

Section 2

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Introduction

The Australian Institute of Nuclear Science and Engineering (AINSE) was established in 1958 to provide a mechanism for access to the special facilities at Lucas Heights by researchers at Australian universities and other tertiary institutions and to provide a focus for cooperation in the nuclear scientific and engineering fields. In 2008 AINSE Limited was registered with ASIC and took over the operations of The Australian Institute of Nuclear Science and Engineering Inc in January 2010. The Australian Institute of Nuclear Science and Engineering Inc was wound up in mid 2010.

AINSE has a specific mandate to arrange for the training of scientific researchers in the nuclear research techniques applicable to the research facilities at ANSTO. It achieves this aim through a number of programs: Research Awards, Research Fellowships, Postgraduate Top-up scholarships, Honours Scholarships and a number of regular conferences.

Today, nuclear science at the Australian Nuclear Science and Technology Organisation (ANSTO) is devoted to supporting activities and research in a wide range of disciplines. These have applications in advanced technology, manufacturing, mining, agriculture, medicine and environmental protection. All are of vital importance to Australia's future. Many of the techniques and much of the expertise at Lucas Heights cannot be found elsewhere in Australia.

AINSE plays an indispensable role in providing universities with access to major scientific facilities and encouraging a national cooperative research effort. It is a role that is conducted both efficiently and cost effectively. Universities are saved from duplicating expensive items of equipment and Commonwealth funding can be directed at one national facility instead of several with sub-critical funding.

Mission

AINSE will advance research, education and training in the field of nuclear science and engineering and related fields within Australasia by being, in particular, the key link between universities, ANSTO, other member organisations and major nuclear science and associated facilities.

Goals

To achieve this vision AINSE will implement strategies in the following key areas:

- access to major facilities
- scientific outcomes
- membership
- networking
- excellence in impact

We will know that we have achieved this vision when the following goals are attained:

- **Goal 1**
By the end of 2013, members will be making appropriate and effective use of the facilities at ANSTO.
- **Goal 2**
By the end of 2013, AINSE's research performance will have increased by 10% on the 2008 performance as measured by the number of high quality publications.
- **Goal 3**
By the end of 2013, all universities active in scientific research in Australasia and a number of other scientific institutes in Australasia will be members of AINSE.
- **Goal 4**
By the end of 2013, AINSE's scientific networks will have expanded.
- **Goal 5**
By the end of 2013, AINSE will be making a substantial contribution to highly rated research groups at universities and at ANSTO.

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Managing Director

Dr Frank Bruhn

ABN 18 133 225 331

AINSE Council 2012

Member Organisations and Representation at Council

One Council Meeting was held in 2012

Organisation	Membership Commenced	Councillor	Meetings Attended
ANSTO, Bragg Institute	1958	Dr Robert Robinson	1
ANSTO, Institute for Environmental Research		Professor John Dodson	1
ANSTO, Institute for Materials Engineering		Professor Lyndon Edwards	1
The University of Queensland	1958	Professor Ian Gentle	1
The University of New England	1958	Professor Annabelle Duncan	0
The University of Sydney	1958	Professor Brendan Kennedy, President	1
The University of New South Wales	1958	Professor Rob Burford	1
The Australian National University	1958	Professor Keith Fifield	1
The University of Melbourne	1958	Professor Jim Camakaris	0
University of Tasmania	1958	Professor Allan Canty	0
The University of Adelaide	1958	Professor John Carver	1
The University of Western Australia	1958	Dr Pauline Grierson	1
Monash University	1961	Professor Rob Norris	1
The University of Newcastle	1965	Professor Bruce King	0
Flinders University	1966	Professor Claire Lenehan	1
La Trobe University	1966	Dr Peter Kappen	0
Macquarie University	1966	Professor James Piper	0
James Cook University	1970	A/Professor Scott Smithers	1
University of Wollongong	1975	Professor Allan Chivas	1
Griffith University	1975	Professor Greg Hope	0
Murdoch University	1985-1997 rejoined 1998	Dr Danielle Meyrick	0
University of Technology Sydney	1988	Professor Greg Skilbeck	0
RMIT University	1988	Professor Suresh Bhargava	0
Curtin University of Technology	1989	Professor Craig Buckley	1
Central Queensland University	1991	A/Professor David Druskovich	0
University of South Australia	1991	Professor Namita Choudhury	0
Swinburne University of Technology	1991	Professor Elena Ivanova	1
Queensland University of Technology	1992	A/Professor Godwin Ayoko	1
University of Western Sydney	1993	Professor Andrew Cheetham	1
Victoria University	1994	Professor Michelle Towstolless	0
Southern Cross University	1994	Professor Bill Boyd	1
The University of Auckland	1995	Professor Jim Metson	0
Charles Sturt University	1995	A/Professor Ian Lunt	0
Charles Darwin University	1995	Professor Jim Mitroy	1
Edith Cowan University	1996	Professor Stephen Hinckley	1
University of Canberra	1996	Professor Bill Maher	1
The University of Southern Queensland	1996	Professor Joachim Ribbe	1
Deakin University	1997	Professor Lee Astheimer	0
University of Ballarat	1997	Professor Peter Gell	1
Australian Catholic University	2001	Dr Brian Bicknell	0
University of Canterbury	2005	A/Professor Greg Russell	1

Organisation	Membership Commenced	Councillor	Meetings Attended
GNS Science	2005	Dr Christopher Daughney	0
University of Otago	2007	Professor Gary Wilson	1
University of the Sunshine Coast	2010	Professor John Bartlett	1
CSIRO	2010	Dr Patrick Hartley	1
Victoria University of Wellington	2010	Professor Charles Daugherty	0
The Australian Synchrotron	2010	Professor Keith Nugent	0
The University of Waikato	2011	Professor Graham Saunders	1
AINSE		Dr Dennis Mather, Managing Director	1

Alternate Representatives and other attendees

AINSE (part-time staff member until commencement as Managing Director)	Dr Frank Bruhn	1
ANSTO, Life Sciences	Dr Marie-Claude Gregoire	1
University of Technology, Sydney	Dr Stella Valenzuela	1
Edith Cowan University	A/Professor Stephen Hinckley	1
La Trobe University	Dr Andrew Herries	1
The University of Melbourne	Professor Damian Myers	1
University of New England	Dr Peter Grave	1
Macquarie University	A/Professor Robert Willows	1
RMIT University	Professor Gary Bryant	1
Victoria University	Professor Stephen Bigger	1
Victoria University of Wellington	Professor Ben Ruck	1

