	1,186,373	1,043,000
10. PROVISIONS FOR EMPLOYEE ENTITLEMENTS		
Current		
Accrued Salary & Wages	2,326	-
Recreation Leave	27,247	17,794
Long Service Leave	183	-
	29,755	17,794
Non-Current		
Long Service Leave	25,080	24,803
	54,835	42,597
11. AINSE AWARDS		
AINSE AWARDS - Students		
Lucas Heights Costs	162,530	164,335
University Travel and Equipment	29,088	30,059
Stipends	216,818	205,788
AINSE Winter School	5,521	12,916
	413,957	413,098
AINSE AWARDS - Grants		
Lucas Heights Costs	1,582,752	1,248,059
Minor Equipment and Materials	600	500
Travel and Accommodation	85,775	85,524
University Costs	4,000	1,272
Other Costs	3,535	56,921
	1,676,662	1,392,276
12. SEGMENT REPORTING		

The health care sector is the largest employer in the Greater Christchurch Region, with AINSE and MCHZ being

Notes to the Financial Statements

Schedule 7

	31-Dec-02	31-Dec-01
\$	\$	
13. EXTERNAL GRANTS		
AINSE ARC ISIS Grant		
Grant Revenue	380,361	250,292
Grant Expenditure		
External Payments	409,652	400,412
Equipment and Materials	-	-
Contract Labour/Consultancies	-	-
Total Expenditure	409,652	400,412
AINSE N/S Grant '99		
Grant Revenue	113,729	-
Grant Expenditure		
Lucas Heights Costs	233,729	-
Equipment and Materials	-	-
Contract Labour/Consultancies	-	-
Total Expenditure	233,729	-
Grants - ARC Tandem		
Grant Revenue	-	-
Grant Expenditure		
External Payments	-	-
Equipment and Materials	-	-
Contract Labour/Consultancies	-	-
Total Expenditure	-	-
Reconciliation		
Total External Grants Revenue	494,090	250,292
less transferred to Grants Received In Advance (Balance Sheet)	-	-
External Grant Revenue (Income & Expenditure Statement)	494,090	250,292
Represented by:		
Total Grant Expenditure (Income & Expenditure Statement)	643,381	400,412
Amount to be met by AINSE	(149,291)	(150,120)
External Grants Expenditure	494,090	250,292

Notes to the Financial Statements

Schedule 8

	31-Dec-02	31-Dec-01
	\$	\$
14. OTHER EXPENDITURE		
Conference Management	92	16,841
Publications and Promotions	13,938	16,108
Meetings and Committees	62,255	62,971
AINSE Secretariat		
Audit Fees and Bank Charges	7,396	5,400
Depreciation	14,152	15,909
Advertising and Printing	200	1,152
Office Supplies	1,870	2,733
Postage and Telephone	3,755	6,390
Insurance	9,772	10,130
Entertaining	1,415	2,471
Books and Software	560	378
Office Equipment Repairs	4,248	1,251
Administration and Staff Training	1,299	1,242
Travel and Accommodation	13,706	11,589
Vehicle Expenses	5,032	4,413
Loss on disposal of assets	2,205	32
FBT Expense & Payments	4,115	4,498
Miscellaneous	3,052	2,272
Total AINSE Secretariat	72,777	69,860
Total Other Expenditure	149,062	165,780
15. OTHER INCOME		
Conferences	-	3,155
Miscellaneous	4,860	141,571
	4,860	144,726
16. MOVEMENT IN RESERVES		
Awards Reserve		
Transfer 2002/2001 research grants committed	1,017	(224,800)
Long Term Projects Reserve		
Transfer from accumulated funds	-	-

Notes to the Financial Statements

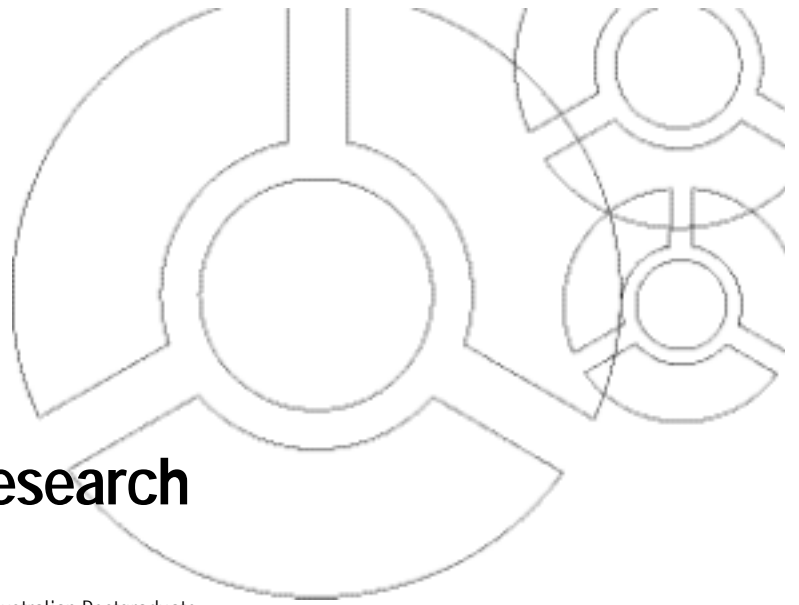
Schedule 9

17. RECONCILIATION OF OPERATING RESULT WITH CASHFLOWS FROM OPERATIONS

	31-Dec-02	31-Dec-01
	\$	\$
Surplus/(Deficit) for the year	(398,392)	(50,210)
Movements in Balance Sheet		
(Increase)/Decrease in Receivables	(18,420)	1,039,334
Increase/(Decrease) Creditors	130,525	8,522
(Increase)/Decrease Accrued Interest	16,985	1,701
(Increase)/Decrease Prepayments	(142,322) *	479
Increase/(Decrease) Employee Entitlements	12,238	7,891
Increase/(Decrease) Other Current Liabilities	143,373	-
Increase/(Decrease) Grants Received in Advance	49,782	81,998
	192,162	1,139,925
Non-Cash Items		
Depreciation	14,152	15,909
	14,152	15,909
Net cash provided by (used in) operating activities	(192,078)	1,105,624

* Amendment to Comparative Figures

The comparative figures used in the Statement of Cash Flows for the year have been amended so as to transfer the deposit on the Tandem Accelerator of \$856,996 which was paid in the 2001 year, from Cash Flows used in Operating Activities to CASH Flows used in Investing Activities.



AINSE Postgraduate Research Awards

To nominate for one of these awards, an applicant must hold an Australian Postgraduate Award (APA) or equivalent scholarship. In addition to providing a student with a tax-free supplement for up to 3 years, the award gives additional access to ANSTO's world-class facilities and expertise. The stipend is \$7500 pa and \$5500 pa is provided towards the costs involved in using Lucas Heights facilities. Travel and accommodation costs are also provided to enable students to work at Lucas Heights.

Eleven new AINSE postgraduate research projects were supported by an award that commenced during 2002. Through its post-graduate research award scheme, AINSE has now helped train 198 students in aspects of nuclear science and associated techniques of analysis. Many more students have been assisted with their research by gaining access to Lucas Heights facilities through AINSE Awards made to their supervisors. Council believes that one of the most valuable roles fulfilled by AINSE is the provision of these AINSE Postgraduate Research Awards.

Projects Supported During 2002

Synthesis and development of radiolabelled MMP inhibitors for imaging and therapeutic applications in the treatment of metastatic tumours

Mark Alexander Chemistry, The University of Sydney. Commenced 1/7/02

The impact of residue returns with varying breakdown rates on soil carbon fractions, carbon sequestration and the physical fertility of soils

Nelly Blair Agronomy and Soil Science, The University of New England. Commenced 1/2/00

Covalent anchoring of lipid bilayers to solid supports for studies of molecular interactions at biological membranes

Till Böcking Biophysics, The University of New South Wales. Commenced 01/01/01

Fate of metal pollutants released from the Rum Jungle uranium/copper mine into the Finnis River, NT Australia

Jennifer Brazier School of BECS, Northern Territory University. Commenced 1/7/02

Bulk and grain boundary transport kinetics of TiO₂-based ceramics

Tristan Burg Materials Science and Engineering, The University of New South Wales. Commenced 01/02/01

The palaeoecological basis of prehistoric settlements, agricultural development and climate change in the South Caucasus during the Holocene

Simon Connor Anthropology, Geography & Environmental studies, The University of Melbourne. Commenced 1/7/02

Utilising a heavy ion probe in the development of semiconductor nanodosimetry for radiation oncology

An integrated approach to quantifying rates of escarpment retreat using *in-situ*-produced cosmogenic isotopes and low temperature thermochronologic data

Vicki-Ann Dimas Earth Sciences, The University of Melbourne. Commenced 31/3/01

An environmental record of the last quarter of a million years from eastern Australia

Nicola Franklin Geography, The University of Sydney. Commenced 2/3/98

The impact of igneous intrusions on coal mining and the alienation of coal reserves

Alexandra Golab Geosciences, University of Wollongong. Commenced 1/3/00

Site formation processes of prehistoric mounds, Upper Mun River Floodplain, north-east Thailand

Jeremy Habberfield-Short Resource Science and Management, Southern Cross University. Commenced 1/1/01

Human response to shifts in environmental boundaries in the Sydney basin during the Holocene

Rosalind James Human & Environmental Studies, The University of New England. Commenced 3/2/00

Removal of arsenic and other heavy metals associated with mine wastewater by dissimilatory sulfate and metal reduction

Tony Jong Science Information, Technology Education, Northern Territory University. Commenced 31/3/01

Quantification of the contribution of fossil fuel and biomass combustion to air pollution using radiocarbon analyses

Timothy Jordan Chemistry, University of Tasmania. Commenced 1/7/02

Crucible corrosion in the melt processing of ceramic oxide superconductors

Nigel Kirby Applied Physics, Curtin University of Technology. Commenced 21/2/00

Spatial and temporal uptake of trace metals in heart urchin tests: use as an indicator of environmental contamination and relationship to organism growth and structural deformity

Alison Lane Institute of Antarctic & Southern Ocean Studies, University of Tasmania. Commenced 1/7/02

Investigation of crystallisation of scale in the Bayer process

Jennifer Lowe Applied Chemistry, Curtin University of Technology. Commenced 1/4/00

Investigation of interaction of artificial pinning centres with magnetic flux lines in high temperature superconductors

Damian Marinaro Radiation Physics Group, University of Wollongong. Commenced 8/1/99

Trace element variability in speleothems: a total system model for palaeoclimatic reconstruction based on stalagmites and karst systems from central NSW

Janece McDonald Geography and Environmental Science, The University of Newcastle. Commenced 26/2/01

Hydrogen in metallic and metal-like systems

Keith McLennan School of Science, Griffith University. Commenced 17/1/00

The surface chemistry of DNA recognition interfaces

Freya Mearns Chemical Sciences, The University of New South Wales. Commenced 1/7/02

Elucidation of the biophysical behaviour of Quadramet (samarium-EDTMP) as a therapeutic radiopharmaceutical

Danielle Meyrick Science and Engineering, Murdoch University. Commenced 1/1/01

Transition alumina structure determination from first principle calculations

Gianluca Paglia Applied Physics, Curtin University of Technology. Commenced 31/3/01

The identification of temporal changes to palaeo-vegetation types and prehistoric human land-use in the Numundo region of West New Britain, PNG integrating fossil phytolith and starch grain analysis

Jeffrey Parr Resource Science and Management, Southern Cross University.
Commenced 1/1/01

Environmental analysis using ion-selective electrodes

Bobby Pejic Applied Chemistry, Curtin University of Technology. Commenced 8/3/00

Characterisation of strontium binding with the hydration products of cementitious systems cured at elevated temperatures

Vanessa Peterson Materials, Chemistry & Forensic Science, University of Technology Sydney. Commenced 21/2/00

Elemental structure of fine particulates from the Asian continent under differing meteorological conditions

Fiona Rae Geography and Environmental Science, The University of Newcastle.
Commenced 1/3/01

Floodplain wetland evolution and dynamics in the Macquarie Marshes, NSW

Timothy Ralph Physical Geography, Macquarie University. Commenced 1/7/02

Immobilising sol gel technology for biomining and biocatalysis

Lisa Rodgers Biotechnology & Biomolecular Sciences, The University of New South Wales.
Commenced 1/7/02

Interfacial bonding in alkali-activated aluminosilicate polymers

Matthew Rowles Applied Physics, Curtin University of Technology. Commenced 1/7/02

Disordered and low dimensional magnetic systems

Kirrily Rule Physics, Monash University. Commenced 4/3/00

Predictive modelling of the response of estuarine environments to changing environmental conditions using biostratigraphical and sedimentological evidence preserved in barrier estuaries on the NSW south coast

Craig Sloss Geosciences, University of Wollongong. Commenced 1/7/02

Development of stable magnetic photocatalysts for the solar detoxification of organic polluted water

Timothy Tan Chemical Engineering & Industrial Chemistry, The University of New South Wales. Commenced 28/2/00

Ab initio structure determination of minerals and inorganic materials by powder x-ray and neutron diffraction

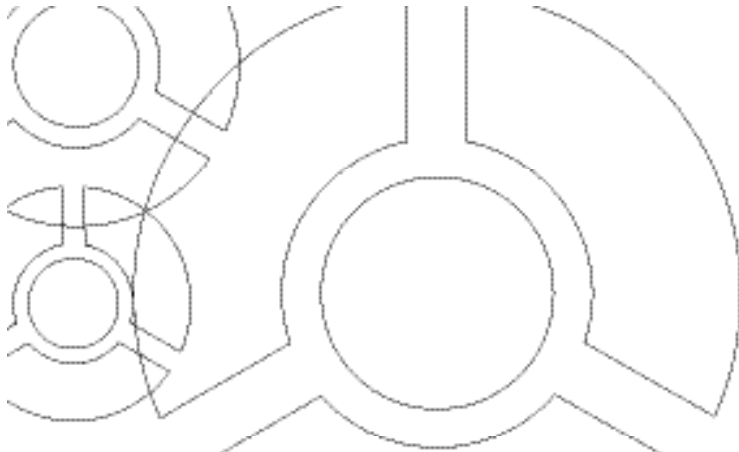
Kia Wallwork Science and Engineering, Flinders University. Commenced 7/2/01

Geoarchaeological interpretation of sandstone landscapes in the Keep River region, Northern Territory

Ingrid Ward Geosciences, University of Wollongong. Commenced 1/7/00

Obtaining atomic displacement parameters for hydrogen atoms from multi-temperature x-ray diffraction data

Andrew Whitten Chemistry, The University of New England. Commenced 1/7/02



Summary of AINSE Awards

The primary purpose of AINSE Awards is to facilitate access by university researchers and research students to the nuclear science and technology facilities at Lucas Heights, including travel and accommodation during periods of attachment. These awards are principally in the form of "credits" against which payments are made by AINSE on behalf of the award holder on receipt of appropriate invoices. In this manner, some allowance can be made for the uncertainties associated with research. This enables AINSE to achieve the high degree of flexibility and control needed to ensure the allocation of time on the facilities is fully utilised. AINSE awards very often provide the valuable initial support which leads to additional external funding, estimated to have been worth several million dollars to member organisations.

The disciplines involved during 2002 included the following disciplines

physics applied electronic materials, mathematical, nuclear and high energy, plasma

chemistry applied biochemistry, chemical technology, polymer science

engineering chemical electrical, mechanical, microelectronics

biology biological science, biomaterials, biomedical science and engineering, biophysics, genetics

environmental & earth sciences applied geology, environmental biology, environmental geology, geochemistry, geophysics, geomorphology, geography, information, coastal management, marine science

medicine medical and health physics, nuclear, positron emission tomography

plus Aboriginal and Torres Strait Studies, Antarctic and Southern Ocean studies, anthropology, archaeology, botany, cultural studies, materials science and engineering, microscopy and microanalysis, natural history, resource science and management, safety science, zoology.

The list of projects and awards for 2002 are shown in the accompanying tables arranged in order of university, faculty and project number to highlight the diversity of institutions and disciplines within which projects occur. This includes arrangements for general research students' access to Lucas Heights facilities but does not include access arrangements for AINSE postgraduate scholars, see page 22. The total amount of the awards for each university is also shown. Nearly all of these projects involved close cooperation between university people and ANSTO staff and required substantial use of the reactor, accelerators and other facilities at the Lucas Heights Research Establishment.

For information on particular facilities utilised, see progress reports published on our home page. www.ainse.edu.au

During 2002 two hundred and two projects were awarded to a value of \$1,896,898 involving thirty-four of the thirty-seven member universities. The following table shows the distribution of awards by university and by specialist areas.

Awards which have industry linkages are marked with an asterisk '*' beside the name of the award holder.

University *	Specialist Area *								Total
	ACC	AMS	ENV	ISO	MAT	NS	PLA	RAD	
ACU		1							1
ADE			3	2		1			6
AKL	2	2			1			2	7
ANU	1	2	1	3	2	1			10
CBR			1				1		2
COU	2								2
CSU	1	1							
CUR					3	4			7
ECU	1							1	2
FLI		1			1		1		3
GRI			1		2	1			4
JAM		1	2						3
LAT		1	2		1				4
MAC	1	2	2		1			1	7
MEL		2	1	8	1	1		1	14
MON		4	5	3		6			18
MUR	1								1
NCT		1	1				3		5
NSW	3		1	1	2	4			11
NTU		1	1						2
QLD	1							2	3
QUT		2			1				3
RMI	3			1					4
SCU		2	1					2	5
SWI	1				1				2
SYD	6	4	2	4		4	1	2	23
TAS		3	6	1					10
UNE	1		1						2
USA	1					1	1		3
UTS	2	2			2	2			8
UWA	1				1	1			3
UWS			1			1		1	3
VIC	1								1
WOL	2	7	6	3	2	2			22
Total	30	38	38	26	22	33	3	13	202

* see abbreviations on page 74

Australian Catholic University

Arts and Sciences, NSW

02/116 **Dr Neil Saintilan**
AMS dating of fossil mangrove root zones on the NSW north coast \$4,795

Australian Catholic University Total \$4,795

Central Queensland University

Science

02/001 **Dr Nanjappa Ashwath**
Localisation of nickel in Australian Ni-hyperaccumulating plants, *Stackhousia tryonii* and *Hybanthus floribundus* using PIXE & SIMS \$18,540

02/138 * **Dr Vicky Vicente-Beckett**
Metal speciation analysis and solid-state microanalysis of sediments \$12,949

Central Queensland University Total \$31,489

Charles Sturt University

Science and Technology

02/100P * **Dr Paul Prenzler**
Hydroxyl radical interactions with olive and wine components \$7,105

Charles Sturt University Total \$7,105

Curtin University of Technology

Applied Chemistry

02/034 **Dr Roland De Marco**
A further SIMS study of the mercury glass electrochemical sensor \$9,616

02/095 * **Professor Gordon Parkinson**
Investigation of the microstructural features of ferrihydrite \$23,248

02/196 * **Professor Gordon Parkinson**
Understanding nanoscale materials with short-range order: ferrihydrite \$9,422

Applied Science

02/014 * **Dr Craig Buckley**
A small angle neutron scattering structure determination of aluminosilicate inorganic polymers \$13,599

02/075 **A/Professor It-Meng Low**
Novel processing of Ti₃SiC₂/TiC composites by thermal dissociation in vacuum \$8,851

02/171 **Dr Craig Buckley**
Study of pore sizes and ordering in surfactant templated mesoporous alumina by SANS \$13,599

02/189 * **Professor Brian O'Connor**
NMR characterisation of bonding configurations in aluminosilicate inorganic polymers \$7,072

Curtin University of Technology Total \$85,408

Edith Cowan University

Engineering & Mathematics

02/060P	Dr Stephen Hinckley Defect structure of chemically-deposited CdS thin films by DLTS	\$2,451
02/061	Dr Stephen Hinckley Substrate effects on the growth of chemically-deposited CdS thin films	\$9,146

Edith Cowan University Total **\$11,597**

Flinders University

Chemistry, Physics & Earth Sciences

02/130	Professor Robin Storer Resistive magnetohydrodynamics for Helicacs	\$2,220
02/200	Dr Joseph Shapter Investigation of protein/protein interactions in neurodegenerative diseases by atomic force microscopy	\$3,349

Humanities

02/125	Dr Claire Smith Dating indigenous occupation in the Barunga region, NT	\$3,500
--------	--	---------

Flinders University Total **\$9,069**

Griffith University

Environmental Studies

02/146	Dr Glenn Wilson Use of SIMS to model environmental histories in a dryland river fish, the spangled perch (<i>Leiopotherapon unicolor</i>)	\$12,045
--------	---	----------

Science

02/052P *	Dr Jisheng Han SIMS analysis of MOSFET based on SiC	\$2,814
02/176	Mr Tomasz Blach Diffraction study of Y-Ni-D metal-hydrogen system	\$10,038
02/188	A/Professor Peter Healy Solid state NMR and NQR of phosphine complexes of copper(I) salts	\$4,777

Griffith University Total **\$29,673**

James Cook University

Anthropology & Archaeology

02/137	A/Professor Peter Veth Paired dating of Celtis and charcoal from the Macha Kuru sites, East Timor	\$4,200
--------	---	---------

Earth Sciences

02/036	Dr Gerald Dickens Trace element variation and mass-volume changes of banded iron formation and shale across the Hamersley Province, Western Australia: implications for iron-ore genesis	\$2,788
--------	--	---------

Pharmacy & Molecular Sciences

02/107	Dr Michael Ridd Determination of influx and efflux rates of ¹⁰⁹ Cd from water by phytoplankton	\$8,516
--------	---	---------

James Cook University Total **\$15,504**

La Trobe University

Archaeology

02/040	Dr Phillip Edwards Dating the archaeology and environment of the Dead Sea Plain	\$3,500
--------	---	---------

Physics

02/109P	A/Professor John Riley Diffusion process and concentration profiles in semiconductor structures	\$9,716
---------	---	---------

Science, Technology and Engineering

02/154	* Dr John Webb Quantification of groundwater discharge of salt in a local groundwater system, using isotopic techniques	\$7,327
--------	---	---------

Zoology

02/080	A/Professor Alan Marshall SIMS analysis of calcium transport in corals: effects of inhibitors	\$17,902
--------	---	----------

La Trobe University Total **\$38,445**

Macquarie University

Science and Technology

02/012	Dr Gary Brierley Post-European changes to the nature and rate of overbank sedimentation for different floodplain types in Mulloon-Reedy catchment, NSW	\$4,496
--------	--	---------

02/016	* Dr Kenneth Butcher Material analysis for the development of indium nitride	\$9,782
--------	--	---------

02/047P	Dr Ewa Goldys Development of a methodology to determine oxygen and hydrogen content in GaN and its application to problems of doping and compensation	\$5,627
---------	---	---------

02/050P	Dr Ian Guy Radiation effects on electro-mechanical and electro-optic properties of ferroelectric polymers	\$4,414
---------	---	---------

02/056	Dr Paul Hesse Frequency and duration of marsh formation and abandonment, Macquarie Marshes, NSW	\$2,800
--------	---	---------

02/133	Dr Mark Taylor The distribution and bioavailability of heavy metals in arid streams around Broken Hill - pollution signals from mine smelters	\$2,200
--------	---	---------

02/134	Dr Mark Taylor The age and geomorphological evolution of the tufa deposits of the Gregory River, Riversleigh, northwest Queensland	\$4,900
--------	--	---------

Macquarie University Total **\$34,219**

Monash University

Chemistry

02/186	Dr Andrea Robinson Radiolabelling and binding affinity of a series of new carbocyclic octreotide analogues for use in cancer diagnosis and treatment	\$9,880
--------	--	---------

Geography & Environmental Science

02/031	Dr Bruno David Badu Island: archaeology of ceremonial sites	\$3,500
--------	---	---------

02/032	Dr Bruno David Torres Strait early cultural sites	\$2,100
--------	---	---------

02/033	Dr Bruno David Palaeoenvironmental records from Badu and Moa	\$2,800
02/072	Professor Peter Kershaw The Pleistocene-Holocene transition at Lynch's Crater, north-east Queensland	\$2,727
02/161	Professor Peter Kershaw Dating of high resolution palaeoenvironmental records from billabong sediments in southeastern Australia	\$3,492

Geosciences

02/006	* Dr Frank Bierlein Sediment-hosted PGE deposits: proposed model and potential in Australia	\$4,700
02/076	Dr Geordie Mark Constraining the origin and evolution of volatiles in magmatic systems	\$20,461
02/077	Dr Geordie Mark Tracing fluid origins in ore deposits: an integrated stable isotope and trace element study of ore minerals using SIMS	\$9,206

Medicinal Chemistry

02/119P	Dr Peter Scammells Allosteric enhancers of adenosine agonist binding	\$7,885
---------	--	---------

Physics & Materials Engineering

02/021	A/Professor John Cashion Structure, bonding and magnetic properties of sorbed metal species and novel materials	\$3,570
02/041P	A/Professor Trevor Finlayson Studies of phase transformations in shape-memory alloy single crystals	\$6,180
02/057P	Dr Trevor Hicks Disordered and low dimensional magnetic systems	\$40,811
02/175	Dr Trevor Hicks Neutron spectroscopy of heavy fermion systems near quantum critical points	\$4,080
02/177	Dr Trevor Hicks Spin diffusion in low dimensional antiferromagnets	\$935
02/178	Dr Trevor Hicks Disordered and low dimensional magnetic systems	\$2,125
02/204	A/Professor Trevor Finlayson Polarised and small angle neutron scattering studies of magnetic correlations and spin dynamics in colossal magnetoresistance materials	\$43,055

Monash University Total **\$167,507**

Murdoch University

Science and Engineering

02/074P	Dr Rolf Koch PIXE analysis of refractory gold ores	\$12,811
---------	--	----------

Murdoch University Total **\$12,811**

Northern Territory University

Key Centre for Tropical Wildlife Management

02/007 **Dr David Bowman**
The use of carbon isotopes (^{13}C , ^{14}C) in soil to evaluate the woody vegetation dynamics of an Australian tropical savanna \$3,273

Science, Information, Technology and Education

02/096 **A/Professor David Parry**
Fate of acid rock drainage contaminants from the Rum Jungle U/Cu mine, Finnis River, Northern Territory, Australia \$2,085

Northern Territory University Total **\$5,358**

Queensland University of Technology

Mechanical, Manufacturing & Medical Engineering

02/004 * **A/Professor John Bell**
Dye sensitised solar cells - optimising nanostructure and composition \$9,713

Natural Resource Sciences

02/013 **Dr Brendan Brooke**
Establishing a chronology for the Late Pleistocene megafanal deposits of the southeastern Darling Downs, Queensland \$5,891

02/030 **Dr Malcolm Cox**
 ^{14}C dating of the Quaternary sedimentary profile, and of groundwaters in sandstone bedrock, Pumicestone Passage, south-east Queensland \$4,927

Queensland University of Technology Total **\$20,531**

RMIT University

Applied Physics

02/067P **Professor Peter Johnston**
Plural scattering, multiple scattering and energy loss straggling studies of heavy ions in condensed matter \$6,838

02/068 **Professor Peter Johnston**
Compton scattering from inner-shell electrons of heavy elements \$4,000

Electrical & Computer Engineering

02/126P **Professor Dinesh Sood**
Ion beam modification and characterisation of thin films of smart materials suitable for micromachine technology \$14,925

02/127P **Professor Dinesh Sood**
Nano-phases in materials produced by ion implantation and magnetron sputtering - and their characterisation \$14,925

RMIT University Total **\$40,689**

Southern Cross University

Centre for Plant Conservation Genetics

02/158S **Professor Robert Henry**
Irradiation mutation breeding and genetics of edible legumes \$1,020

Environmental Science and Management

02/009 **Professor Bill Boyd**
Geochronology of Garu Swamp, West New Britain \$7,689

02/010 **Professor Bill Boyd**
Chronology of the coastal plain at the mouths of the Song Hong (Red River), Vietnam \$2,782

02/203 **Dr Kathryn Taffs**

Natural and Complementary Medicine

02/162	Dr Scott Hahn Investigation of changes to total antioxidant capacity, cis/trans PUFA conversion, and L/D isomerisation of amino acids in gamma irradiated foodstuffs	\$1,682
--------	--	---------

Southern Cross University Total **\$18,001**

Swinburne University of Technology

Engineering and Science

02/038P	* Professor Derry Doyle Characterisation and performance of advanced plasma nitrided and duplex coated cutting tools	\$9,301
---------	--	---------

IRIS

02/044P	Dr Muralidhar Ghantasala Characterisation of wear resistant coatings deposited on electroplated shims used for the replication of microsystems	\$4,874
---------	--	---------

Swinburne University of Technology Total **\$14,175**

The Australian National University

Archaeology and Anthropology

02/026	Dr Geoffrey Clark An AMS chronology for <i>Rattus praetor</i> in the Pacific	\$4,227
--------	--	---------

02/062P	Dr Peter Hiscock Sourcing of prehistoric chert from the Baucau Region, East Timor	\$7,030
---------	---	---------

Engineering

02/128	* Professor Zbigniew Stachurski Development of a ceramic structure incorporating an articulated porous microstructure to permit the passage of fluids and gases	\$6,099
--------	---	---------

John Curtin School of Medical Research

02/194	Dr David Willenborg Evaluation of radiolabelled peripheral benzodiazepine receptor (PBR) ligands in the animal model "Experimental autoimmune encephalomyelitis": potential probes for the diagnosis of multiple sclerosis	\$15,840
--------	--	----------

Research School of Chemistry

02/118P	E/Professor Alan Sargeson Metal ion cage reagents for imaging and treating cancers	\$5,010
---------	--	---------

Research School of Earth Sciences

02/081P	Professor Ian McDougall $^{40}\text{Ar}/^{39}\text{Ar}$ age determination of rocks	\$9,996
---------	--	---------

02/181	Dr Simon Redfern High temperature Co-Mn partitioning in spinel and olivine	\$26,677
--------	--	----------

Research School of Pacific & Asian Studies

02/051	Dr Simon Haberle Impact and timing of catastrophic events in PNG. Part II: achieving a reliable tephrochronology from lake sediments	\$9,029
--------	--	---------

02/142	Dr Alan Watchman Dating travertine deposits in the Wadi Mujib, Jordan	\$2,525
--------	---	---------

02/202	Dr Susan O'Connor Direct dating of shell artefacts from archaeological sites in Island Southeast Asia	\$6,300
--------	---	---------

Research School of Physical Sciences & Engineering

02/108P **Dr Mark Ridgway**
Nanocavity formation mechanisms in Si substrates studied with *in-situ* transmission electron microscopy \$11,443

The Australian National University Total \$104,175

The University of Adelaide

Medicine

02/167 **Dr Rey Casse**
An ¹²³I iododexetimide (IDEX) SPECT study of acetylcholine neuro-receptors in the medial temporal lobe and cingulate gyri in patients with mild cognitive impairment \$20,000

02/195 **Dr Rey Casse**
An ¹²³I iododexetimide (IDEX) SPECT study of acetylcholine neuro-receptors in post traumatic stress disorder \$34,000

Science

02/087 **Dr Graham Merrington**
Assessing potential environmental risks from copper in organic wastes to be recycled to agricultural land \$8,000

02/101 **Professor John Prescott**
Low level uranium and thorium determinations and radioactive disequilibrium in luminescence dating \$3,653

02/102 * **A/Professor Allan Pring**
A new type of copper and rare earth element mineralisation at Paratoo, SA: a natural laboratory for the mobility of elements in the regolith \$12,300

02/103 * **A/Professor Allan Pring**
The kinetics of exsolution in the pentlandite-pyrrhotite system ((Fe,Ni)₉S₈-FeS) \$32,699

The University of Adelaide Total \$110,652

The University of Auckland

ACSRC

02/053P **Dr Michael Hay**
Reduction potentials of benzotriazine dioxides used as antitumour agents \$2,000

02/097P * **Dr Adam Patterson**
Determination of the redox properties of a series of novel hypoxia-selective dinitrobenzamide \$2,000

Geography

02/144 **Professor Paul Williams**
Dating fiordland glaciations in the Te Anau-Manapouri Region \$28,964

Geological and Nuclear Sciences

02/078 **Dr Andreas Markwitz**
Depth resolved heavy ion time-of-flight elastic recoil detection measurements of light elements in advanced materials \$6,808

02/079 **Dr Andreas Markwitz**
Study of the formation of highly cavitated surfaces in titanium produced by pulsed-plasma immersion ion-implantation with heavy-ion ERD \$12,925

Science

02/002 **Dr Paul Augustinus**
Using cosmogenic nuclides to reveal the age of tors and planation surfaces, Central Otago, New Zealand \$6,436

02/190 **Professor Graham Bowmaker**
Solid state nuclear magnetic resonance spectroscopy \$4,757

The University of Auckland and GNS Total \$63,890

The University of Melbourne

Chemistry

02/029P	A/Professor Ron Cooper Radiolytic remediation of contaminated waters	\$3,106
02/090	Dr Paul Mulvaney Small angle neutron scattering from nanoparticle crystals	\$4,874

Earth Sciences

02/046P	Professor Andrew Gleadow The application of fission track analysis to fundamental problems in the Earth Sciences	\$5,940
---------	--	---------

Fine Arts, Classical Studies & Archaeology

02/085	Dr Ian McNiven Fraser Island archaeological project	\$1,009
02/115	A/Professor Antonio Sagona Cultural interaction in late prehistoric trans-Caucasus and eastern Anatolia	\$3,500
02/163S	Dr Heather Jackson Comparative analysis of clays used in Hellenistic pottery from Antioch, Attica and Jebel Khalid in Syria	\$2,180