AINSE Board

Four Board Meetings were held in 2012

Executive Member	Office/Position	Organisation	Meetings Attended
Professor Brendan Kennedy	President	The University of Sydney	4
Professor Bruce King		University of Newcastle	4
Professor Lee Astheimer		Deakin University	3
Dr Robert Robinson		ANSTO	4
Professor Lyndon Edwards		ANSTO	3
Professor John Dodson		ANSTO	2
Dr Dennis Mather		AINSE	2
Dr Frank Bruhn		AINSE	2
Dr Peter Coldrey		Independent Director	2
Ms Roslyn Hatton		Independent Director	2

AINSE Staff

Managing Directors Dr Dennis Mather (until June 2012) and Dr Frank Bruhn (commenced 18th June 2012)

Secretariat

Ms Michelle Durant
 Ms Jorden Lickiss
 Mrs Sandy O'Connor (part-time)
 Mrs Nerissa Phillips (part-time)

Specialist Committees for 2012

The Managing Director, AINSE, is an ex-officio (non-voting) member of all Committees. Committees met in May and in October.
(a) indicates 'alternate' (c) indicates councillor

Archaeology and Geosciences Committee

Dr Paul Hesse, Convenor	Macquarie University
Professor Glenn Summerhayes	University of Otago
Professor Keith Fifield (c)	Australian National University
Dr Judith Field	The University of New South Wales
Dr Quan Hua	ANSTO
Dr John Bennett	ANSTO

Biomedical Science and Biotechnology Committee

Professor Michael Davies, Convenor	The University of Sydney
Professor Les Copeland	The University of Sydney
Dr Danielle Meyrick	Murdoch University
A/Professor Damian Myers	The University of Melbourne
Professor Pamela Sykes	Flinders University
Dr Anthonin Reilhac-Laborde	ANSTO
Dr Ben Fraser	ANSTO

Environmental Sciences Committee

Professor Peter Gell (c), Convenor	University of Ballarat
Dr Pauline Grierson	University of Western Australia
Dr Stephen Gale	The University of Sydney
Professor James Goff	The University of New South Wales
Dr Henk Heijnis	ANSTO
Dr Dioni Cendon Sevilla	ANSTO

Materials - Structures and Dynamics Committee

Professor Anton Middelberg, Convenor	University of Queensland
Professor Roland De Marco (c)	University of the Sunshine Coast
Professor Gary Bryant	RMIT University
Dr Victor Streltsov	CSIRO
Dr Peter Holden	ANSTO
Dr Shane Kennedy	ANSTO

Materials - Properties and Engineering Committee

Professor Robert Burford (c), Convenor	University of New South Wales
Professor Michael Cortie	University of Technology Sydney
Professor Roger Lewis	University of Wollongong
Dr Leigh Sheppard	University of Western Sydney
Dr David Cohen	ANSTO
Professor Lyndon Edwards	ANSTO

Other Committees

Radiation 2012

Dr Stéphanie Corde	The Prince of Wales Hospital
A/Professor Roger Martin	Peter MacCallum Cancer Centre
Dr Juergen Meyer	University of Canterbury
Dr Mark Reinhard	ANSTO
Professor Anatoly Rozenfeld	University of Wollongong
Professor Andrew Whittaker	The University of Queensland
Ms Jordan Lickiss	AINSE (Conference Coordinator)
Dr Moeava Tehei	University of Wollongong (Conference Chair)
Dr Martin Caon	Flinders University

10th AINSE-ANBUG Neutron Scattering Symposium (AANSS)

Professor Brendan Kennedy	University of Sydney
A/Professor Chris Ling	University of Sydney
Dr Lizhong He	University of Queensland
Dr Duncan McGillivray	University of Auckland
Dr John Daniels	University of New South Wales
Mr Garry McIntyre	ANSTO
Ms Jordan Lickiss	AINSE (Conference Coordinator)
Dr David Turner	Monash University (Conference Chair)

12th South Pacific Environmental Radioactivity Association Conference (SPERA)

Dr Henk Hejnis	ANSTO
Dr Timothy Payne	ANSTO
Ms Jordan Lickiss	AINSE
Mr Michael Zettinig	ANSTO
Ms Atun Zawadzki	ANSTO
Dr Emmy Hoffmann	ANSTO
Dr David Child	ANSTO

Research Fellowship Committee

Professor Richard Keene	James Cook University
Professor Allan Chivas	University of Wollongong
Professor Andrew Cheetham	University of Western Sydney
Dr Robert Robinson	ANSTO, Bragg Institute
Professor Lyndon Edwards	ANSTO
Professor John Dodson	ANSTO

Winter School Committee

Professor Thomas Millar, Convenor	University of Western Sydney
Ms Connie Banos	ANSTO
Ms Jorden Lickiss	AINSE
Ms Tina Clarence	ANSTO
Dr Tamim Darwish	ANSTO
Mr Rod Dowler	ANSTO
Dr Martin Ebert	University of Western Australia
Ms Danielle Fierro	ANSTO
Mr Robin Foy	ANSTO
Dr Ben Fraser	ANSTO
Ms Patricia Gadd	ANSTO
Dr Daniel Gregg	ANSTO
Dr Henk Heijnis	ANSTO
Dr Mihail Ionescu	ANSTO
Dr Rachel Popelka-Filcoff	Flinders University
Mr Rob Russell	ANSTO
Dr Andrew Studer	ANSTO
Dr Gordon Thorogood	ANSTO
Ms Nicole Willets	ANSTO
Ms Atun Zawadzki	ANSTO

The Australian Institute of Nuclear Science and Engineering Limited

Directors' Report

for the year ended 31 December 2012

Your Directors present their report on the Company for the financial year ended 31 December 2012.

Directors

The names of Directors in office at any time during or since the end of the year are:

Professor Brendan Kennedy
Professor Bruce King
Professor John Dodson
Professor Lyndon Edwards
Dr Robert Robinson
Dr Dennis Mather (retired 18th June 2012)
Professor Lee Astheimer
Dr Frank Bruhn (commenced 18th June 2012)
Dr Peter Coldrey (commenced 10th August 2012)
Ms Roslyn Hatton (commenced 10th August 2012)

Directors have been in office since the start of the financial year to the date of this report unless otherwise stated.