Genetics

02/017P	A/Professor James Camakaris Use of radiocopper in investigations of Menkes disease, Alzheimer's disease and the mechanism of cisplatin resistance in tumour cells	\$10,210
---------	---	----------

Medicine

02/058P	Professor Rod Hicks The synthesis and development of F-18 fluoroethyl-L-tyrosine (F-18 FET) as a tracer of amino acid transport: a potential tumour imaging agent	\$8,320
02/111P	Dr Christopher Rowe Imaging the effect of acetyl choline esterase (AChE) inhibition on synaptic ACh levels through displacement of ¹²³ I-iododexetimide (IDEX)	\$8,080
02/112C	Dr Christopher Rowe Localisation of epileptic foci in patients displaying normal or inconclusive MRI (continued)	\$15,395
02/113P	Dr Christopher Rowe Diagnosis of diffuse lewy body dementia with ¹²³ I-b-CIT SPECT	\$19,820
02/166	* A/Professor Roger Martin Comparison of electronic structures of two isomers an an iodinated minor groove-binding ligand	\$2,810
02/168	* A/Professor Roger Martin DNA damage by ¹²³ I-labelled DNA ligands	\$5,000

Physics

02/099P	A/Professor Steven Prawer SIMS analysis of diamond quantum dots synthesized by ion implantation	\$8,866
---------	---	---------

The University of Melbourne Total **\$99,110**

The University of New England

Human and Environment Studies

02/048	Dr Peter Grave Sourcing agate and carnelian ornaments from southeast Asia with PIXE/PIGE analysis: Angkor, Cambodia	\$9,322
--------	---	---------

02/191	Professor Iain Davidson Human response to shifts in environmental boundaries in the Sydney Basin during the Holocene	\$12,843
The University of New England Total		\$22,165

The University of New South Wales

Biotechnology & Biomolecular Sciences

02/173P	Dr John Foster Characterisation of immobilising sol-gel technology for biocatalysis and biomining	\$10,959
---------	---	----------

Centre for Water & Waste Technology

02/157S	Dr Andrea Schäfer Removal of tritium labelled hormones from aqueous samples using nanofiltration	\$3,700
---------	--	---------

Earth & Environmental Sciences

02/086P	A/Professor Mike Melville Examining the mineralogical composition of sulfidic sediments associated with acid sulfate soils to determine sedimentary and pedogenic processes	\$3,245
---------	---	---------

02/027	Dr David Cohen Mineralogical controls on selective chemical extractions used in environmental and exploration geochemistry	\$10,182
--------	--	----------

Materials Science & Engineering

02/201	Dr Mark Hoffman Characterisation of aluminium hydroxide compound(s) formed by tribochemical reactions on the wear surfaces of alumina	\$5,652
--------	---	---------

Medical Sciences

02/153	Dr Hala Zreiqat Molecular manipulation of bone tissue by surface chemical modification of dental and orthopaedic devices	\$15,359
--------	--	----------

Physics

02/008P	Dr Gail Box Chemical analysis of PM _{2.5} and PM ₁₀ aerosols in Sydney, Australia	\$4,364
---------	---	---------

02/018	Professor Stewart Campbell RMn ₂ X ₂ compounds - novel magnetic properties	\$12,128
--------	--	----------

02/064	Dr Wayne Hutchison Rare earth magnetism studies using nuclear orientation and nuclear magnetic resonance on oriented nuclei	\$1,213
--------	---	---------

02/183	Dr Glen Stewart Systematic crystal field investigation for the tetragonal intermetallic series RT ₂ Si ₂ with R = rare earth and T = Fe, Co, Ni, Cu	\$25,879
--------	---	----------

02/182	A/Professor John Cadogan A study of the critical scattering from the ferroelectric tri-glycine sulfate in the presence of an applied electric field	\$32,454
--------	---	----------

The University of New South Wales Total		\$125,136
--	--	------------------

The University of Newcastle

Engineering

02/073	A/Professor Erich Kisi <i>In-situ</i> neutron diffraction study of materials in simulated service or synthesis environments	\$51,940
--------	---	----------

Environment & Life Sciences

02/015	Dr Robert Burns Neutron diffraction studies of [PW ₁₂ O ₄₀] ³⁻ based redox catalysts for isobutane oxidation	\$6,717
--------	--	---------

02/039	Dr Russell Drysdale	
--------	----------------------------	--

02/172	Dr Robert Burns Neutron diffraction studies of $[PW_{12}O_{40}]^{3-}$ based redox catalysts for isobutane oxidation (Part 2)	\$6,802
--------	--	---------

Geosciences

02/028	Professor Eric Colhoun Cosmogenic dating of the Drumlin readvance of the last glaciation in the west of Ireland	\$8,045
--------	---	---------

The University of Newcastle Total **\$79,710**

The University of Queensland

Chemistry

02/005P	Dr Paul Bernhardt Single electron reactions of multi-redox centred systems	\$2,869
02/059P *	A/Professor David Hill Radiation chemistry of polymers	\$1,489

Physics

02/198	Dr Paul Meredith Ion implanted conductive polymers for "soft electronic" applications	\$6,220
--------	---	---------

The University of Queensland Total **\$10,578**

The University of Sydney

Anatomy & Histology

02/037	Dr Denise Donlon Analysis of trace elements in 19th century juvenile skeletal remains in relation to diet, health and environment	\$9,455
--------	---	---------

Archaeology

02/042	A/Professor Roland Fletcher A pilot ^{14}C chronology of the environmental and residential history of Angkor in Cambodia (9th to 16-17th century AD)	\$7,000
02/049P	Professor Richard Green Identification and comparison of the composition of glazes used in the medieval pottery industry in Paphos, Cyprus	\$4,364
02/135	Dr Robin Torrence Characterisation of obsidian sources and artifacts from the Russian Far East	\$10,909
02/136P	Dr Robin Torrence Pleistocene use and exchange of obsidian artifacts on the north coast of West New Britain, Papua New Guinea	\$6,545
02/143P	Dr Peter White Sourcing stemmed obsidian artefacts from Papua New Guinea	\$8,727

Biological Sciences

02/187	A/Professor Michael Thompson The effects of aquatic pollution on freshwater turtles: heavy metal accumulation	\$6,055
--------	---	---------

Chemistry

02/045	Professor Robert Gilbert Polymerisation of rubbery and water-soluble polymers	\$2,891
02/071	A/Professor Brendan Kennedy Structural studies of metal oxides and fluorides	\$52,695
02/093	Professor Don Napper Gamma radiation induced polymerisation and grafting	\$1,005
02/139P	Dr Simone Vonwiller Development of radiopharmaceuticals for the diagnosis and treatment of metastatic melanoma tumours	\$7,000

02/159	Professor Len Lindoy 64Cu radiolabelling of antibodies using linked tetraaza macrocyclic chelators for use in imaging and therapy	\$11800
02/170	A/Professor Brendan Kennedy Structures and phase transitions in ABi4Ti4O15	\$18,595
02/185P	Professor Robert Gilbert Structure and hydration of amylopectin and amylose in solution and suspension	\$10,909

Geosciences

02/043	Dr Stephen Gale Establishing the timing and impact of European land use on catchment denudation, Tocal Homestead Lagoon, NSW	\$6,419
02/098P	Dr Dan Penny An assessment of the rate and trajectory of environmental change since first European settlement in the Western Plains of Victoria	\$3,507

Medicine

02/160	Dr George Larcos b-CIT study of drug induced parkinsonism (DIP)	\$20,000
02/197	Professor McDonald Christie The evaluation of a selective serotonin re-uptake inhibitor for the diagnosis of neurodegenerative disorders using SPECT radiopharmaceuticals	\$10,455

Molecular & Microbial Biosciences

02/184	Dr Peter Mulquiney Red blood cell volume and the small angle scattering from erythrocytes	\$11,021
--------	---	----------

Near Eastern Archaeological Foundation

02/199	Dr Stephen Bourke Dating the earliest domestic olives in the World	\$3,500
--------	--	---------

NWG Macintosh Centre for Quaternary Dating

02/003	A/Professor Mike Barbetti Glass technology in the near east, before 1000 BC	\$6,620
02/165	A/Professor Mike Barbetti Atmospheric 14C levels AD1951-1980 in tree rings of teak (<i>Tectona grandis</i>) from Java, Indonesia	\$31,227

Physics

02/066	A/Professor Brian James Measurement of electric fields in the H-1 Helic	\$1,710
--------	---	---------

The University of Sydney Total **\$253,240**

The University of Western Australia

Animal Biology

02/011	Professor Don Bradshaw Measurement of body protein in native animals by ion-beam analysis	\$10,907
--------	---	----------

Electrical, Electronic & Computer Engineering

02/092	* Dr Charles Musca SIMS characterisation of MBE grown HgCdTe heterojunctions	\$25,459
--------	--	----------

Physics

02/179	Dr Tim St Pierre Cobalt nanoparticles formed in polysiloxane triblock copolymer micelles: effect of production methods on magnetic properties	\$12,169
--------	---	----------

University of Canberra

Management and Technology

02/156 **A/Professor Andrew Cheetham**
Australian Fusion Research Group Collaboration \$3,430

Resource, Environmental & Heritage Sciences

02/155 **Dr Anton Tucker**
Pilot study of elemental accumulation in the osteoderms of freshwater crocodiles (*Crocodylus johnstoni*) \$6,067

University of Canberra Total **\$9,497**

University of South Australia

Ian Wark Research Institute

02/123P **Dr Bill Skinner**
Elemental and molecular distributions in human hair - forensic and environmental applications \$4,964

02/124P **Dr Bill Skinner**
Acid mine drainage - silicate mineral interactions \$2,393

02/164 **Dr Namita Choudhury**
Multiple size structure of polymer in solution studied by small angle neutron scattering \$5,049

University of South Australia Total **\$12,406**

University of Tasmania

Aquaculture & Fisheries Institute

02/089 **Ms Iona Mitchell**
Impacts of hydrological changes on molluscan composition and saltmarsh habitats within the Pitt Water Ramsar Site \$11,589

Chemistry

02/151P **Dr Brian Yates**
Modelling of radiopharmaceuticals for tumour diagnosis and therapy \$6,905

Earth Sciences

02/104 * **Dr Aung Pwa**
Geochemical signatures of acid insoluble residues of rock and regolith in search for gold and base metal deposits \$25,393

Institute of Antarctic and Southern Ocean Studies

02/110 **Dr Donna Roberts**
High resolution climate record from lakes of the Windmill Islands, eastern Antarctica \$9,658

02/082 **Professor Andrew McMinn**
Natural variability of benthic microalgal communities at Casey, Antarctica \$4,900

02/083 **Professor Andrew McMinn**
Gynodinium catenatum in New Zealand; endemic or introduced \$3,124

02/084 **Professor Andrew McMinn**
The use of diatoms to reconstruct the environmental history of Orielton Lagoon, Tasmania, since European settlement \$7,243

02/088	Dr Kelvin Michael High-resolution study of the deposition of cosmogenic ¹⁰ Be and ⁷ Be in Antarctic snow	\$17,266
--------	--	----------

02/120	Dr Peter Sedwick Determination of a radiocarbon-age correction for marine sediments from the MacRobertson Shelf, East Antarctica	\$8,400
--------	--	---------

Zoology

02/117	Dr Catherine Samson Changes in Tasmanian estuarine and sheltered marine ecosystems since European settlement: impacts of human activity	\$15,789
--------	---	----------

University of Tasmania Total		\$110,267
-------------------------------------	--	------------------

University of Technology Sydney

Mechanical Engineering

02/063	Dr Guang Hong Experimental investigation and numerical prediction of flow-induced vibration in the reactor fuel plate assembly	\$3,350
--------	--	---------

Science

02/105P	A/Professor Abhi Ray Migration and retention of Sr ²⁺ ions through cement barriers	\$4,736
---------	---	---------

02/106	A/Professor Abhi Ray Neutron scattering of cement hydration by heavy and normal water	\$28,159
--------	---	----------

02/129P	Dr Mike Stevens Ion implantation of polymers for metallisation	\$6,373
---------	--	---------

02/180	A/Professor Abhi Ray Application of neutron scattering to understand clinker formation in Portland cement	\$12,364
--------	---	----------

02/122	A/Professor Gregory Skilbeck Multi-proxy cyclicity in Holocene high-stand estuarine sediments of temperate eastern Australia	\$8,400
--------	--	---------

02/169	A/Professor Gregory Skilbeck The sedimentary record of ENSO in the equatorial eastern Pacific Ocean over the past 18,000 years	\$9,800
--------	--	---------

02/131P	Dr Paul Swift Investigations of metal/silicon interfaces as deposited by low, medium and high energy deposition processes	\$5,627
---------	---	---------

University of Technology Sydney Total		\$78,809
--	--	-----------------

University of Western Sydney

Science, Food & Horticulture

02/094P	Dr Loo-Teck Ng Radiation grafted copolymers on polypropylene beads as ion exchangers for wastewater treatment	\$1,655
---------	---	---------

02/145	Professor Peter Williams Age and temperature profiling of oxidised mineral assemblages: an isotopic approach	\$3,921
--------	--	---------

02/192	Professor Peter Williams Experimental charge density study of a transition metal complex	\$30,800
--------	--	----------

University of Western Sydney Total		\$36,376
---	--	-----------------

University of Wollongong

Centre for Medical Radiation Physics

02/114 **Professor Anatoly Rozenfeld**
The study of radiation detectors for high energy physics and medical applications \$8,887

Chemistry

02/070P **Dr Paul Keller**
The development of radiolabelled EGF and VEGF receptor tyrosine kinase inhibitors as antitumour agents \$7,910

Biomedical Science

02/152P **Dr Katerina Zavitsanou**
Detection of structural changes in postmortem brain of schizophrenia patients and in rat brain after phencyclidine administration \$9,135

Engineering

02/035P **Dr Hagare Dharmappa**
Migration of radioactive materials through cementaceous materials \$12,455

Geosciences

02/020 **Dr Paul Carr**
Re-Os and Pt-Os isotope systematics by AMS methods and applications to stony-iron and IIIAB iron meteorites \$14,500

02/022 **Dr Bryan Chenhall**
Sediment and soil contamination in the Illawarra Region \$6,800

02/023 **Professor Allan Chivas**
Soil geochemistry and regolith profile analysis of the Tritton Copper deposit, Girilambone District, New South Wales \$7,650

02/024 **Professor Allan Chivas**
Genesis of calcrete in southern Australia \$6,950

02/025 **Professor Allan Chivas**
Gulf of Carpentaria - basin-wide correlation of a shell horizon? \$7,091

02/054 **Mr John Head**
Categorisation of the NaOH soluble fraction of charcoal samples for ¹⁴C dating \$5,455

02/055 **Mr John Head**
Development of a method for obtaining ¹⁴C AMS ages from shell protein \$2,727

02/069P **A/Professor Brian Jones**
Application of sedimentation rates to the management of coastal lagoons \$5,022

02/091 **Professor Colin Murray-Wallace**
Aepyornis eggshell radiocarbon age determinations \$8,400

02/147 **A/Professor Colin Woodroffe**
Coastal lagoon sedimentation response to landuse intensification in a tropical catchment, Songkhla Lake, Thailand \$4,829

02/148 **A/Professor Colin Woodroffe**
Natural sedimentation rates in a tropical coastal lagoon, Songkhla Lake, Thailand \$2,800

02/149P **A/Professor Colin Woodroffe**
Sedimentation in intertidal habitats in the Minnamurra River estuary \$3,622

02/150P **A/Professor Colin Woodroffe**
Bomb radiocarbon in Cocos (Keeling) Island coral, AD 1951-1980, and the accretion rate of sediments \$12,205

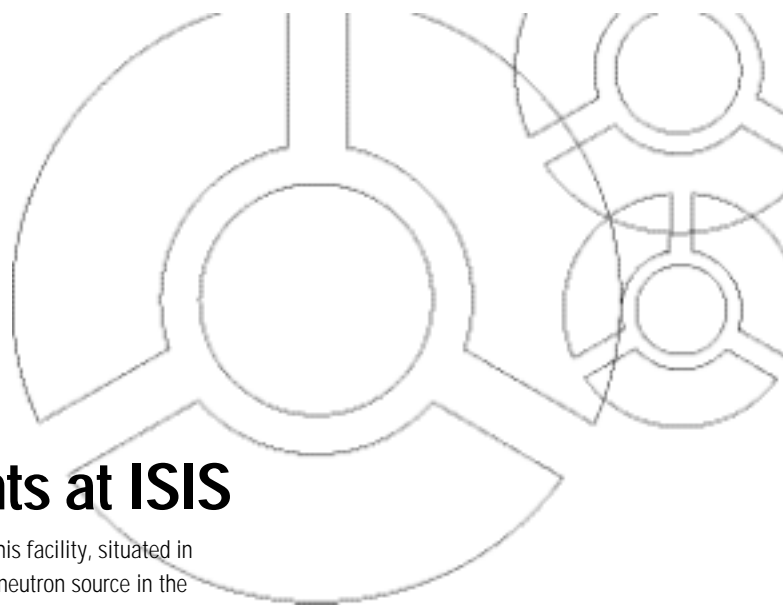
Superconducting & Electronic Materials

02/065	* Dr Mihail Ionescu	Enhancement of c-axis conductivity in Bi-2212 thin films by implant of amorphous tracks	\$5,818
02/140	Dr Xiaolin Wang	Studies of novel perovskite cobalt compounds	\$11,098
02/121	Dr Tania Silver	Thermal neutron irradiation of uranium-doped superconductors	\$1,860
02/141P	* Dr Xiaolin Wang	Enhancement of critical current density in newly discovered MgB ₂ superconductors using hot isostatic press and hot press techniques	\$2,380
02/193	* Dr Xiaolin Wang	Studies of magnetic properties of doped Y-Sr-Co-O perovskite cobalt compounds	\$27,938
University of Wollongong Total			\$175,531

Victoria University

Life Sciences & Technology

02/019P	Dr Domenico Caridi	Leaching of metallic species from cement stabilised waste	\$7,140
Victoria University Total			\$7,140
AINSE Awards Total			\$1,896,898



Summary of experiments at ISIS

AINSE coordinates funding for Australia's membership of ISIS. This facility, situated in Oxfordshire in the United Kingdom, is the most powerful pulsed neutron source in the world. The membership fee was paid through contributions from the Australian Research Council's Linkage Infrastructure Equipment and Facilities Fund, The Australian National University, Curtin University, Griffith University, The University of Queensland, The University of Sydney, The University of Newcastle, and ANSTO and AINSE.

Proposals for experiments are submitted to ISIS for peer group review. The very high success rate that the Australian proposals achieve is well above the international average and attests to their very high quality.

	Days allocated on ISIS
Nature of the phase transitions in $\text{SrBi}_2\text{Ta}_2\text{O}_9$ and related oxides B J Kennedy School of Chemistry, The University of Sydney	2
Effect of purity and grain-size on the thermal stability of titanium silicon carbide in vacuum I M Low Applied Physics, Curtin University of Technology	2
High temperature phase transitions in tungsten bronzes C J Howard ANSTO	3
Single crystal elastic constants from polycrystalline materials E H Kisi Mechanical Engineering, The University of Newcastle	4
Synthetic peptides as models of surfactant protein behaviour I R Gentle Chemistry, The University of Queensland	4
Structure of the milk fat membrane J W White School of Chemistry, The Australian National University	2
Protein incorporation into silicate films J W White School of Chemistry, The Australian National University	2
The sequence of phase transitions in PZT B J Kennedy School of Chemistry, The University of Sydney	4
High temperature structure of $\text{Pb}_{1-x}\text{Ta}_x\text{O}_9$ B J Kennedy School of Chemistry, The University of Sydney	1
Isotropic negative thermal expansion in a molecular framework C Kepert School of Chemistry, The University of Sydney	2
Orientation control of porphyrins in Langmuir films I R Gentle Chemistry, The University of Queensland	2

MuSR study of Y-Ni-H system T P Blach School of Science, Griffith University	6
<i>In-situ</i> characterisation of residual stresses in model ceramic bilayers I M Low Applied Physics, Curtin University of Technology	2
Templated films at the air-water interface using sterically hindered silicate precursors J W White Research School of Chemistry, The Australian National University	3
Emulsions ordering at solid surfaces J W White Research School of Chemistry, The Australian National University	2
Langmuir films of beta-casein films deposited at the air-polydillic acid interface J W White Research School of Chemistry, The Australian National University	2
Microstructure at an emulsion-solid interface J W White Research School of Chemistry, The Australian National University	2
A comparative study of the scattering of electrons and neutrons at high momentum transfer M Vos Research School of Physical Sciences, The Australian National University	6
Diffuse neutron scattering from benzil, C ₁₄ D ₁₀ O ₂ D Goossens ANSTO	6
Diffuse scattering from benzil C ₁₄ D ₁₀ O ₂ D Goossens ANSTO	5
Adsorbilisation of naphthol in adsorbed surfactant layers at the quartz/solution interface J C Schulz ANSTO	2
Stroboscopic real time studies of the ferroelectric phase transition in tri-glycine sulphate M Hagen ANSTO	7
Covalently tethered phospholipid biomimetic membranes on silicon M James ANSTO	2
Dynamic charge ordering and antiferromagnetism in the CMR compound LBCMO Y Fei ANSTO	4

Recent Publications

S J Campbell, M Hofmann, A V J Edge and A J Studer

The magnetic structures of YbMn₂Si₂
J. Phys.: Condens. Matter **13** 9773 (2001)

S J Campbell, M Hofmann, E Wu, W A Kaczmarek, M Dahlborg and U Dahlborg

Mechanochemical transformations of SrFe₁₂O₁₉ - microstructural investigation by neutron diffraction
Mater Sci Forum **378-381** 765 (2001)

S J Campbell, M Hofmann, K Knorr, S Hull and V Ksenofontov

Pressure-induced magnetic transitions in LaMn₂Si₂
J. App. Phys. **91** 8126-8128 (2002)

R L Withers, R K B Gover, N D Withers, S Allen, and J S O Evans

Structure and phase transitions of SnP₂O₇
J. Solid State Chem. **166** 42-48 (2002)

I M Low, P Manurung, R I Smith, and D Lawrence

A novel processing method for the microstructural design of functionally-graded ceramic composites

Key Engineering Materials **224-226** 465-470 (2002)

I M Low, M Singh, P Manurung, E Wren, D P Sheppard, and M W Barsoum

Depth profiling of phase composition and texture in layered-graded Al_2O_3 - & Ti_3SiC_2 -based systems using x-ray and synchrotron radiation diffraction

Key Engineering Materials **224-226** 505-510 (2002)

I M Low and R I Smith

A comparative study of thermal stability in vacuum between aluminium titanate and MgO-stabilised aluminium titanate

Proc. of AUSTCERAM 2002 (Eds. I M Low & D N Phillips),
175-176, 30 September – 4 October 2002, Perth, WA

I M Low

Characterisation of factors controlling the thermal stability of aluminium titanate ceramics

Proc. of AUSTCERAM 2002 (Eds. I M Low & D N Phillips),
177-178, 30 September – 4 October 2002, Perth, WA

I M Low

Characterisation of vacuum and argon heat-treated Ti_3SiC_2

Proc. of AUSTCERAM 2002 (Eds. I M Low & D N Phillips),
191-192, 30 September – 4 October 2002, Perth, WA

S A Holt, M J Henderson and J W White

Thermal denaturation of interfacial protein layers

Aust. J. Chem., Special Edition of Plenary Lectures, 25 Australian Polymer Symposium, 2002,
Aust. J. Chem. **55** 449-459 (2002)

P A Reynolds, M J Henderson, S A Holt, and J W White

The interfacial structure of a high internal phase emulsion near a solid surface

Langmuir, **18** 9153-9157 (2002)

S A Holt; J L Ruggles, J W White and R F Garrett

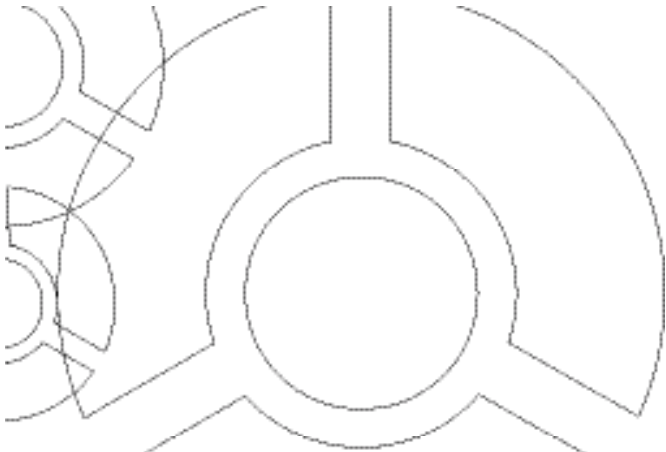
Structure development in octadecyl trimethylammonium templated silicate films grown at the air/water interface

J. Phys. Chem B **106 (9)** 2330-2336 (2002)

H M French, M J Henderson, A R Hillman and E Vieil

Temporal resolution of ion and solvent transfers at nickel hydroxide films exposed to LiOH

Solid State Ionics **150** 27-37 (2002)



Publications

Notification of the following papers incorporating results from AINSE projects were received by AINSE in 2002. This list may not be a comprehensive list of all publications arising from AINSE supported work nor does it necessarily relate to awards held in 2002. Advice concerning the availability of these papers and reports can be obtained from the AINSE office.

The publications are listed in university order under the name of the chief investigator, who is not necessarily the first author on the paper. Publications arising from AINSE Postgraduate Research Awards (PGRA) are also listed.

The references are as supplied by the chief investigator in the Annual Progress Report and other notifications provided to AINSE. The Progress Reports for 2002 are published on our home page.

The format of the journal references is as follows: abbreviated name of journal, **volume**, page number, year of publication.

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
95/106	Vicente-Beckett V Holden S; Meehan B	Speciation of selenium in coal-fired power plant wastes	International Symposium on Environmental Chemistry and Toxicology 93 July 1996 Sydney Australia
01/140	Vicente-Beckett V Morrison H	Metal speciation analysis of estuarine sediments of central Queensland	Interact 2002 Conference 303 July 2002 Sydney Australia 0-9581321-0-0

Curtin University

00/036	De Marco R Pejic B; Loan M; Wilcox M	Continuous flow analysis of iron in zinc electrowinning electrolyte using an iron chalcogenide glass ion-selective electrode. Part I	Talanta 57 115-121 2002
00/036	De Marco R Pejic B; Prince K	Surface studies of a chalcogenide glass ferric ion-selective electrode. Part II. The effects of inorganic ions, organic ligands and seawater on sensor response	Surf. Interface Anal. 33 759-766 2002
00/036	De Marco R Pejic B; Prince K	Surface studies of a chalcogenide glass ferric ion-selective electrode. Part I. The influence of ferric and hydroxide ions on the interfacial kinetics	Surf. Interface Anal. 33 748-758 2002
00/119P	O'Connor B Pratapa S; Hunter B	A comparative study of single-line and Rietveld strain-size evaluation procedures using MgO ceramics	J. Appl. Crystallogr. 35 155-162 2002 0021-8898
00/157P	van Riessen A Suherman P; O'Connor B; Li D; Bolton D; Fairhurst H	Determination of amorphous phase in Portland cement clinker	Powder Diffraction 17(3) 178-185 2002 0885-7156
00/157P	van Riessen A Carter G	Thermal expansion of zirconia-dispersed alumina	Joint AXAA (WA) & WASEM Conference 172-175 2001 0-9586039-2-8
01/091	Low I Sheppard D	Characterisation of phase composition character in high-temperature vacuum treated Ti ₃ SiC ₂	Joint AXAA/ WASEM Conference 162-171 21-23 September 2001 Mandurah Western Australia 0-9586039-2-8
01/091	Low I Kuroda Y	Effect of microstructure on the mechanical and fracture properties of Ti ₃ SiC ₂	Joint AXAA/WASEM Conference 157-161 21-23 September 2001 Mandurah Western Australia 0-9586039-2-8
01/091	Low I Wren E	Characteristics of oxidation in Ti ₃ SiC ₂	Joint AXAA/WASEM Conference 1-10 21-23 September 2001 Mandurah Western Australia 0-9586039-2-8
01/112	O'Connor B Pratapa S; Hunter B	Development of MgO ceramic standards for x-ray and neutron line broadening assessments	Advances in X-ray Analysis 45 41-47 2002 1097-0002
PGRA	Pejic B	The influence of diffusion fluxes on the detection	Electroanalysis 14(7-8) 493-498 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
Flinders University			
98/092	Le Gal La Salle C Howes N; Herczeg A	Evidence for brine leakage from a groundwater discharge zone, Raak Plains, Victoria	8th Murray Darling Basin Groundwater Workshop 8A1 September 2001 Victor Harbor South Australia
98/146R	Pate D McDowell M; Wells R; Smith A	Last recorded evidence for megafauna at Wet Cave, Naracoorte, South Australia 45,000 years ago	Australian Archaeology 54 53-55 2002
00/137	Shapter J Gooding J; Losic D	Scanning tunneling microscopy studies of glucose oxidase on gold surfaces	Langmuir 18 5422 5428 2002
00/145	Storer R Gardner H	Resistive magnetohydrodynamic modelling for 3D plasmas	Computer Physics Communications 142(1-3) 343 2001
01/127	Shapter J Losic D; Gooding J	Atomically flat gold for biomolecule immobilisation and imaging	Aust. J. Chem., 54 643-648 2001
01/133	Storer R McMillan B; Gardner H	Studies of 3D resistive MHD stability using the SPECTOR-3D code	13th International Stellarator Workshop February 2002 Canberra Australia
01/133	Storer R Tsakadze E; Ostrikov K; Xu S	Nonlinear effects in low-frequency inductively coupled plasmas	28th European Physical Society Conference on Controlled Fusion and Plasma Physics P2-110 June 2001
01/133	Storer R Ostrikov K; Xu S; Yu M; Lee S	Mode transitions in radio-frequency and microwave plasma resonators	Physica Scripta 64 360 2001
01/133	Storer R Gunner S	Statistical properties of the Australian "all ordinaries index"	International Journal of Modern Physics C 13 893 2002
01/133	Storer R Tsadadze E; Ostrikov K; Xu S; Jones I; Yu M; Lee S	Effect of an internal rotating current on low-frequency inductively coupled plasmas	Physics Review E63 046402 2001
01/133	Storer R Sarmah D; Sen S; Fukuyama A; McCarthy D; Punjabi A	On possible role of parallel flow profile in the transition of enhanced reverse shear modes	J Plasma Fusion Research Series 4 258 2001
01/133	Storer R Tsadadze E; Ostrikov K; Xu S	Inductively coupled plasmas sustained by an internal oscillating current	J. Appl. Phys., 91 4 2002
01/192	Le Gal La Salle C Howes N; Herczeg A	Determining salt transport processes below natural playa lakes and a salt harvesting operation using stable isotopes and ¹⁴ C	7th Australasian Conference on Isotopes in the Environment 22-23 September 2001 Robertson New South Wales

Griffith University

99/038	Chan A McTainsh G; Simpson R; Vowles P; Cohen D; Bailey G	Contribution of different sources to primary and secondary aerosols in Brisbane, Australia	Clean Air and Environmental Quality 36 32-37 2002 1444-2841
--------	---	--	--

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
99/038	Chan A McTainsh G; Simpson R; Vowles P; Cohen D; Bailey G	Light degrading properties of size-fractionated PM ₁₀ aerosol samples collected from an industrial area in Brisbane, Australia	Aerosol Science and Technology 36 890-898 2002
99/039	Gray E Pitt M	Evolution of microstructure in the LaNi ₅ -D system during the early absorption-desorption cycles	J. Alloys and Compounds 330-332 241 2002
00/173	Tanner P Jamet P; Dimitrijevic S	Physical properties of N ₂ O and NO-nitrided gate oxides grown on 4H SiC	Appl. Phys. Lett. 79 323-325 2001
01/029	Chan A Hawas O	Chemical composition of air pollutants in an industrial area in Brisbane	Honours Thesis 2001
02/188	Healy P Hanna J	The structural and spectroscopic properties of three-coordinate complexes of copper(I) halides with tricyclohexylphosphine	J. Chem. Soc., Dalton Trans 2722-2730 2002

James Cook University

97/190R	Luly J Jacobsen G	Two new AMS dates from Lake Frome, arid South Australia	Quaternary Australasia 18 29-33 2000
98/021	Watchman A Mardaga-Campbell M; Campbell J	On the rocks and buried: comparative assessment of the mineralogical geochemical and archaeological evidence at Walkunder Arch, Chillagoe, north-east Australia	In M. Jones and P. Sheppard (eds), Australasian Connections and new Directions: proceedings of the 7th Australasian Archaeometry Conference 197-211 February 2001 Auckland New Zealand 1174-5967/0-9583686-4-3
98/021	Watchman A	Dating oxalate minerals in rock surface deposits	In M. Jones and P. Sheppard (eds), Australasian Connections and new Directions: proceedings of the 7th Australasian Archaeometry Conference 401-411 February 2001 Auckland New Zealand 1174-5967/0-9583686-4-3
99/041	Watchman A Jones R; Alderson M	An independent confirmation of the 4ka antiquity of a beeswax figure in western Arnhem Land, northern Australia	Archaeometry 44 145-153 2002
99/041	Watchman A Ward I; Jones R; O'Connor S	Spatial and compositional variations within finely laminated mineral crusts at Carpenter's Gap, an archaeological site in tropical Australia	Geoarchaeology 16(7) 803-824 2001
00/089	Lottermoser B Costelloe M; Ashley P	Environmental review of the Mary Kathleen uranium minesite, northwest Queensland	15th Australian Geological Convention, Geological Society of Australia 59 99 2000 Sydney Australia
01/081	Keene R Patterson B; Anderson R	Pulse radiolysis studies of the protonation of reduced ruthenium(II) complexes containing	Aust. J. Chem., 54 751-756 2001