Principal Activities

The principal activity of the company during the financial year was to advance research, education and training in the field of nuclear science and engineering and related fields within Australasia by being, in particular, the key link between universities, ANSTO, other member organisations and major nuclear science and associated facilities.

The company's short-term objectives are to:

- Offer Research Grants, postgraduate top up scholarships, research fellowships, honours scholarships to people in 46 member institutions for the conduct of research principally at ANSTO.
- Organise conferences in specific areas relating to nuclear science and engineering and in related fields which utilise nuclear techniques of analysis.
- Support travel and accommodation for students and academics to present their AINSE supported research at conferences both within Australia and overseas.

The company's long-term objectives are to:

- Have members making appropriate and effective use of the facilities at ANSTO.
- Increase AINSE's research performance by 10% on the 2008 performance as measured by the number of high quality publications.
- Have all universities active in scientific research in Australasia and a number of other scientific institutes in Australasia as members of AINSE.
- Make a substantial contribution to highly rated research groups at universities and at ANSTO.
- Expand AINSE's scientific networks.

The Australian Institute of Nuclear Science and Engineering Limited

Directors' Report

for the year ended 31 December 2012

To achieve these objectives the company has adopted the following strategies:

Goal 1: Have members making appropriate and effective use of the facilities at ANSTO.

Strategies:

- AINSE will actively pursue opportunities to expand access to and foster utilisation of ANSTO's and complementary facilities.
- AINSE will promote its programs on university campuses.
- AINSE will encourage collaboration with ANSTO research teams.
- AINSE will expand its residential schools for senior undergraduates.
- AINSE will continue to develop the Research Fellowship program.
- AINSE will continue to expand and maintain the postgraduate research awards (PGRA) program.

Goal 2: Increase AINSE's research performance by 10% on the 2008 performance as measured by number of high quality publications.

Strategies:

- Measure research performance using ARC journal rankings.
- Encourage award holders, fellows and scholars to publish promptly in higher quality journals.
- Ensure that all publications arising from AINSE sponsored research are identified.

Goal 3: Have all universities active in scientific research in Australasia and a number of other scientific institutes in Australasia as members of AINSE.

Strategies:

- Actively promote AINSE in target Australasian institutions.
- Investigate opportunities for recruiting new members.
- Investigate new ways of enhancing member benefits.

Goal 4: To make a substantial contribution to highly rated research groups at universities and at ANSTO.

Strategies:

- Engage the research groups which are classified as excellent.

Goal 5: Expand AINSE's scientific networks.

Strategies:

- Develop and maintain networks including:
 - Australian Fusion Forum
 - Australian Synchrotron
 - ISIS
 - ARC funded networks
 - FASTS
 - Asia and Oceania Neutron Scattering Association

The above goals and strategies are those manifested in AINSE's Strategic Plan 2009-2013. AINSE is currently undergoing a rigorous strategic planning process, which will review how AINSE has delivered on its goals over the past five years and, importantly, set the course for AINSE moving into the future by re-defining its vision and mission. This will determine what difference AINSE will make in a changing environment and how its activities will contribute to outcomes of importance to Australasia. AINSE's annual reports from 2013 onwards will be closely aligned with these strategic elements and report on progress on an annual basis.

The Australian Institute of Nuclear Science and Engineering Limited

Directors' Report

for the year ended 31 December 2012

Information on Directors

The Directors in office at the date of this report are listed below with particulars of qualifications, experience and special responsibilities (if any).

Brendan Kennedy – President

Board Member since 2009

27 years experience in science research.

BEd, PhD

Bruce King – Board Member

Board Member since 2008

37 years experience in academia and scientific research in Australia.

BSc BE(Hons) PhD

John Dodson – Board Member

Board Member since 2008

32 years experience as an academic in Australia, New Zealand and UK.

PhD

Lyndon Edwards – Board Member

Board Member since 2008

29 years experience in academia and scientific research in Australia and UK.

MA, DPhil(Oxon), FIMMM, CEng

Robert Robinson – Board Member

Board Member since 2008

30 years experience in scientific research and academia in Australia, USA and UK.

MA, PhD

Dennis Mather – Managing Director

Board Member since 2008

21 years experience in association management.

BSc(Hons), PhD, Dip Ed

Lee Astheimer – Board Member

Board Member since 2012

29 years experience in academia and scientific research in Australia and USA.

BSc(Hons), PhD

Frank Bruhn – Managing Director

Board Member since June 2012

18 years experience in scientific research, research management and international research coordination in Germany, Australia and New Zealand.

Dipl.-Geol., Dr. rer. nat.

Peter Coldrey – Board Member

Board Member since August 2012

25 years extensive experience in the industrial research in chemical and ophthalmic lens industry.

FTSE, BE, PhD, BCom,

The Australian Institute of Nuclear Science and Engineering Limited

Directors' Report

for the year ended 31 December 2012

Roslyn Hatton-Board Member

Board Member since August 2012

25 years in public (ANAO) and private (Ernst & Young) sector audit and 8 years at the Commonwealth Bank in a financial accounting role.

BComm (Accounting , finance and information systems) UNSW

FCA

Meetings of Directors

During the financial year, 4 meetings of directors were held. Attendances by each director were as follows:

	<u>Number Eligible to Attend</u>	<u>Number Attended</u>
Professor Brendan Kennedy	4	4
Professor Bruce King	4	4
Professor John Dodson	4	2
Professor Lyndon Edwards	4	3
Dr Robert Robinson	4	4
Dr Dennis Mather	2	2
Professor Lee Astheimer	4	3
Dr Frank Bruhn	2	2
Dr Peter Coldrey	2	2
Ms Roslyn Hatton	2	2

The Company is incorporated under the Corporations Act 2001 and is a company limited by guarantee. If the company is wound up, the constitution states that each member is required to contribute a maximum of \$50 each towards meeting any outstanding obligations of the entity. At 31 December 2012, the total amount that members of the company are liable to contribute if the company is wound up is \$2,300 (2011: \$2,300).