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
La Trobe University			
99/152S	Cosgrove R Raymont E	Jiyer Cave revisited: preliminary results from north east Queensland rainforest	Australian Archaeology 54 29-36 2002
99/153SP	Frankel D	Migration and ethnicity in prehistoric Cyprus: technology as habitus	European Journal of Archaeology 3 167-187 2000
99/153SP	Frankel D Webb J	Marki Alonia: a prehistoric bronze age settlement in Cyprus	Antiquity 74 673-674 2000
99/153SP	Frankel D Webb J	Excavations at Marki-Alonia, 1999-2000	Report of the Department of Antiquities 65-94 2000 Cyprus
99/153SP	Frankel D Webb J	Excavations at Marki-Alonia, 2000	Report of the Department of Antiquities 15-44 2001 Cyprus
99/153SP	Frankel D	A decade at Marki Alonia: aspect and prospect	In P.M. Fischer (ed), Contributions to the Archaeology and History of the Bronze and Iron Ages in the Eastern Mediterranean. Studies in Honour of Paul Åström Sonderschriften des Österreichischen Archäologischen Institutes Band 39 9-22 2001 Vienna

Macquarie University

00/127P	Riley J Gard F; May M; Usher B; James D; Leckey R	RHEED investigation of MBE growth of ZnSe epilayer on GaAs (111) B	11th International Semiconducting and Insulating Materials Conference (SIMC-XI) 322-325 2000
01/096	Marshall A Clode P; Prince K; Russell R; Ingram P	SIMS microscopy and x-ray microanalysis of freeze-substituted biological samples	7th Australian Conference on Electron, Australian Society for Electron Microscopy Inc Microscopy 34 4-8 February 2002 Adelaide 0-9580408-0-X
01/118P	Riley J Gard F; Dowsett M; Prince K	The effect of Se- and Zn- pre-deposition on thermal diffusion of elements across the ZnSe/GaAs interface studied by SIMS	Applied Surface Science 9297 1-5 2002
01/118P	Riley J Gard F; Usher B; Leckey R; Prince K	Elemental diffusion at the GaAs interface	Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD'2000) 547-550 December 2000
01/056	Goldys E Paskova T; Paskov P	Mass transport growth and properties of hydride vapour phase epitaxy GaN	Phys. Stat. Sol. A 188 447-450 2001
01/056	Goldys E et al	Spatial fluctuations and localisation effects in optical characteristics of p-doped GaN	Phys. Stat. Sol. B 228 365-368 2001

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/056	Goldys E Paskova T; Paskov P; et al	Mass transport and optical emission properties of HVPE GaN	Appl. Phys. Lett. 78 26 4130-4132 2001
01/056	Goldys E Valcheva E; Paskova T; Abrashv M; Persson P; Paskov P; et al	Impact of MOCVD GaN 'templates' on the spatial nonuniformities of strain and doping distribution in hydride vapour phase epitaxial GaN	Materials Science and Engineering B - Solid State Materials for Advanced Technology B82 35-38 2001
01/056	Goldys E Godlewski M; Paskova T; Pozina G; Monemar B	Characterisation of the red emission in nominally undoped HVPE GaN	MRS Internet Journal of Nitride Research 6 paper 1 2001
01/056	Goldys E Butcher K; Timmers H; Afifudin; Chen P; Wijers T; Tansley T; Elliman R; Freitas J	Crystal size and oxygen segregation for polycrystalline GaN	J. Appl. Phys., 92 3397-3403 2002
01/068	Hesse P Ralph T	The rate and distribution of sedimentation adjacent to a distributory channel in the Macquarie marshes, New South Wales	SPERA Conference 26 May 2002 Lucas Heights Australia

Monash University

97/008	Penny D	A 40,000 year palynological record from north-east Thailand; implications for biogeography and palaeo-environmental reconstruction	Palaeogeogr. Palaeoclimatol. 171 97-128 2001
98/034	Kershaw P Wagstaff B; O'Sullivan P; Harle K; Edwards J	An early to middle Pleistocene palynological record from the volcanic crater of Pejark Marsh, western plains of Victoria, southeastern Australia	Quatern. Int. 83-85 211-232 2001
98/034	Kershaw P Wagstaff B; O'Sullivan P	An early Pleistocene palynological record from Pejark Marsh, a volcanic maar in the western plains of Victoria, Australia	3rd Southern Connection Congress, Lincoln University 69 2000 Canterbury NZ
98/034	Kershaw P McKenzie M; Orr M; Lawson E; Heijnis H	A high resolution record of vegetation and climate through 'the last glacial cycle' from Caledonia Fen, the south eastern highlands of Victoria	3rd Southern Connection Congress, Lincoln University 51 2000 Canterbury NZ
98/034	Kershaw P Wagstaff B; D'Costa D; O'Sullivan P; Heijnis H; Harle K	The last million years around Lake Keilambete, western Victoria	Regional Analysis of Australian Quaternary Studies: Strengths, Gaps and Future Directions. Australian National University 58-60 2000 Canberra Australia
98/034	Kershaw P Wagstaff B; O'Sullivan P	Regionally extinct taxa and vegetation dynamics in an early Pleistocene palynological record from Pejark Marsh, a volcanic maar in the western plains of Victoria	Australian Quaternary Association Biennial Conference 43 2001 Port Fairy Victoria

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
98/151R	David B	Landscapes, rock-art and the dreaming: an archaeology of preunderstanding	Continuum Press, London (book) 2002
99/059	Cashion J Thong A	The temperature and milling time dependence of coercivity in ball milled Nd ₂ Fe ₁₄ B-Gd	J Phys. Stat. Sol. 189 1035-1037 2002
00/060	Haberle S Atkinson A; Heijnis H; Zoppi H; Lawson E	Fire, El Niño, and rain forest dynamics in north east Queensland	Australian Quaternary Association Biennial Conference 20 February 2001 Port Fairy Australia
00/079	Kershaw P McKenzie M; Orr M; Lawson E; Heijnis H; Roberts R	A high resolution record of vegetation and climate through 'the last glacial cycle' from Caledonia Fen, the south eastern highlands of Victoria, Australia	Australian Quaternary Association Biennial Conference 31 2001 Port Fairy Victoria
00/079	Kershaw P Tibby J; Johnston R	Last-glacial maximum to Holocene diatom-inferred environmental change from Tower Hill, Victoria	Australian Quaternary Australasia Biennial Conference 39 February 2001 Port Fairy
00/105P	McPhail D Orlica I; Siegele R; Menon D; Markich S; Cohen D; Jeffree R; Sarbutt A; Stelcer E	Heavy metal pathways and archives in biological tissue	Nucl. Instrum. Methods Phys. Res. B 190 439-444 2002
01/008	Bierlein F McKnight S; Radojkovic A; Witham R; Waldron H	'Atypical' gold mineralisation at Malmsbury - the case for intrusion-related ore systems in the western Lachlan Orogen	Geological Society of Australia Abstracts 67 275 2002
01/066	Haberle S Blumbach P	A high-resolution fire reconstruction based on the charcoal record from Lake Sondambile, Papua New Guinea: an El Niño sensitive region of the western Pacific	Unpublished BA (hons) thesis, Department of Geography, Oxford University, UK 2002
01/067	Haberle S	Human colonisation and environmental change on the Juan Fernández Archipélago, remote eastern Pacific Islands	National Geographic Research Grant 6660-99 Final Report 11 November 2001
01/181	Lawrence A Krstew E; Dautzenberg F; Rühmann A	The novel, highly selective CRF ₂ receptor antagonist K41498 binds to presynaptic CRF ₂ receptors in rat brain	Australian Neuroscience Society 13 P1-116 2002
01/181	Lawrence A Krstew E; Dautzenberg F; Rühmann A	The highly selective CRF ₂ receptor antagonist K41498 binds to presynaptic CRF ₂ receptors in rat brain	British Journal of Pharmacology 136 896-904 2002
02/006	Bierlein F Wilde A; Edwards A; Ansdell K; Garnett D; Yakubchuk A	Occurrences of platinum-group elements with sediment-hosted orogenic gold deposits: proposed model & potential in Australia	Geological Society of Australia Abstracts 67 283 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
95/R172 & 96/133R	Newsome D Fink D; McKelvey B; Hannan D	Cold rocks, hot sands: <i>in-situ</i> cosmogenic applications in Australia at ANTARES	Nucl. Instr. Meth. in Phys. Res. B 172 838-846 2000

Murdoch University

Northern Territory University

98/037	Parry D Iles M	Catchment impacts of mining in the Adelaide River region, Northern Territory, Australia	Honours Thesis 1998
01/198S	Parry D Lim K	Rare earth elements as indicators of the provenance of near-and off-shore sediments	Honours Thesis 2001

Queensland University of Technology

00/049P	Frost R Martens W; Kloprogge J; Bartlett J	A crystallite packing model for pseudoboehmite formed during the hydrolysis of trisecbutoxyaluminium to explain the peptisability	Journal of Colloid and Interface Science 247(1) 132-137 2002
---------	---	---	--

RMIT University

98/041	Johnston P Hartmann A; Lamb R; Scott J; El Bouanani M; Chen C; Robertson J	Electronic and microstructure characterization of strontium-bismuth tantalate (SBT) thin films	Journal of the Korean Physical Society 32 (Part 4 Suppl S) S1329-S1331 1998
99/146	Johnston P Hartmann A; Lamb R; Scott J; El Bouanani M; Chen C; Robertson J	Surface characterisation of strontium-bismuth tantalate (SBT) thin films	Integrated Ferroelectrics 23 113-126 1999
00/009	Bhargava S van der Schoot M; Akolekar D; Föger K; Watson H	Deterioration of automotive catalytic converters: physical catalyst characterisation	SAE Technical Paper Series, Part 2, Copyright 2001 Society of Automotive Engineers, Inc 2000-01-3695 2001 0148- 7191
00/159	Ward L Manory R; Mollica S; Kavuri P; Evans P; Noorman H	The effects of MEVVA ion implantation on the tribological properties of PVD TiN films deposited on steel substrates	Surf. Coat. Technol. 155 136-140 2002 0257-8972
01/079P	Johnston P Franich R; Bubb I; Dytlewski N; Cohen D	Efficiency enhancements to Monte Carlo simulation of heavy ion elastic recoil detection analysis spectra	15th International Ion Beam Analysis Conference 252-255 16-20 July 2001 Cairns Australia
01/079P	Johnston P Franich R; Bubb I; Dytlewski N; Cohen D	Efficiency enhancements to Monte Carlo simulation of heavy ion elastic recoil detection analysis spectra	Nucl. Instr. Meth. in Phys. Res. B 190 252-255 2002
01/183S	Bhargava S van der Schoot M; Akolekar D; Föger K; Watson H	Deterioration of automotive catalytic converters (Part 2): catalytic performance characterisation	SAE Technical Paper Series, Copyright 2001 Society of Automotive Engineers, Inc 2001-01-3691 2001 0148-7191

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
Southern Cross University			
98/161R	Boyd B McGrath R	Iron age vegetation dynamics and human impacts on the vegetation of Upper Mun River Floodplain, North East Thailand	New Zealand Geographer 57(2) 21-32 2002
99/148	Boyd B Parr J; Lentfer C	Spatial patterning of a Lapita landscape at an archaeological site in the West New Britain Province Papua New Guinea	Journal of the Fiji Museum 13(2) 7-18 2001
99/148	Boyd B Parr J; Lentfer C	Spatial analysis of phytolith assemblages at an archaeological site in West New Britain, Papua New Guinea	G.R. Clark, A.J. Anderson and T. Vunidilo (eds.). The archaeology of Lapita dispersal in Oceania: 4th Lapita Conference, Terra Australis 17. Pandanus Press 125-134 June 2000 Canberra Australia
00/023	Bush R Sullivan L	Iron monosulfides at the oxidation front of a coastal acid sulfate soil	In 'Acid sulfate soils in Australia and China.' (Eds C. Lin, M. Melville and L.A Sullivan) (Science Press, Beijing) 131-142 2002
00/023	Bush R Sullivan L	Pyrite formation in estuarine sediments of eastern Australia	In 'Acid sulfate soils in Australia and China.' (Eds C. Lin, M. Melville and L.A Sullivan) (Science Press, Beijing) 51-64 2002

Swinburne University of Technology

01/170	Ghantasala M Dowling A; Hayes J; Harvey E; Doyle D	Excimer laser patterning of TiN film from metal sacrificial layers	SPIE, Device and Process Technologies for MEMS and Microelectronics II4592 481- 488 December 2001 Adelaide Australia
01/179	McManus K Krezel A	Ecologically sustainable acoustic barriers	20th Australian Road Research Board Conference CD Rom paper No 10 19-21 March 2001 Melbourne Australia
01/179	McManus K Krezel A	New products made from concrete waste	3rd International Congress "Added Value and Recycling of Industrial Waste" 469-474 25-29 June 2001 L'Aquila Italy

The Australian National University

97/060R	Lambeck K Yokoyama Y; Esat T; Fifield L	Last ice age millennial scale climate changes recorded in Huon Peninsula corals	Radiocarbon 42 383-401 2000
97/060R	Lambeck K Yokoyama Y; Esat T	Coupled climate and sea-level changes deduced from Huon peninsula coral terraces of the last ice age	Earth, Planet. Sci. Lett 193 579-587 2001
97/060R	Lambeck K	Links between climate and sea levels for the past	Nature 419 199-206 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
98/003	Summerhayes G	Defining the chronology of Lapita in the Bismarck Archipelago	In Clark, G.R, Anderson, A.J. and Vunidilo, T. (eds), The archaeology of Lapita Dispersal in Oceania. Terra Australis 17, Pandanus Press, The Australian National University 25-38 2001 Canberra Australia 1740760107
98/004	Withers R Ling C; Thompson J; Schmid S	Structures of Bi ₁₄ WO ₂₄ and Bi ₁₄ MoO ₂₄ from neutron powder diffraction data	Acta Cryst. B55 306-312 1999
98/004	Withers R Ling C; Thompson J; Schmid S	Modelling and Rietveld refinement of the crystal structure of Bi ₄ Ta ₂ O ₁₁ based on that of Bi ₇ Ta ₃ O ₁₈	J. Solid State Chem. 142 33-40 1999
98/137R	Spriggs M	How AMS dating changed my life	7th Australasian Archaeometry Conference. Research in Anthropology and Linguistics 5 365-374 2001 Auckland New Zealand 1174-5967
98/139R	De Deckker P Stanley S	A Holocene record of allochthonous mineral grains into an Australian alpine lake; implications for the history of climate change in southeast Australia	Journal of Paleolimnology 27 207-219 2002 0921-2728
98/139R	De Deckker P	Records of environmental changes in the Australian sector of PEP II point to broad trends of climate change	Pages News 9(2) 4-5 2001 1563 0803
98/150R	Hope G O'Dea D; Southern W	Holocene vegetation histories in the Western Pacific - alternative records of human impact	In Lilley, I. and Galipaud, J.-C. (eds), Le pacifique de 5000 à 2000 avant le présent. Suppléments à l'histoire d'une colonisation. The Pacific from 5000 to 2000 BP. Colonisation and transformations. Actes du colloque Vanuatu, 31 Juillet-6 Aout 1996. 387-406 1998 Paris France
00/020	Bulbeck D Prasetyo B; Miksic J; Barham D; Hancock R	Analysis of glass from South Sulawesi, Indonesia	32nd International Symposium on Archaeometry, CD Rom 2002 Mexico City Mexico
00/020	Bulbeck D	The archaeology of the major sites of Ussu and Cerekang	Festival dan Seminar Internasional La Galigo, Barru, South Sulawesi March 15-18 2002
98/002	Sargeson A Di Bartolo N; Smith S	A new method for radiolabelling antibodies with ⁶⁴ Cu for use in imaging	Radiation 98 45 November 15-17 1998 Melbourne Australia 0-9598472-8-6
01/074	Hope G Peterson J; Prentice M; Hantoro	Mountain environments in New Guinea and the late glacial maximum "warm seas/cold mountains" enigma in the West Pacific Warm Pool region	In P. Kershaw, B. David, N. Tapper, D. Penny and J. Brown (eds.), Bridging Wallace's Line. Advances in Geocology 34. Reiskirchen, Catena Verlag 173-187 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/074	Hope G Suprin B	A Pleistocene record of <i>Neocallitropsis pancheri</i> (Cupressaceae) from the Plaine des Lacs, New Caledonia	Quaternary Australasia 19(2) 17-21 2001
01/074	Hope G	The late Quaternary of Kiritimati (Christmas) Island, Kiribati	In A. Anderson, H. Martinsson Wallin and P. Wallin (eds) The Prehistory of Kiritimati (Christmas) Island, Republic of Kiribati Excavations and analyses. Oslo, Kon-Tiki Museum Occasional papers 111-118 2002
01/100	McDougall I Leakey M; Spoor F; Brown F; Gathogo P; Kiarie C; Leakey, L.N	New hominin genus from eastern Africa shows diverse middle Pliocene lineages	Nature 410 433-440 2001
01/111	O'Connor S Spriggs M; Veth P	Excavation at Lene Hara establishes occupation in East Timor at least 30,000 – 35,000 years on: results of recent fieldwork	Antiquity 76 45-50 2002
01/111	O'Connor S	Pleistocene Timor: further corrections, a reply to Bednarik	Australian Archaeology 54 46-51 2002
01/111	O'Connor S Gould R; Veth P	Bones of contention	Archaeology in Oceania 37(2) 96-101 2002
01/134	Summerhayes G	The archaeology of trade and exchange	In Conkey M.W. and Kirch, P. (eds), Archaeology section of the International Encyclopaedia of the Social and Behavioural Sciences, Elsevier, Oxford 15803-15807 2001 0-08-043076-7