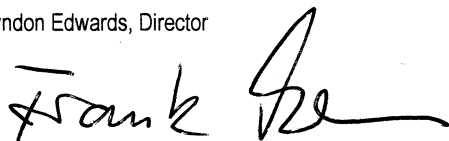
Auditors Independence Declaration

The lead auditor's independence declaration for the year ended 31 December 2012 has been received and can be found on page 13 of the report.

Signed in accordance with a resolution of the Board of Directors.



Lyndon Edwards, Director



Frank Bruhn, Director


Dated this 3rd day of April, 2013

**The Australian Institute of Nuclear Science and Engineering Limited
Auditor's Independence Declaration Report
for the year ended 31 December 2012**

I declare that, to the best of my knowledge and belief, during the year ended 31 December 2012 there have been:

- (i) no contraventions of the auditor independence requirements as set out in the Corporations Act 2001 in relation to the audit;
and
- (ii) no contraventions of any applicable code of professional conduct in relation to the audit.

Escott Aston
Chartered Accountants



David G Aston
Partner

RIVERWOOD NSW 2210

Dated this 27th day of February, 2013

Balance Sheet

for the year ended 31 December 2012

	Notes	31-Dec-12 \$	31-Dec-11 \$
Current Assets			
Cash	2	73,083	192,694
Trade and Other Receivables	3	169,101	143,252
Investments	4	2,614,567	3,070,863
Other	5	20,362	39,860
Total Current Assets		<u>2,877,113</u>	<u>3,446,669</u>
Non-Current Assets			
Plant and Equipment	6	50,177	28,793
Total Non-Current Assets		<u>50,177</u>	<u>28,793</u>
Total Assets		2,927,290	3,475,462
Current Liabilities			
Trade and Other Payables	7	1,642,320	1,431,587
Provisions	8	68,375	113,655
		<u>1,710,695</u>	<u>1,545,242</u>
Non-Current Liabilities			
Provisions	8	4,130	623
		<u>4,130</u>	<u>623</u>
Total Liabilities		1,714,825	1,545,865
NET ASSETS		<u>1,212,465</u>	<u>1,929,597</u>
Equity			
Awards Reserve	11	2,442,251	2,542,206
Long Term Projects Reserve	11	-	500,000
Accumulated surplus/(deficit)		(1,229,786)	(1,112,609)
TOTAL EQUITY		<u>1,212,465</u>	<u>1,929,597</u>

The accompanying notes form part of these financial statements.

Income Statement

for the year ended 31 December 2012

		31-Dec-12	31-Dec-11
	Notes	\$	\$
Operating Revenue			
Payments from members		3,208,075	3,178,726
External Grants	10	392,250	392,250
Interest Received		179,461	204,193
Profit on sale of assets		2,000	-
Other		57,675	39,840
Total Operating Revenue		<u>3,839,461</u>	<u>3,815,009</u>
Operating Expenses			
Wages & Salaries		363,135	338,290
Superannuation		57,486	51,945
AINSE Awards			
Students		719,505	524,557
Research Fellowship		641,541	607,159
Research Awards		1,944,703	1,850,319
Conference Subsidies		251,829	221,549
External Grants	10	400,000	400,000
Other Expenses		178,394	214,095
Total Operating Expenses		<u>4,556,593</u>	<u>4,207,914</u>
Surplus/(Deficit) for the year		(717,132)	(392,905)
Accumulated funds brought forward		(1,112,609)	(937,498)
Accumulated Surplus (Deficit)		<u>(1,829,741)</u>	<u>(1,330,403)</u>
Add (Less): transfer (to)/from Reserves			
Long Term Projects Reserve		500,000	-
Awards Reserve		99,955	217,794
Accumulated surplus/(deficit) at end of financial year		<u>(1,229,786)</u>	<u>(1,112,609)</u>

The accompanying notes form part of these financial statements.

Statement of Cash Flows

for the year ended 31 December 2012

		31-Dec-12	31-Dec-11
	Notes	\$ Inflows/(Outflows)	\$ Inflows/(Outflows)
CASH FLOWS PROVIDED BY (USED IN) OPERATING ACTIVITIES			
Receipts from operations		57,675	39,840
Receipts from members		3,182,226	3,547,788
Receipts from grants		392,250	392,250
Interest received		198,959	217,346
		3,831,110	4,197,224
Grants payments		(3,957,578)	(3,603,584)
Payments to suppliers and employees		(421,098)	(1,408,618)
		(4,378,676)	(5,012,202)
Net cash flows provided by (used in) operating activities	13	(547,566)	(814,978)
CASH FLOWS PROVIDED BY (USED IN) INVESTING ACTIVITIES			
Proceeds from sale of property, plant and equipment		17,273	-
Purchase of property, plant and equipment		(45,613)	-
Net cash flows provided by (used in) investing activities		(28,341)	-
Net increase (decrease) in cash held		(575,907)	(814,978)
Cash at beginning of reporting period		3,263,557	4,078,535
Cash at end of reporting period	2/4	2,687,650	3,263,557

Statement of Changes in Equity

for the year ended 31 December 2012

	Awards Reserve \$	Long term Projects Reserve \$	Accumulated surplus/(deficit) \$	Total \$
Balance at 1 January 2011	2,760,000	500,000	(937,498)	2,322,502
Surplus / (Deficit) attributable to company	-	-	(392,905)	(392,905)
Transfers (to)/from reserves	(217,794)	-	217,794	-
Balance at 31 December 2011	2,542,206	500,000	(1,112,609)	1,929,597
Surplus / (Deficit) attributable to company	-	-	(717,132)	(717,132)
Transfers (to)/from reserves	(99,955)	(500,000)	599,955	-
Balance at 31 December 2012	2,442,251	-	(1,229,786)	1,212,465

The accompanying notes form part of these financial statements.

Notes to the Financial Statements

for the year ended 31 December 2012

1. STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES

The financial report covers AINSE Ltd as an individual entity. It is a company limited by guarantee.

Basis of Preparation

The financial report is a general purpose financial report that has been prepared in accordance with Australian Accounting Standards, Australian Accounting Interpretations, other authoritative pronouncements of the Australian Accounting Standards Board and the Corporations Act 2001.

Australian Accounting Standards set out accounting policies that the AASB has concluded would result in a financial report containing relevant and reliable information about transactions, events and conditions to which they apply. Material accounting policies adopted in the preparation of this financial report are presented below. They have been consistently applied unless otherwise stated.