The University of Adelaide

99/001	Williams M	Quaternary climatic changes in Australia and their environmental effects	In V.A.Gostin (ed), Gondwana to Greenhouse: Australian Environmental Geoscience, Geological Society of Australia Special Publication No. 21 3-11 2001 0072-1085
99/004	Rowe C Kitchener M; Clayer M; Katsifis A; Roselt P	Uptake of ¹²³ I-alpha-methyl-L-tyrosine (IMT) in primary bone and soft-tissue tumours	ANZ Nuclear Medicine 33 23-24 2002
00/016	Brugger J Maas R; Lahaye Y; McRae C; Ghaderi M; Costa S; Lambert D; Bateman R; Prince K	Origins of Nd-Sr-Pb isotopic variations in single scheelite grains from Archaean gold deposits, Western Australia	Chemical Geology 182 203-225 2002
00/165	Williams M Adamason D; Talbot M; Aharon P	Quaternary lakes, palaeochannels and dunes in the White Nile Valley	International Conference on Past Climate Variability Through Europe and Africa 159 August 27-31 2001 Aix-en-Provence France

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/021	Brugger J Lahaye Y; Krivovichev S; Meisser N; Ansermet S; Berlepsch P	Mineralogy and mobility of uranium around Mt Painter, Northern Flinders Ranges, South Australia	16th Australian Geological Convention 67, 8 July 2002 Adelaide Australia 0729-011X
01/114	Prescott J Pledge N; Hutton J	A late Pleistocene occurrence of diprotodon at Hallett Cove, South Australia	Transactions of the Royal Society of South Australia 126 39-44 2002
01/114	Prescott J Lu Y-C; Zhao H; Chen J; Wei L-Y	Optical dating of colluvial deposits from Xiyangfang, China and the relation to palaeo-earthquake events	Quaternary Sci. Rev. 21 1087-1097 2002
01/114	Prescott J Zhou H; Lu Y; Chen J; Yin G	Luminescence dating of palaeo-earthquake events recorded by the colluvial sediments in Yanqing County, Beijing	Earthquake Research in China 17 176-186 2001

The University of Auckland

98/054	Sheppard P Sand C	Importations préhistoriques d'obsidienne sur de longues distance en Nouvelle-Calédonie: caractéristiques et significations	Compte-rendus de l'Académie des Sciences 331 235-243 2000 Paris
98/054	Sheppard P Sand C	The beginning of southern Melanesian prehistory: the St Maurice-Vatcha Lapita site, New Caledonia	J. Field Archaeol. 26 i3 307-317 1999 0093-4690
99/007	Augustinus P Shane P; Lian O; Heijnis H; Chisari R	Tephrostratigraphy and geochronology of a ca 120 kyr terrestrial record at Lake Poukawa, North Island, New Zealand	Global and Planetary Change 33 221-242 2002
99/007	Augustinus P Shulmeister J; Shane P; Lian O; Okuda M; Carter J; Harper M; Dickinson W; Heijnis H	A ca 60 ka record from Lake Pukawa, Hawkes Bay, New Zealand: implications for a significant interstadial at the beginning of isotope stage 3	Palaeogeogr. Palaeoclimatol. 176 81-107 2001 0031-0182
99/011	Stewart C Chague-Goff C; Dawson S; Goff J; Zachariassen J; Berryman K; Garnett D; et al	A tsunami (ca 6300 years BP) and other Holocene environmental changes, northern Hawke's Bay, New Zealand	Sediment. Geol. 150 89-102 2002
99/149	Swabey S Worthy T	Avifaunal changes revealed in Quaternary deposits near Waitomo Caves, North Island	Journal of the Royal Society of New Zealand 32(2) 293-325 2002
00/095	Markwitz A White G; Trompetter W; Brown I; Dytleswki N; Cohen D	Discovery of highly reactive regions at the surface of thin SiO ₂ films during high-temperature nitridation experiments	Microchimica Acta 137 49 2001
01/009	Bowmaker G Boyd S; Hanna J; Hart R; Healy P; Skelton B; White A	Structural and spectroscopic studies on three-coordinate complexes of copper(I) halides with tricyclohexylphosphine	J. Chem. Soc., Dalton Trans., 2002 2722-2730 2002
01/009	Bowmaker G	Solid-state NMR spectroscopy using copper, silver	ANZMAG 2002 49 February 17-21 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/095	Markwitz A Johnson P; Gilbert P; Collins G	IBA of light elements in nanoporous surfaces produced by multiple energy helium ion-implantation	Nucl. Instr. Meth. B B190 718 2002

The University of Melbourne

97/105R	Brown R Belton D; Fink D	Unstable isotopes in a stable landscape? untangling southern Africa's geological history with fission tracks and cosmogenic nuclides	40th AINSE Anniversary Conference 78 December 2-3 1998
97/189R	Sagona A Sagona C	An archaeological survey of the Erzurum Plain, 1999	18th International Symposium of Anatolian Surveys (Arastirma Sonuçları Toplantısı), Izmir 67-70 2001 1017-7663
00/054P	Gleadow A House M; Kohn B; Farley K; Raza A	Evaluating thermal history models for the Otway Basin, southeastern Australia, using (U-Th)/He and fission-track data from borehole apatites	Tectonophysics 349 277-295 2002
00/054P	Gleadow A Spikings R; Foster D; Kohn B; Lister G	Post-orogenic (<1500 Ma) thermal history of the palaeo-mesoproterozoic, Mt Isa province, NE Australia	Tectonophysics 349 327-365 2002
00/054P	Gleadow A Osadetz K; Kohn B; Feinstein S; O'Sullivan P	Thermal history of Canadian Williston basin from apatite fission-track thermochronology - implications for petroleum systems and geodynamic history	Tectonophysics 349 221-249 2002
00/054P	Gleadow A Kohn B; Brown R; O'Sullivan P; Raza A	Fission track thermotectonic imaging of the Australian continent	Tectonophysics 349 5-21 2002
00/134	Sagona A Sagona C	Excavations at Sos Höyük, 1999	22nd International Symposium of Anatolian Excavation, (Kazi Sonuçları Toplantısı), Ankara 129-132 2001 1017-7655
01/055	Gleadow A McInnes B; Farley K; Sillitoe R; Kohn B	Discussions - application of apatite (U-Th)/He dating to the determination of the sense and amount of vertical fault displacement at the Chuquicamata Mine, Chile – a reply	Economic Geology 96 1310 2001
02/046P	Gleadow A Kohn B; Belton D; Brown R	Fission track dating of phosphate minerals and the thermochronology of apatite	Reviews in Mineralogy and Geochemistry. Phosphates - Geochemical, Geobiological, and Materials Importance (Eds. M Kohn; J Radovan, J Hughes). Mineralogical Society of America & Geochemical Society 48 579-630 2002 Washington USA 1529-6466
02/046P	Gleadow A Foster D; Raza A	Low-temperature thermochronological record of exhumation of the bitterroot metamorphic core complex, northern Cordilleran Orogen	Tectonophysics 349 23-36 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
02/046P	Gleadow A Mitchell M; Kohn B; O'Sullivan P; Hartley M; Foster D	Low-temperature thermochronology of the Mt Painter Province, South Australia	Aust. J. Earth Sci. 49 551-563 2002
02/046P	Gleadow A Kohn B; Brown R; Gallagher K; O'Sullivan P; Foster D	Shaping the Australian crust over the last 300 million years: insights from fission track thermotectonic imaging and denudation studies of key terranes	Aust. J. Earth Sci. 49 697-717 2002
02/046P	Gleadow A Kohn B; Green P	Low temperature thermochronology: from tectonics to landscape evolution	Tectonophysics 349 1-4 2002
02/046P	Gleadow A Brown R; Cockburn H; Kohn B; Belton D; Fink D; Summerfield M	Combining low temperature apatite thermochronology and cosmogenic isotope analysis in quantitative landscape evolution studies	12th Annual V.M Goldschmidt Conference A106 August 18-23 2002 Davos Switzerland
02/046P	Gleadow A Raab M; Brown R; Gallagher K	Quantifying denudation rates with vertical relief fission track profiles	12th Annual V.M Goldschmidt Conference A621 August 18-23 2002 Davos Switzerland
02/046P	Gleadow A Brown R; Cockburn H; Kohn B; Belton D; Fink D; Summerfield M	Measuring passive continental margin escarpment retreat rates using a combination of low temperature apatite thermochronology and cosmogenic isotope analysis	Western Pacific Geophysics Meeting SE51E-04 July 9-12 2002 Wellington New Zealand 0096-3941
02/046P	Gleadow A Carter T; Kohn B; Foster D; Belton D; Woodhead J	Late-tertiary exhumation of core complexes in southwestern USA: an application of (U-Th)/He dating	16th Australian Geological Convention, Geoscience 2002: Expanding Horizons 67 161 July 1-5 2002 Adelaide Australia 0729-011X
02/046P	Gleadow A Lorenca M; Kohn B; Osadetz K	Application of combined apatite (U-Th)/He thermochronometry and fission track analysis on cratons: possibilities and limitations	16th Australian Geological Convention, Geoscience 2002: Expanding Horizons 67 179 July 1-5 2002 Adelaide Australia 0729-011X
02/046P	Gleadow A Weber U; Kohn B; Foster D; Nelson D	Implications of post-palaeoproterozoic thermochronological data from the precambrian northern western Australian shield	16th Australian Geological Convention, Geoscience 2002: Expanding Horizons 67 196 July 1-5 2002 Adelaide Australia 0729-011X
02/046P	Gleadow A Brown R; Cockburn H; Kohn B; Belton D; Fink D; Summerfield M	Combining low temperature apatite thermochronology with cosmogenic isotope analysis in long-term landscape evolution studies	International Workshop on "Fission-track Analysis: Theory and Applications" 4 40-41 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Carter T; Kohn B; Foster D; Belton D; Woodhead J	Low temperature thermochronology of metamorphic core complexes: case studies from the Basin and Range Province, south western USA	International Workshop on "Fission-track Analysis: Theory and Applications" 4 45-46 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
02/046P	Gleadow A Kohn B; Foster D; Farley K	Low temperature thermochronology of apatites with exceptional compositional variations: the Stillwater complex, Montana revisited	International Workshop on "Fission-track Analysis: Theory and Applications"4 103-105 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Lorencak M; Kohn B; Osadetz K	An enigmatic profile from a 3440m deep drill hole in the southern Canadian shield: results from apatite fission track and (U-Th)/He thermochronometry	International Workshop on "Fission-track Analysis: Theory and Applications"4 117-118 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Lorencak M; Kohn B; Belton D; Woodhead J	Combined apatite fission track and (U-Th)/He thermochronometry on a shield: a case study from southern Finland	International Workshop on "Fission-track Analysis: Theory and Applications"4 119-120 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Raab M; Brown R	Palaeogeothermal gradient and denudation rate estimates from the Brandberg complex, Namibia	International Workshop on "Fission-track Analysis: Theory and Applications"4 129-132 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Weber U; Kohn B; Foster D; Nelson D	Post-palaeoproterozoic thermochronology of the precambrian northern Western Australia shield	International Workshop on "Fission-track Analysis: Theory and Applications"4 167-169 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172
02/046P	Gleadow A Osadetz K; Kohn B; Feinstein S; Price R	Constraining foreland belt thermal history using apatite fission track thermochronology and organic maturity: implications for Lewis Thrust, Flathead Fault and Waterton Gas Field in the Southern Canadian Cordillera	Amer. Assoc. Petrol. Geol. – Institut Francais du Petrole Hedberg Research Conference, In Roure, F. and Swennen, R. (eds.), Deformation History, Fluid Flow Reconstruction and Reservoir Appraisal in Foreland Fold and Thrust Belts 37a-37d May 14-18 2002 Palermo-Mondello, Italy
02/046P	Gleadow A Kohn B; Green P	Low temperature thermochronology: from tectonics to landscape evolution	Tectonophysics 349 365 2002
02/046P	Gleadow A Raab M; Brown R; Gallagher K; Carter A; Weber K	Late cretaceous reactivation of major crustal shear zones in northern Namibia: constraints from apatite fission track analysis	Tectonophysics 349 75-92 2002
02/113P	Rowe C Katsifis A; Bradshaw J; Saling M; Hopwood M; Merory J; Woodward M	¹²³ I- bc IT SPECT for the diagnosis of diffuse lewy body disease	ANZ Nuclear Medicine 33 June 2002
PGRA	Funston A	Donor-acceptor compounds as models for radiation activated prodrugs	PhD Thesis 2001
PGRA	Funston A McFadyen D; Tregloan P	A pulse radiolysis study of the rate of ligand dissociation from mixed ligand cobalt(II) complexes	J. Chem. Soc., Dalton Trans., 2053-2060 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
PGRA	Gleadow A	Adapting Dodson's (1973) equation to fission track analysis: insights into the process of annealing in apatite	International Workshop on "Fission-track Analysis: Theory and Applications" 4 27-29 June 4-7 2002 El Puerto de Santa Maria (Cadiz) 1576-5172

The University of New England

95/R138	Haworth R	Changes in Mangrove/salt marsh distribution in the Georges River estuary, southwest Sydney from 1930 to the present	Institute of Australian geographers Conference, the University of Sydney 67 1999
95/R138	Haworth R Gale S	The late Quaternary sedimentation history of upland lakes in northern New South Wales	Institute of Australian Geographers Conference, University of Notre Dame, Fremantle 38 1998
95/R138	Haworth R	Reconstructing the history of environmental change from multiple lines of evidence from lake sediments in eastern Australia	Linking the Past with the Future Conference. SHES, UNE 86-103 1998 Armidale Australia
97/014R	Morwood M Hobbs D	The archaeology of Kimberley art	In G.L. Walsh (ed), Bradshaw art of the Kimberley. Nowan kas Publications, Takarakka Rock Art Research Centre. 34-37 2000
97/014R	Morwood M Walsh G	Spear and spearthrower evolution in the Kimberley region, NW Australia: evidence from rock art	Archaeology in Oceania 34(2) 45-59 1999
97/014R	Morwood M Watchman A; Walsh G; Tuniz C	AMS radiocarbon age estimates for early rock paintings in the Kimberley, NW Australia: preliminary results	Rock Art Research 14(1) 18-26 1997
97/014R	Morwood M Roberts R; Walsh G; Murray A; Olley J; Jones R; et al	Luminescence dating of rock art and past environments using mud-wasp nests in northern Australia	Nature 387 696-699 1997
99/114	Grave P Barbetti M; Hotchkis M; Bird R	Assessing bioturbation in archaeological sediments using soil morphology and phytolith analysis	J. Archaeol. Sci. 26(10) 1239-1248 2001
00/063P	Haworth R	Changes in mangrove/salt marsh distribution in the Georges River estuary, southern Sydney, 1930-1970	Wetlands (Australia) 20(2) 80-103 2002 0725-0312
01/209	Grave P Barbetti M	Dating the city wall, fortifications and palace site at Pagan	Asian Perspectives (Special Burma Issue) 40 2002
PGRA	Blair N	The effects of crop rotation and plant residues on soil structure	17th World Congress of Soil Science, Symposium 3 CD Rom August 14-21 2002 Bangkok Thailand
PGRA	Blair N Faulkner R; Till A; Prince K	Use of labelled plant residues to study the impact of residue incorporation on soil carbon and aggregation	International Symposium on Nuclear Techniques in Intergrated Plant Nutrient, Water and Soil Management. FAO of UN & IAEA 460-461 October 16-20 2000

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
The University of New South Wales			
98/069	Martin H Robbie A	The history of the vegetation from the palynology of Mountain Lagoon, Blue Mountains, New South Wales	Hons B.Sc, Univesrity of NSW 1998
99/074	Keevers M Altermatt P	Experimental investigation of the impact of junction space-charge-region recombination in heavily defected parallel multijunction thin film silicon solar cells	16th European Communities Photovoltaic Solar Energy Conference CD Rom May 1-5 2001 Glasgow United Kingdom 1-902916-18-2
00/021P	Burford R Shirodkar B	Interpenetrating polymer networks based on a thermoplastic elastomer, using radiation techniques	Radiat. Phys. Chem. 62 (1) 99-105 2001 0146-5724
00/072	Hutchison W Chaplin D; Harker S; Bowden G	An NMRON study of magnetically ordered (^{166m} Ho)HoF ₃	Hyperfine Interact. 136/137 307-312 2001 0304-3834
00/109P	Milthorpe B Miao X; Ruys A	Bone bonding to hydroxyapatite ceramics	ESB 2001 503 September 2001 London
00/109P	Milthorpe B Miao X; Ruys A	Hydroxyapatite-316L fibre composites prepared by vibration assisted slip casting	J. Mater. Sci 36 3323-3332 2001
00/113	Munroe P Ford S; Young D	The development of aligned precipitates during internal carbonitridaton of Fe-Ni-Cr alloys	Materials at High Temperatures 17 279-286 2000
00/113	Munroe P Ford S; Young D	Microstructural analysis of carbonitrided austenitic steels	Micron 32 817-824 2001
00/125	Pitney M Angelides S; Hetherington E; Karolis C; Walker B; Jackson T; Knittel T; Friend C; et al	Radiation absorbed doses in the event of balloon rupture during endovascular brachytherapy using ¹⁸⁸ Re-perrhenate	Nuclear Medicine Communications 21 473 2000
00/125	Pitney M Karolis C; Jepson N; Knittel T; Walker B; Milross C; Lonergan D; et al	Radiation exposure associated with the use of ¹⁸⁸ Re to prevent recurrent in-stent restenosis	Radiation and Oncology 56 S218 2000
00/125	Pitney M Jepson N; Karolis C; Milross C; Lonergan D; Angelides S; Friend C; Knittel T; Allan R	Radiation safety associated with adjunctive coronary irradiation using ¹⁸⁸ Re to prevent recurrent in-stent restenosis	J Invas Cardiol 12 56-57 2000
00/144	Stewart G Harker S; van Dijk B; Mulders A; Gubbens P; de Vroege C; Buschow K	Crystal fields and magnetic interactions in TmT ₂ Si ₂ (T = Co, Ni, Cu)	J. Phys.: Condens. Matter 14 2705-2714 2002 0953-8984
00/188S	Melville M Fisher A; Fink D	Unravelling the landscape evolution of stony deserts with cosmogenic nuclides	The 2002 Western Pacific Geophysics Meeting 17 July 9-12 2002 Wellington

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
00/188S	Melville M Fisher A; Chappell J; Fink D	Using <i>in-situ</i> cosmogenic ^{10}Be and ^{26}Al concentrations to unravel the evolution processes of Australian stony deserts	7th Australasian Conference on Isotopes in the Environment 17 September 24-26 2001 Robertson Australia
01/058	Gooding J Lolic D; Shapter J	Atomically flat gold for biomolecule immobilisation and imaging	Aust. J. Chem., 54 643-648 2001
01/076	Hutchison W Chaplin D	Recent trends in low temperature nuclear orientation and NMRON	Hyperfine Interact. 136/137 239-252 2001 0304-3834
01/105	Milthorpe B Wei T; Miao X; Ruys A	Strength of bone - hydroxyapatite ceramic constructs <i>in-vivo</i> transactions	28th Annual Meeting Society For Biomaterials, Published by Society for Biomaterials, St Paul-Minneapolis, USA 401 24-27 April 2002 Tampa Florida
01/132	Sorrell C Bak T; Nowotny J; Prince K; Rekas M	Grain boundary diffusion of magnesium in zirconia	J. Am. Ceram. Soc. 85(9) 2244-2250 2002
01/201	Burford R Markotsis, M	IPNs of thermoplastic elastomers formed using gamma irradiation	25th Australian Polymer Symposium A3/1 February 2002 Armidale Australia
02/018	Campbell S Schmidt M	<i>In-situ</i> neutron diffraction study (300-1273 K) of non-stoichiometric strontium ferrite SrFeO_x	J Physics and Chemistry of Solids 63 2085-2092 2002

The University of Newcastle

99/066	Colhoun E Anker S; Barton C; Peterson M; Barbetti M	Holocene vegetation, palaeoclimatic and palaeomagnetic history from Lake Johnston, Tasmania	Quaternary Res. 56 264-274 2001
00/122	Pearson S Searson M	High resolution data from Australian trees	Aust. J. Bot., 50 431-439 2002
PGRA	Rae F Bridgman H; Cohen D; Paatero P	Assessing sources of fine particles($\text{PM}_{2.5}$) at Cape Grim, Australia using chemistry and meteorology	Joint International Symposium on Atmospheric Chemistry within the Earth System: from regional pollution to global change 91 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
-------	------------------------------------	----------------------	-----------

The University of Queensland

98/144R	Lourandos H David B	Long-term archaeological and environmental trends: a comparison from late Pleistocene-Holocene Australia	In Kershaw P, David B, Tapper N, Penny D and Brown J (eds) Bridging Wallace's Line; The environmental and cultural history and dynamics of the SE-Asian-Australian Region. Advances in Geology 34, CATENA VERLAG, Reiskirchen 307-338 2002 Germany
00/067	Hill D Clough R	Radiation chemistry of polymers, Preface	Radiat. Phys. Chem. 62 1 2001
01/071	Hill D Forsythe J; Whittaker A	Solid state ¹⁹ F NMR determination of new structure formation in FEP following radiolysis at 300 and 363 K	Radiat. Phys. Chem. 60 439-444 2001
01/071	Hill D Gleason K; Lau k; Mohajerani S; Whittaker A	The use of ¹⁹ F NMR for new structure determination in the radiolysis of FEP	J. Nucl. Instr. Meth. Phys. Res 185 83-87 2001
01/071	Hill D Alexander M; Connell J; Watson K	A study of the vacuum gamma-radiolysis of two aromatic polyimide fluoropolymers containing phenylphosphine oxide	High Perform. Polym 13 67-78 2001
01/071	Hill D Alexander M; Connell J; Watson K	A study of the oxidation of two aromatic polyimide fluoropolymers containing phenylphosphine oxide by a water plasma and gamma-radiolysis in air	High Perform. Polym 13 55-65 2001
01/071	Hill D Alexander M; Le T; Connell J; Watson K	The behaviour of phenylphosphine oxide containing polyimides in a water plasma following gamma-radiolysis	Radiat. Phys. Chem. 62 171-177 2001
01/071	Hill D Choi B; Ahn H; Choi E	An ESR study of the gamma radiolysis of aromatic polyesters containing isomeric naphthalene links	Radiat. Phys. Chem. 62 195-201 2001
01/071	Hill D Zainuddin; Le T	ESR study on gamma-irradiated poly(vinyl alcohol)	Radiat. Phys. Chem. 62 283-291 2001
01/071	Hill D Devasahayam S; Connell J	A comparative study of the radiation resistance of four optically transparent polyimides	Radiat. Phys. Chem. 62 189-194 2001
01/071	Hill D Cardona F; George G; Maeji J; Rasoul F; Perera S	Thermal characterization of copolymers obtained by radiation grafting of polystyrene onto poly(tetrafluoroethylene-perfluoropropylvinylether) substrates: thermal decomposition, melting behaviour and low temperature transitions	Radiat. Degrad. Stabl 74 219-227 2001
01/071	Hill D Dargaville T; Whittaker A	An ESR study of irradiated poly(tetrafluoroethylene-co-perfluoropropylene) (PFA)	Radiat. Phys. Chem. 62 25-31 2001

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/071	Hill D Preston C; Salsbury D; Whittaker A	Molecular weight studies and scission and crosslinking in poly(dimethylsiloxane) on gamma radiolysis	Radiat. Phys. Chem. 62 11-17 2001

The University of Sydney

93/016	Kennedy B Dillon C; Elcombe M	The electrochemically formed palladium - deuterium system. II. <i>In-situ</i> neutron diffraction studies	Aust. J. Chem., 46 681-692 1993
93/016	Kennedy B Bolzan A; Fong C; Howard C	Powder neutron diffraction study of pyrolusite, b-MnO₂	Aust. J. Chem., 46 939-944 1993
93/016	Kennedy B Facer G; Howard C	Structure refinement and calculated x-ray powder data for the pyrochlore Y ₂ Sn ₂ O ₇ derived from powder neutron data	Powder Diffraction 8 245-248 1993
94/060	Kennedy B Fong C; Elcombe M	A powder neutron diffraction study of lambda and gamma manganese dioxide and of LiMn ₂ O ₄	Zeit. Kristallogr., 209 941-945 1994
94/111	Lindoy L Bishop M; Thorn-Seshold O; Piltz R; Turner P	A supramolecular assembly containing an unusually short N-H...N hydrogen bond - an x-ray and neutron diffraction study	J. Heterocyclic Chem 38 1377-1382 2001
94/111	Lindoy L Armstrong R; Atkinson I; Carter E; Mahinay M; Skelton B; Turner P; Wei G; White A	Self-assembly directed by NH-O hydrogen bonding: new layered molecular arrays derived from 4- <i>tert</i> -butylbenzoic acid and aliphatic diamines	Proc. Nat. Acad. Sci 99(8) 4987-4992 2002
94/111	Lindoy L Dong Y	New macrocyclic ligands. XIII. Single-ring and tri-linked macrocyclic systems derived from selectively protected cyclam	Aust. J. Chem., 54 291-297 2001
95/017	Kennedy B Kennedy S; Wu E; Kisi E; Gray E	Ordering of deuterium in PdD _{0.65} at 54K	J. Phys.: Condens. Matter 7 L33-L40 1995
95/017	Kennedy B Bolzan A; Howard C	A neutron powder diffraction study of molybdenum and tungsten dioxides	Aust. J. Chem., 48 1473-1477 1995
97/030	Kennedy B	Neutron powder diffraction study of Sr ₂ SnO ₄ and Ba ₂ SnO ₄	Aust. J. Chem., 50 917-919 1997
97/030	Kennedy B Kim J; Hunter B; Fenton R	Neutron powder diffraction study of lead hydroxyapatite	Aust. J. Chem., 50 1061-1065 1997
97/019R	Barbetti M Kromer B; Spurk M; Remmele S; Toniello V	Segments of atmospheric ¹⁴ C change as derived from late glacial and early Holocene floating tree-ring series	Radiocarbon 40(1) 351-358 1998
98/097P	Bourke S Lovell J; et al		Preliminary report on a Second and Third Season of Excavation by the University of Sydney at Teleilat Ghassul, Jordan

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
98/097P	Bourke S MacDonald B; et al	The chalcolithic period	Archaeology of Jordan 106-166 2001
98/097P	Bourke S Lawson E; et al	Dating the Ghassulian chalcolithic: new ¹⁴ C dates from Teleilat Ghassul	Radiocarbon 43(3) 1217-1222 2001
98/101	Fenton R Moussa S; Hunter B; Kennedy B	An investigation of the structures of metal(II) aminoacidato complexes	The Royal Australian Chemical Institute, Inorganic Chemistry Division Conference, IC'98 224 February 1998 Wollongong Australia
98/102	Kennedy B Howard C; Knight K; Kisi E	The structural phase transitions in strontium zirconate revisited	J. Phys.: Condens. Matter 12 L677-L683 2000
99/099	James J Barnes C; Whittlestone S	Radon studies in Jenolan tourist caves, New South Wales, Australia	13th International Congress of Speleology, Sociedade Brasileira de Espeleologia 51-55 July 2001 Brazil
99/107	Donlon D Williams A-M; Bennett C; Siegele R	Strontium in 19th century Australian children's teeth	Nucl. Instrum. Methods Phys. Res. B 190 453-457 2002
00/078P	Kennedy B	Cation disorder in the mixed lead bismuth oxides $A_{0.875}Pb_{0.125}B_{12}Nb_2O_9$, A = Sr, Ba	Mater. Sci. Forum 378-381 626-631 2001 0255-5476
00/078P	Kennedy B Field M; Hunter B	Structural studies of the metal-non-metal transition in Ru pyrochlores	J. Solid State Chem. 151 25-30 2000
00/078P	Kennedy B Ismunandar; Hunter B	Structural and magnetic studies of manganese containing pyrochlore oxides	Journal of Alloys and Compounds 302 94-100 2000
00/180S	Fletcher R Lwin N; Maung W	The origins of Bagan: new dates and old inhabitants	Asian Perspectives 40(1) 48-74 2001
01/045	Dragovich D Webb A; Erskine W	Cataclysmic erosion, <i>Tristanopsis laurina</i> colonisation and the late Holocene stability of Bruces Creek, Nadgee State Forest, NSW	3rd Australian Stream Management Conference 653-658 2001
01/082	Kennedy B Hunter B; Hester J	Synchrotron x-ray diffraction reexamination of the sequence of high-temperature phases in SrRuO ₃	Phys Rev B 65 224103 2002
01/109	Napper D Hidi P; Sangster D	Optimising conditions for the formation of polymer nanoparticles	25th Australasian Polymer Symposium, Polymer Division, Royal Australian Chemical Institute, University of New England A 9/2 February 10-13 2002 Armidale Australia

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/109	Napper D Hidi P; Sangster D	Light scattering by surfactant swollen PVAc latexes	25th Australasian Polymer Symposium, Polymer Division, Royal Australian Chemical Institute, University of New England PB 10 February 10-13 2002 Armidale Australia
01/194C	Larcos G Shaffi M; Hutton B; Hatton R; Kyme A; Fung V; Morris J; Katsifis A	SPECT quantification of ¹²³ I-b-CIT in Parkinsonism	32nd Annual Scientific Meeting of the Australian & New Zealand Society of Nuclear Medicine 12 4-7 May 2002 Cairns Australia
01/197S	Garvey C Clarke R; Kuchel P	A small angle scattering study of the aggregation of haemoglobin inside intact erythrocytes	25th Annual Conference of the Australian Society for Biophysics 69 2001
02/071	Kennedy B Prodjosantoso A; Hunter B	Phase separation induced by hydration of the mixed Ca-Sr aluminates Ca _{3-x} Sr _x Al ₂ O ₆ . A crystallographic study	Cement and Concrete Research 32 647-655 2002
02/071	Kennedy B Mishra S; Ranjan R; Pandey D	Neutron diffraction study of the antiferroelectric phase transition in Sr _{0.75} Ca _{0.25} TiO ₃	J. Appl Phys., 91 4447-4452 2002

University of Western Australia

00/114	Musca C White J; Antoszewski J; Dell J; Faraone L; Burke P	Temperature stability of HgCdTe n-on-p junctions formed by reactive ion etching	Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2000). IEEE Proc 81-84 2000 Melbourne Australia 0780366980
00/114	Musca C White J; Pal R; Dell J; Faraone L; Burke P	Hydrogenation of ZnS passivation for HgCdTe	Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD 2000). IEEE Proc 177-180 2000 Melbourne Australia 0780366980

University of Ballarat

01/148	Westbrooke M	Ages of cohorts of the arid woodland tree <i>Alectryon oleifolius</i>	12th Australian Rangeland Conference 5 September 2002 Katherine Australia
--------	---------------------	---	---

University of Southern Queensland

94/097	Ribbe J Tomczak M	Effect of the missing Indonesian throughflow in the fine resolution Antarctic model	American Meteorological Society 27 445-455 1997
94/097	Ribbe J Bye J; Tomczak M	First ¹⁴ C observations in waters of the Great Australian Bight	Radiocarbon 38 104-105 1996

University of Tasmania

98/111	Graham D	Molecular probes for Parkinson's disease diagnosis	Honours Thesis 1998
--------	-----------------	--	---------------------