The financial report has been prepared on an accruals basis and is based on historical costs, modified where applicable, by the measurement at fair value of selected non-current assets, financial assets and financial liabilities.

a) Income Tax

AINSE Limited is exempt from income tax under section 50-5 of the Income Tax Assessment Act 1977 as the Company was established for the purpose of enabling scientific research to be conducted in Australia.

b) Property, Plant and Equipment

Each class of property, plant and equipment is carried at cost or fair value, less where applicable, any accumulated depreciation and impairment losses.

Plant and Equipment

Plant and equipment are measured on the cost basis less depreciation and impairment losses.

The cost of fixed assets constructed within the economic entity includes the cost of materials, direct labour, borrowing costs and appropriate proportion of fixed and variable overheads.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

Depreciation

The depreciable amount of all fixed assets excluding plant and equipment currently under construction, is depreciated on a straight line basis over their useful lives to the Company commencing from the time the asset is held ready for use. The depreciation rates used for each class of depreciable assets are:

Class of Fixed Asset	Depreciation Rate
Plant and Equipment	15 - 35%
Motor Vehicles	25%

The asset's residual values and useful lives are reviewed, and adjusted if appropriate, at each balance date.

An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Gains and losses on disposals are determined by comparing proceeds with the carrying amount. These gains or losses are included in the income statement.

c) Financial Instruments

Recognition

Financial instruments are initially measured at cost on trade date, which includes transaction costs, when the related contractual or obligations exist. Subsequent to initial recognition these instruments are measured as set out below.

Financial assets at fair value through profit and loss

A financial asset is classified in this category if acquired principally for the purpose of selling in the short term or if so designated by management and within the requirements of AASB 139: Recognition and Measurement of Financial Instruments. Realised and unrealised gains and losses arising from changes in the fair value of these assets are included in the income statement in the period in which they arise.

Notes to the Financial Statements

for the year ended 31 December 2012

Fair Value

Fair value is determined based on current bid prices for all quoted investments. Valuation techniques are applied to determine the fair value for all unlisted securities, including recent arm's length transactions, reference to similar instruments and option pricing models.

Impairment of Assets

At each reporting date, the Company assesses whether there is objective evidence that a financial instrument has been impaired.

d) Impairment of Assets

At each reporting date, the Company reviews the carrying values of its tangible and intangible assets to determine whether there is any indication that those assets have been impaired. If such an indication exists, the recoverable amount of the asset, being the higher of the asset's fair value less costs to sell and value in use, is compared to the asset's carrying value. Any excess of the asset's carrying value over its recoverable amount is expensed to the income statement.

Where it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs.

e) Employee Benefits

Provision is made for the Company's liability for employee benefits arising from services rendered by employees to balance date. Employee benefits that are expected to be settled within one year have been measured at the amounts expected to be paid when the liability is settled, plus related on-costs. Employee benefits payable later than one year have been measured at the present value of the estimated future cash outflows to be made for those benefits.

f) Provisions

Provisions are recognised when the Company has a legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured.

g) Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within short-term borrowings in current liabilities on the balance sheet.

h) Revenue

Revenue relating to the provision of services is recognised to the extent that expenditure is recoverable, which may be before or after delivery of the service to the customer.

Grants in relation to the day to day operations of the Company are recognised when the entity obtains control of the grant and it is probable that the economic benefits gained from the grant can be measured reliably.

Interest revenue is recognised on a proportional basis taking into account the interest rates applicable to the financial assets.

Grants in relation to the acquisition of capital equipment are accounted for through the Balance Sheet account; Revenue in Advance. Any expenditure made during the year reduces this balance, with any surplus or deficit on completion of the grant to be recognised in the Income Statement. This policy has been adopted as the purpose of these grants is to commission the purchase of equipment, with control of the asset upon completion to vest with ANSTO.

All revenue is stated net of the amount of Goods and Service Tax.

i) Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of GST, except where the amount of GST incurred is not recoverable from the Australian Taxation Office. In these circumstances, the GST is recognised as part of the cost of acquisition of the asset or as part of an item of expense. Receivable and payables in the balance sheet are shown inclusive of GST.

Cash flows are presented in the cash flow statement on a gross basis, except for the GST component of investing and financing activities, which are disclosed as operating cash flows.

Notes to the Financial Statements

for the year ended 31 December 2012

	31-Dec-12	31-Dec-11	
	\$	\$	
2. CASH			
Operating Account	72,083	192,194	
Petty Cash	1,000	500	
	<u>73,083</u>	<u>192,694</u>	
3. TRADE AND OTHER RECEIVABLES			
Current			
Trade Debtors	11,243	11,039	
Other Receivables	157,858	132,213	
	<u>169,101</u>	<u>143,252</u>	
There are no balances within trade and other receivables which contain assets that are not impaired and past due. It is expected these balances will be received when due. Impaired assets are provided for in full where applicable.			
4. INVESTMENTS			
Cash Deposit Account	2,614,567	3,070,863	
	<u>2,614,567</u>	<u>3,070,863</u>	
5. OTHER CURRENT ASSETS			
Current			
Interest Accrued	20,362	39,860	
	<u>20,362</u>	<u>39,860</u>	
6. PLANT AND EQUIPMENT			
Plant & Equipment			
At Cost	9,738	9,738	
Accumulated Depreciation	(3,653)	(2,679)	
Total Plant and Equipment	<u>6,085</u>	<u>7,059</u>	
Motor Vehicles			
At Cost	45,613	35,244	
Accumulated Depreciation	(1,521)	(13,510)	
Total Motor Vehicle	<u>44,092</u>	<u>21,734</u>	
Movements in Carrying Amounts			
	Plant & Equipment	Motor Vehicles	Total
	\$	\$	\$
Balance at 1 January 2011	8,033	28,783	36,816
Additions	-	-	-
Disposals	-	-	-
Depreciation Expense	(974)	(7,049)	(8,023)
Balance at 31 December 2011	<u>7,059</u>	<u>21,734</u>	<u>28,793</u>
Additions	-	45,613	45,613
Disposals	-	(15,273)	(15,273)
Depreciation Expense	(974)	(7,982)	(8,956)
Balance at 31 December 2012	<u>6,085</u>	<u>44,092</u>	<u>50,177</u>

Notes to the Financial Statements

for the year ended 31 December 2012

		31-Dec-12	31-Dec-11
	Notes	\$	\$
7. TRADE AND OTHER PAYABLES			
Trade Payables		447,888	243,110
Sundry Payables and Accrued Expenses		1,194,432	920,728
Revenue in Advance - Grant Monies	10(b)	-	267,749
		<u>1,642,320</u>	<u>1,431,587</u>
8. PROVISIONS			
Current			
Short-Term Employee Benefits		68,375	113,655
		<u>68,375</u>	<u>113,655</u>
Non-Current			
Long-Term Employee Benefits		4,130	623
		<u>4,130</u>	<u>623</u>
		<u>72,505</u>	<u>114,278</u>

9. SEGMENT REPORTING

The Institute operates in the research sector providing funds for research to members within Australia and New Zealand.

10. AUSTRALIAN RESEARCH COUNCIL GRANTS

a) Operating Grants	ISIS LE0882725	ITRAX LE100100141	Total
2011	\$	\$	\$
Grant Revenue	200,000	-	200,000
Member Contributions	192,250	-	192,250
Total Income	<u>392,250</u>	<u>-</u>	<u>392,250</u>
External Payments	(400,000)	-	(400,000)
AINSE Contribution	-	-	-
Total Expenses	<u>(400,000)</u>	<u>-</u>	<u>(400,000)</u>
Net Surplus (Deficit)	<u>(7,750)</u>	<u>-</u>	<u>(7,750)</u>
2012			
Grant Revenue	200,000	-	200,000
Member Contributions	192,250	-	192,250
Total Income	<u>392,250</u>	<u>-</u>	<u>392,250</u>
External Payments	(400,000)	-	(400,000)
AINSE Contribution	-	-	-
Total Expenses	<u>(400,000)</u>	<u>-</u>	<u>(400,000)</u>
Net Surplus (Deficit)	<u>(7,750)</u>	<u>-</u>	<u>(7,750)</u>

Notes to the Financial Statements

for the year ended 31 December 2012

10. AUSTRALIAN RESEARCH COUNCIL GRANTS (cont.)

	Be Filter LE0989127	ITRAX LE100100141	Total
	\$	\$	\$
b) Capital Grants			
Balance at 1 January 2011	490,370	520,264	1,010,634
External Grant	-	-	-
Member Contributions	-	-	-
AINSE Contribution	-	-	-
External Payments	(470,370)	(272,515)	(742,885)
Balance at 31 December 2011	<u>20,000</u>	<u>247,749</u>	<u>267,749</u>
External Grant	-	-	-
Member Contributions	-	-	-
AINSE Contribution	-	-	-
External Payments	(20,000)	(247,749)	(267,749)
Balance at 31 December 2012	<u>-</u>	<u>-</u>	<u>-</u>

31-Dec-12

\$

31-Dec-11

\$

11. MOVEMENT IN RESERVES

Awards Reserve

Opening Balance at 1 January	2,542,206	2,760,000
Transfer from P&L	(99,955)	(217,794)
Balance as at 31 December	<u>2,442,251</u>	<u>2,542,206</u>

The awards reserve was established to provide for the value of unexpended grants at the end of each year.

Long Term Projects Reserve

Opening Balance at 1 January	500,000	500,000
Transfer from P&L	(500,000)	-
Balance as at 31 December	<u>-</u>	<u>500,000</u>

12. AUDITORS REMUNERATION

Remuneration of the auditor of the entity for:

Auditing or reviewing the financial report	10,600	10,220
Other Services	3,550	6,820
	<u>14,150</u>	<u>17,040</u>

Notes to the Financial Statements

for the year ended 31 December 2012

	31-Dec-12	31-Dec-11
	\$	\$
13. RECONCILIATION OF CASH PROVIDED BY OPERATING ACTIVITIES TO PROFIT FROM ORDINARY ACTIVITIES		
Profit/(Loss) from Ordinary Activities	<u>(717,132)</u>	<u>(392,905)</u>
Changes in Assets & Liabilities		
(Increase)/Decrease in other debtors and prepayment	(6,351)	22,640
(Increase)/Decrease in other assets	-	-
Increase/(Decrease) in creditors and accruals	210,734	(436,616)
Increase/(Decrease) in employee provisions	<u>(41,773)</u>	<u>(16,120)</u>
	162,610	(430,096)
Non-Cash Items		
Depreciation	8,956	8,023
Gain on sale of asset	<u>(2,000)</u>	<u>-</u>
	6,956	8,023
Net cash provided by (used in) operating activities	<u><u>(547,566)</u></u>	<u><u>(814,978)</u></u>
Cash at the end of the financial year, as shown in the cash flow statement, is reconciled to the items in the balance sheet as follows:		
Cash	73,083	192,694
Investments	<u>2,614,567</u>	<u>3,070,863</u>
	2,687,650	3,263,557

14. FINANCIAL INSTRUMENTS

Financial Risk Management

The Institute's financial instruments consist mainly of deposits with banks, local money market instruments, short-term investments and accounts receivable & payable.

The main purpose of non-derivative financial instruments is to raise finance for the Institutes operations.

The Institute does not have any derivative instruments at 31 December 2012.

Financial Instruments are held under normal commercial policies, terms and conditions regularly adopted by businesses in Australia.

The main risks the Institute is exposed to through its financial instruments are liquidity risk, credit risk and interest rate risk.

a) Liquidity Risk

The Institute manages liquidity risk by monitoring forecast cash flows and ensuring that adequate utilised borrowing facilities are maintained.

b) Credit risk

The maximum exposure to credit risk, excluding the value of any collateral or other security at balance date to recognised financial assets, is the carrying amount, net of any provisions for impairment of those assets, as disclosed in the balance sheet and notes to the financial statements.

The Institute does not have any material credit risk exposure to any single receivable or group of receivables under financial instruments entered into by the economic entity.