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
98/165	McMinn A Hallegraeff G; Roberts J; Smith J; Lovell A; Jenkinson A; Heijnis H	Recent introduction of <i>Gymnodinium catenatum</i> to Port Lincoln, South Australia	In 'Harmful Algal Blooms 2000' (eds Hallegraeff GM, Blackburn SI, Bolsch CJ, Lewis Rj) Intergovernmental Oceanographic Commission of UNESCO 477-480 2000
98/165	McMinn A Heijnis H; Hallegraeff G	Ballast water transport of toxic dinoflagellates; sediment core evidence using ²¹⁰ Pb profiles in marine sediments	In Archives of Human Impact of the Last 200 years, Heijnis, H. and Harle, K. (eds), AINSE Environmental Workshop 54-58 2001 Lucas Heights Australia 0 9577217 6 5
98/165	McMinn A Heijnis H; Hallegraeff G	The use of ²¹⁰ Pb, ²²⁶ Ra and ¹³⁷ Cs profiles in marine sediments to assess the sudden occurrence of a toxic dinoflagellate species in Australian waters	7th South Pacific Environmental Radioactivity Association (SPERA) Conference 34 2002 Lucas Heights Australia
98/165	McMinn A Heijnis H; Hallegraeff G	Ballast water transport of toxic dinoflagellates; sediment core evidence using ²¹⁰ Pb profiles in marine sediments	IAEA/RCA Regional Technical Workshop on Radiometric Dating/Cysts Analysis Techniques and Receptor Binding Assay for Harmful Algal Blooms Management (C1-RAS/8/076-9009-01). (Eds Cheevaporn, V., Sombrito E.Z.) 17-23 2002
00/050	Gardner C Jenkinson A; Heijnis H	Estimating intermolt duration in giant crabs <i>Pseudocarcinus gigas</i>	In Crabs in Cold Water Regions: Biology, Management, & Economics. Publisher: Alaska Sea Grant 17-28 2002
00/169P	Yates B Graham D; Bruno R; Katsifis A; Knott R	Early diagnosis of Parkinson's disease - a realistic goal?	11th RACI 42 February 2000 Canberra Australia
01/116P	Pwa A Siegele R; Cohen D; Stelcer E; van Moort J	Proton induced x-ray emission (PIXE) and proton induced gamma ray emission analysis in geochemical exploration for gold and base metal deposits	Nucl. Instr. Meth. in Phys. Res. B 190 501-504 2002
01/156	Tuttle T	The identification of novel alpha, beta-integrin antagonists	Honours Thesis 2001

University of Technology Sydney

99/124	Skilbeck G Rolph T; Wilkens R	Millennial/centennial-scale multi-proxy cyclicity in eastern Australian estuary sediments	3rd annual meeting of IGCP Project, Coastal Environment Change during Highstands 437 September 2001 Durham UK
01/028	Caprarelli G Leitch E	Middle Palaeozoic to Triassic mantle evolution in eastern Australia as recorded by the geochemistry of	European Union of Geosciences XI 430 April 8-12 2001 France 1362-0886

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/028	Caprarelli G Leitch E	MORB-like rocks in a Palaeozoic convergent margin setting, north east New South Wales	Aust. J. Earth Sci. 49 367-374 2002 0812-0099
PGRA	Peterson V Ray A; Aldridge L	Caesium diffusivity through cemented clinoptilolite	J. Aust. Ceram. Soc., 1(37) 121-126 2001

University of Western Sydney

00/042	Doolan K	Nuclear magnetic relaxation in polyolefin resins	Journal of Polymer Science Part B: Polymer Physics 40(6) 572-584 2002
00/197	Ng L Garnett J; Nguyen D; Swami S; Zilic E	CT complexes in radiation polymerisation processes including grafting, curing and hydrogel formation	Radiat. Phys. Chem. 63 459-463 2002 0146-5724
01/113P	Osman F Hora H; Castillo R; Collins M; Gardener T; Chan W; et al	Laser-generated pair production and Hawking-Unruh radiation	Laser & Particle Beams 20 79 2002
01/113P	Osman F Hora H; Hopfl R; Badziak J; Parys P; Wolowski J; Woryna E; Boody F	Skin depth theory explaining anomalous picosecond-terawatt laser plasma interaction	Czechoslovak Journal of Physics 52 D349 2002

University of Wollongong

95/R147	Roberts R Turney C; Bird M; Fifield L; Smith M; et al	Early human occupation at Devil's Lair, south western Australia 50,000 years ago	Quaternary Res. 55 3-13 2001
98/129	Dou S Babic E; Kusevic I; Marinaro D; Boldeman J; Weinstein R	Vortex pinning by fission tracks in ²³⁵ U doped Ag/Bi2223 tape	Solid State Comm. 118(12) 607-610 2001
98/130	Dou S Milliken D; Ahn J	Phase formation and thermal treatment optimisation in uranium compound doped (Bi,Pb) ₂ Sr ₂ Ca ₂ Cu ₃ O _x /silver superconducting tapes	Physica C 354 183-188 2001
98/133	Calka A Wexler D; Stevenson A	X-ray analysis of nanostructural materials made by reactive ball milling: the effect of wavelength on signal to background ratio	Mater. Sci. Forum 343-346(2) 649-656 2000
00/132P	Rozenfeld A Orion I; Dilmanian F; Zhong Z; Henn A; Sagi I; Peña L	Simulations for x-ray synchrotron beams using the EGS4 code system in medical applications	Advanced Monte Carlo for Radiation Physics, Particle Transport Simulation and Applications, ed Kling, Barao, Nakagawa, Tavora and Vaz 93-98 2001
01/015P	Liu H Wang C; Zhong S; Bradhurst D; Dou S	Ni/Al/Co-substituted alpha-Ni(OH) ₂ as electrode materials in the nickel metal hydride cell	J. Alloys and Compounds 330-332 802-805 2002

Chief	Chief Investigator (Co-Authors)	Title of Publication	Reference
01/107	Murray-Wallace C Pasveer J; Clarke S; Miller G	Late Pleistocene human occupation of inland rainforest, Bird's Head, Papua	Archaeology in Oceania 37 92-95 2002
01/108	Nanson G Cohen T	Late Holocene floodplain processes and post-European channel dynamics in south-eastern Australia	PhD Thesis 2002
01/155	Woodroffe C Baumber A	Holocene infill and evolution of Lake Wollumboola, a saline coastal lake on the New South Wales south coast	Honours thesis 2001

Performance Indicators for AINSE

- Objective (1):** to provide a mechanism for users in member organisations of AINSE to have access to major nuclear science and engineering and associated facilities at ANSTO and other agreed sites for research purposes (for example, meet an acceptable level of the Universities' demand for access to such facilities.)

Key Performance Indicator KPI(1)

Percentage of the demand for access to facilities and services required by the Universities which is met through the AINSE awards.

where:

- "demand" is determined by the number of eligible projects applying for AINSE Awards.
- [The number of eligible projects is determined by the number of applications for AINSE Awards after ineligible projects (as specified in the guidelines for preparing applications) have been taken out by the Secretariat.]
- "facilities and services required by the Universities" is the list recommended by the AINSE Specialist Committees and approved by Council (the list is published each year in the Guidelines for preparing AINSE Award applications).
- "Universities" is taken to include all higher education institutions which are members of AINSE.

KPI(1) = (Number of AINSE Awards for use of LHSTC facilities and services) divided by (number of eligible applications requesting use of LHSTC facilities and services) expressed as a percentage.

Year	1995	1996	1997	1998	1999	2000	2001	2002
No. of applications	228	248	247	172	175	233	245	249
No. of awards	201	207	201	147	159	201	203	204
KPI(1)	88%	83%	81%	80%	91%	86%	82%	82%
KPI(1) (excl. RIEF)	69%	64%	66%	86%	91%	86%	82%	82%

Note: KPI(1) reflects to a large extent AINSE's policy of providing some support for every worthy project without disadvantaging the best projects by under-funding them. It assumes that the AINSE Awards are sufficient to achieve meaningful research outcomes in all cases. The AINSE Specialist Committees, in particular, have the responsibility of ensuring that all projects recommended for support are "worthy". That is, they satisfy AINSE as to their high scientific merit, their scientific and technical feasibility, and the adequacy of plans, personnel and resources for their execution (ref: Guidelines for the preparation of applications for AINSE Awards, Section 5). The Council has the ultimate responsibility for ensuring all Specialist Committees maintain these standards. The inclusion of projects funded under the RIEF Program should possibly be excluded since RIEF Grants are for developing research infrastructure. These Grants are included in the KPI for Objective 4.

Other Performance Indicators for Objective 1:

Number of applications and Awards as a percentage of the number of member universities (including RIEF funded grants)

Year	1995	1996	1997	1998	1999	2000	2001	2002
No. of universities	31	34	36	35	36	36	37	37
Applications/uni	7.4	7.3	6.9	6.9	4.9	6.4	6.7	6.7
Awards/uni	6.5	6.1	5.6	5.0	4.4	5.5	5.5	5.4

- Objective (2):** to facilitate graduate and undergraduate education and training experience utilising major nuclear science and technology facilities at ANSTO and other agreed sites (for example, make a significant contribution to postgraduate training in nuclear science and technology.)

Key Performance Indicator KPI(2)

The number of University students awarded AINSE Postgraduate Research Awards as a percentage of those applying.

where:

Number of postgraduate students is determined by the number of eligible applications for AINSE PGRAs.

KPI(2) = (Number of University students awarded AINSE APRAs) divided by (Number of University students applying for AINSE APRAs) expressed as a percentage.

Note: Many other postgraduate and Honours Year students gain training experience through AINSE Awards to their supervisors but the degree of training is varied (significant supervision and training from qualified staff at the facilities is not guaranteed when students use the facilities and services) and the outcomes unknown. Expenditure on the undergraduate AINSE Winter School at ANSTO program is small in comparison with the AINSE PGRA scheme. The prime objective of the program is to encourage more students to undertake postgraduate education - which should be reflected in the number of future applications for AINSE PGRAs. The AINSE Postgraduate Research Award provides about the only measure of performance and outcome (ie: a PhD having a significant content of nuclear science and technology).

Year	1995	1996	1997	1998	1999	2000	2001	2002
No. of PGRA applications	14	13	13	23	23	39	22	43
No. of PGRAs awarded	4 + 2*	6 + 3*	6 + 2*	6 + 2*	8 + 1*	17	12	11
KPI(2)	43%	69%	62%	35%	39%	44%	54%	26%

Note*: Special graduate student awards without stipend

Other Performance Indicators

The number of University students awarded AINSE Postgraduate Research Awards per member university of AINSE.

Year	1995	1996	1997	1998	1999	2000	2001	2002
No. of universities	31	34	36	35	36	36	37	37
Applications/uni	0.45	0.38	0.36	0.66	0.64	0.61	0.59	1.2
PGRAs/uni	0.19	0.26	0.22	0.23	0.25	0.33	0.32	0.30

The total number of students completing PhD theses who have used facilities and services made available through AINSE.

3. Objective (3): to encourage collaboration and cooperation between member organisations of AINSE in areas primarily related to nuclear science and engineering and their applications, for example, the number of meaningful collaborations arising from AINSE-supported projects.

Note: Meaningful collaborations can be measured by the number of joint publications, however, unless AINSE has been provided with a copy of the publication it is not always possible to identify the affiliations of the authors. It is intended to seek this information in the future by means of the annual Progress Reports. In the interim, since the main purpose of Objective (3) is to encourage collaborations between University researchers and ANSTO staff, a measure of collaboration (of a sort) can be obtained from the number of collaborative projects identified from application forms for AINSE Awards.

Key Performance Indicator KPI(3)

Interim KPI(3) = (Number of collaborative awards each year) divided by (Total number of AINSE supported awards) expressed as a percentage.

Where:

"collaborative awards" refers to AINSE Awards involving ANSTO and university staff as joint investigators.

Year	1995	1996	1997	1998	1999	2000	2001	2002
Collaborative awards	115	124	135	137	122	136	139	147
Total no. of awards	201	207	201	174	159	201	203	204
KPI(3)	57%	60%	67%	79%	77%	68%	68%	72%

Note: This indicator can be "forced" by giving preference to AINSE Awards that are collaborative - which is a condition in the case of RIEF grants for AMS projects and for use of the SIMS.

Future performance indicator for objective 3

Number of papers naming ANSTO and university staff as joint authors published in refereed journals and conferences with ISBN numbers, etc. expressed as a percentage of Awards and PGRAs.

4. **Objective (4):** to sustain and support the development of major nuclear science and technology facilities at ANSTO and other agreed sites for shared use by member organisations of AINSE (for example, funds raised for the development of facilities).

Key Performance Indicator KPI(4)

Funds raised for constructing and developing major nuclear science and technology facilities in Australia accessible to member organisations through AINSE expressed as a percentage of AINSE membership subscriptions.

Where:

"Funds" in this context means grants from external sources (such as LIEF Grants) paid into the AINSE bank account. It excludes the value of in-kind contributions and funds administered through member organisations. It also excludes joint ANSTO/University Large Grants (for research equipment at ANSTO) originating from AINSE/ANSTO collaborations, etc. In the future, it will include contributions from the Long Term Projects Reserve.

KPI(4) = Total value of external grants for constructing and developing major facilities divided by annual membership subscriptions from ANSTO and the universities (expressed as a percentage).

Year	1995	1996	1997	1998	1999	2000	2001	2002
External grants	\$ 445,000	\$ 795,000	\$610,000	\$600,000	\$496,864	\$1,276,770	\$250,292	\$250,361
Subscriptions	\$1,430,700	\$1,470,600	\$1,638,300	\$1,719,300	\$1,795,700	\$1,876,077	\$1,919,754	\$1,958,539
KPI(4)	31 %	54 %	37%	35%	28%	68%	13%	13%

5 Overall Performance Indicator

The tangible benefits (expressed in financial terms) received by member universities of AINSE in return for membership subscriptions paid.

The indicator that has been used for many years by AINSE is the benefit/subscription ratio for determining subscriptions each year. This indicator incorporates the expenditure by AINSE in support of all activities undertaken by the universities under Objectives 1) to 4). It includes some measure of efficiency on a year to year basis in as much as AINSE does not generally pay ANSTO or the service provider until the access to facilities (or the results of sample analyses, etc.) have been provided. Since it does not reflect actual time on facilities or actual samples measured etc., it relies on the Specialist Committees, the Executive Committee and ultimately, Council, to ensure that the costs for use of facilities etc. are acceptable to the universities. It also incorporates decisions on how AINSE income is spent. For example, money spent on developing facilities at ANSTO is considered as a benefit shared equally between all universities.

AINSE KPI = Sum of [(Actual expenditure on AINSE Awards) + (Expenditure on Fellowships and PGRAs) +(expenditure on conference subsidies) + (expenditure on development of facilities)] divided by (Total Subscriptions paid by Universities).

Excluded from the KPI is expenditure on all administrative functions such as Secretariat operations (including salaries and superannuation), Council and committee meetings, conference management, publications and promotions, funds transferred to reserves, etc.

Note: Many of the activities excluded from the KPI, such as Council meetings and publications, provide useful outcomes including networking and dissemination of knowledge. However, these outcomes are not easy to quantify and do not provide Councillors with tangible evidence that membership subscriptions are justified. They are therefore excluded. There is a strong incentive to keep administrative costs down.

The latest figures for this index are reproduced below.

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
AINSE KPI	2.67	2.75	3.86	3.35	3.53	3.05	3.23	3.39	3.61
KPI (without RIEF)	2.08	2.17	2.29	1.83	1.99	2.10	2.23	2.78	3.04
5 year average	2.96	2.91	3.15	3.16	3.24	3.32	3.41	3.31	3.36

Note: The 5 year average for each university is used for determining its membership subscription and relates to the preceding 5 years.

An acceptable benefit subscription ratio is 3.00 : 1.

The benefit subscription ratio should not be less than 2.00 : 1.

UNIVERSITY CODES

Code	University	Code	University
ACU	Australian Catholic University	MUR	Murdoch University
ADE	The University of Adelaide	NCT	The University of Newcastle
AKL	The University of Auckland	NSW	The University of New South Wales
ANS	ANSTO	NTU	Northern Territory University
ANU	The Australian National University	QLD	The University of Queensland
BAL	University of Ballarat	QUT	Queensland University of Technology
CBR	University of Canberra	RMI	RMIT University
CQU	Central Queensland University	SCU	Southern Cross University
CSU	Charles Sturt University	USQ	University of Southern Queensland
CUR	Curtin University of Technology	SWI	Swinburne University of Technology
DEA	Deakin University	SYD	The University of Sydney
ECU	Edith Cowan University	TAS	University of Tasmania
FLI	Flinders University	UNE	The University of New England
GRI	Griffith University	USA	University of South Australia
JAM	James Cook University	UTS	University of Technology Sydney
LAT	La Trobe University	UWA	The University of Western Australia
MAC	Macquarie University	UWS	University of Western Sydney
MEL	The University of Melbourne	VIC	Victoria University
MON	Monash University	WOL	University of Wollongong

Specialist Committees

ACC	Accelerator Science
AMS	Accelerator Mass Spectrometry
BIO	Radiopharmaceuticals & Neutron Irradiation
ENG	Engineering, Materials & Nuclear Technology
ENV	Environmental Science & Becquerel
NS	Neutron Scattering
PLA	Plasma Fusion
RAD	Radiation including ARL & Auckland
AGS	Archaeology and Geosciences
BSB	Biomedical Science and Biotechnology
ENG	Materials Engineering
ENV	Environmental Science
NS	Materials – Structures and Dynamics