Notes to the Financial Statements

for the year ended 31 December 2012

14. FINANCIAL INSTRUMENTS (cont'd)

c) Interest Rate Risk

The Institute's exposure to interest rate risk, which is the risk that a financial instrument's value will fluctuate as a result of changes in market interest rates and the effective weighted average interest rates on those financial assets and financial liabilities, is as follows:

	Weighted Average Effective Interest Rate		Fixed Interest Rate Maturing				Total	
			Floating Interest Rate		Non-interest bearing			
	2012	2011	2012	2011	2012	2011	2012	2011
	%	%	\$	\$	\$	\$	\$	\$
Financial Assets								
Cash and cash equivalents	4.77%	4.80%	2,686,650	3,263,057	-	-	2,686,650	3,263,057
Receivables	-	-	-	-	169,101	143,252	169,101	143,252
Total Financial Assets			2,686,650	3,263,057	169,101	143,252	2,855,751	3,406,309
Financial Liabilities								
Trade and other payables	-	-	1,642,320	1,431,587	-	-	1,642,320	1,431,587
Provisions	-	-	-	-	72,505	114,278	72,505	114,278
Total Financial Liabilities			1,642,320	1,431,587	72,505	114,278	1,714,825	1,545,865

Net Fair Values

The net fair value of financial assets and liabilities approximates their carrying value because of their short term to maturity. No financial assets and financial liabilities are readily traded on organised markets in standardised form. Financial assets where the carrying amount exceeds net fair values have not been written down as the Institute intends to hold the assets to maturity.

The aggregate net fair values and carrying amounts of financial assets and financial liabilities are disclosed in the Statement of Financial Position and in the Notes to the Financial Statements.

Aggregate net fair values and carrying amounts of financial assets and financial liabilities at balance date:

	2012		2011	
	Carrying amount	Net Fair Value	Carrying amount	Net Fair Value
	\$	\$	\$	\$
Financial assets				
Cash	2,687,650	2,687,650	3,263,557	3,263,557
Receivables	169,101	169,101	143,252	143,252
	<u>2,856,751</u>	<u>2,856,751</u>	<u>3,406,809</u>	<u>3,406,809</u>
Financial liabilities				
Trade and other payables	1,642,320	1,642,320	1,431,587	1,431,587
Provisions	72,505	72,505	114,278	114,278
	<u>1,714,825</u>	<u>1,714,825</u>	<u>1,545,865</u>	<u>1,545,865</u>

Fair values are materially in line with carrying values.

Notes to the Financial Statements

for the year ended 31 December 2012

15. ASSOCIATION DETAILS

The principal place of business of the Institute is:
Australian Institute of Nuclear Science and Engineering Limited
New Illawarra Road,
Lucas Heights, NSW 2234 AUSTRALIA

16. KEY MANAGEMENT PERSONNEL COMPENSATION

	Short-term Benefit	Post Employment	Total
	\$	\$	\$
2012			
Total compensation	<u>235,820</u>	<u>(44,423)</u>	<u>191,397</u>
2011			
Total compensation	<u>154,769</u>	<u>(9,190)</u>	<u>145,579</u>

17. Members' Guarantee

The entity is incorporated under the Corporations Act 2001 and is an entity limited by guarantee. If the entity is wound up the constitution states that each member is required to contribute a maximum of \$50 each towards meeting any outstandings and obligations of the entity. At 31 December 2012 the number of members was 46. (In 2011 the number of members was 46).

**The Australian Institute of Nuclear Science and Engineering Limited
Directors' Declaration
for the year ended 31 December 2012**

The Directors of the Company declare that:

1. The financial statements and notes, as set out on pages 14 to 24, are in accordance with the Corporations Act 2001:
 - (a) Comply with Accounting Standards and the Corporations Regulations 2001; and
 - (b) Give a true and fair view of the financial position as at 31 December 2012 and of the performance for the year ended on that date of the Company.
2. In the Directors' opinion there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors.



Lyndon Edwards, Director



Frank Bruhn, Director

Dated this 3rd day of April, 2013

The Australian Institute of Nuclear Science and Engineering Limited

Independent Audit Report to the Members

for the year ended 31 December 2012

Report on the Financial Report

We have audited the accompanying financial report of AINSE Limited (the Company), which comprises the balance sheet as at 31 December 2012 and the income and expenditure statement, statement of changes in equity and cash flow statement for the year ended on that date, a summary of significant accounting policies and other explanatory notes and the directors' declaration.

Directors' Responsibility for the Financial Report

The directors of the Company are responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards (including the Australian Accounting Interpretations) and the Corporations Act 2001. This responsibility includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

The Australian Institute of Nuclear Science and Engineering Limited
Independent Audit Report to the Members
for the year ended 31 December 2012

Independence

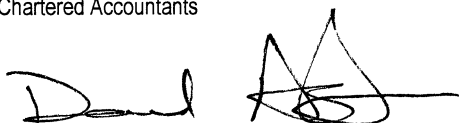
In conducting our audit, we have complied with the independence requirements of the Corporations Act 2001. We confirm that the independence declaration required by the Corporation Act 2001, provided to the directors of AINSE Limited on 27th February 2013 would be in the same terms if provided to the directors as at the date of this auditor's report.

Audit Opinion

In our opinion, the financial report of AINSE Limited is in accordance with the Corporations Act 2001, including:

- (a) Giving a true and fair view of the Company's financial position as at 31 December 2012 and of its performance for the year ended on that date; and
- (b) Complying with Australian Accounting Standards and the Corporations Regulations 2001.

Escott Aston
Chartered Accountants



David G Aston
Partner

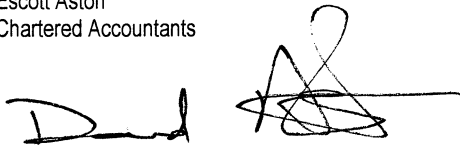
RIVERWOOD NSW 2210

Dated this 3rd day of April, 2013

**The Australian Institute of Nuclear Science and Engineering Limited
Auditor's Disclaimer
for the year ended 31 December 2012**

The additional data presented in the Detailed Statement of Income & Expenditure on pages 29 & 30 is in accordance with the books and records of AINSE Ltd (our client) which have been subjected to the auditing procedures applied in the statutory audit of the Company for the year ended 31 December 2012. It will be appreciated that the statutory audit did not cover all details of the financial data and no warranty of accuracy or reliability is given. Neither the firm nor any member or employee of the firm undertakes responsibility in any way whatsoever to any person (other than the client) in respect of such data, including any errors or omissions therein however caused.

Escott Aston
Chartered Accountants

A handwritten signature in black ink, appearing to read 'David G Aston', with a large, stylized flourish extending to the right.

David G Aston
Partner

RIVERWOOD NSW 2210

Dated this 3rd day of April, 2013

Detailed Statement of Income and Expenditure

for the year ended 31 December 2012

	31-Dec-12	31-Dec-11
	\$	\$
Operating Revenue		
Payments from members	3,208,075	3,178,726
External Grants	392,250	392,250
Interest Received	179,461	204,193
Profit on sale of assets	2,000	-
Sponsorships		
NCTA Conference	-	8,815
Radiation Conference	900	-
AANSS	4,046	-
SPERA	1,045	-
	5,991	8,815
Conference Registrations	51,478	28,944
Other Income	206	2,081
Total Operating Revenue	3,839,461	3,815,009
Operating Expenses		
Wages & Salaries	363,135	338,290
Superannuation	57,486	51,945
AINSE Awards		
Postgraduate Awards		
ANSTO Facility Costs	373,374	210,243
Travel and Accommodation	35,610	36,499
Stipends	306,122	273,631
	715,106	520,373
Winter School	4,399	4,184
Research Fellowships	641,541	607,159
Research Awards		
ANSTO Facility Costs	1,630,027	1,447,534
Minor Equipment and Materials	41,550	18,590
Travel and Accommodation	173,031	276,359
Other Costs	100,095	107,836
	1,944,703	1,850,319
Conference Subsidies	251,829	221,549
External Grants	400,000	400,000
Conference Management	3,347	(292)
Publications and Promotions	10,067	10,654
Meetings and Committees	49,471	80,802

Detailed Statement of Income and Expenditure

for the year ended 31 December 2012 (Cont'd)

	31-Dec-12	31-Dec-11
AINSE Secretariat	\$	\$
Audit Fees	12,100	17,040
Bank Charges	2,568	1,708
Depreciation	8,956	8,023
Office Supplies	4,644	2,678
Postage and Telephone	1,119	1,164
Insurance	9,897	10,188
Entertaining	711	431
Books and Software	340	-
Office Equipment and Repairs	5,644	-
Administration and Staff Training	2,136	2,094
Travel and Accommodation	18,602	21,516
Vehicle Expenses	11,113	10,668
Consultancy Fees	28,415	4,480
Staff Recruitment	2,297	35,965
FBT Expense & Payments	3,320	5,066
Miscellaneous	3,647	1,910
	<u>115,509</u>	<u>122,931</u>
Total Operating Expenses	<u>4,556,593</u>	<u>4,207,914</u>
Surplus/(Deficit) for the year	<u>(717,132)</u>	<u>(392,905)</u>

AINSE Postgraduate Research Awards

An AINSE Postgraduate Research Award (PGRA) is a top-up scholarship. To be eligible for one of these awards, an applicant must hold an Australian Postgraduate Award (APA) or equivalent scholarship. The PGRA may be held until the expiry of the primary scholarship.

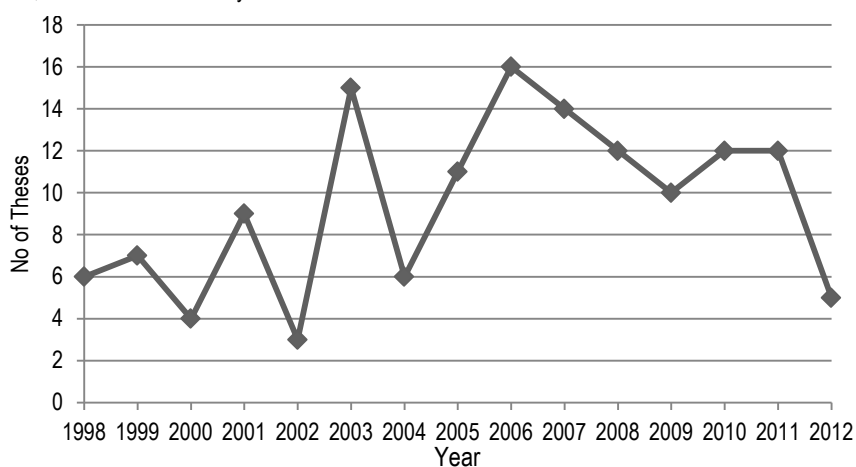
In addition to providing a student with a stipend of \$7,500 pa, the award provides for access to ANSTO's world-class facilities and expertise by making a nominal payment of \$10,000 pa to ANSTO in recognition of the use of facilities and the contribution of the ANSTO co-supervisor. An allowance for travel expenses for two visits and a total of one month's accommodation to Lucas Heights per annum is also awarded.

Twenty new AINSE postgraduate research projects were supported by a PGRA in 2012, and sixteen were finalised with the receipt of 5 theses and one withdrew, bringing the total number of current scholars to 71. Through its PGRA program, AINSE has now helped train 329 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. The Council believes that one of the most valuable roles fulfilled by AINSE is the provision of these scholarships.

John Ferris Memorial postgraduate scholars

2008-9 Jamie Howarth, University of Otago

2010-11 John Dawson, James Cook University



Graph showing the number of PGRA scholars' theses received by year..

Postgraduate scholars whose theses were received during 2012

Self-assembly behaviour of cationic surfactants with hydrolysable counterions

Connie Liu, Chemistry, The University of Sydney. Commenced 1/07/2009

Biological speciation of therapeutic gallium drugs

Annie Nguyen, Chemistry, The University of Sydney. Commenced 1/07/08

Properties of materials for organic light emitting diodes

Arthur Smith, School of Molecular and Microbial Sciences, The University of Queensland. Commenced 1/07/08

High resolution ice core records of climate variability and forcing
Joel Pedro, IASOS, University of Tasmania. Commenced 1/7/07

Growth and characterisation of rare Earth nitride thin films
Josh Brown, Physics, Macquarie University. Commenced 1/07/2009

Postgraduate scholars, and their projects, who were supported during 2012

The use of environmental isotopes Pb-210, Ra-226, Cs-137 and C-14 to reconstruct historical sedimentation rates and calibrate a model of estuary evolution

Kellie Adlam, Geosciences, The University of Sydney. Commenced 1/7/2011

Interfacial properties of stimuli-responsive peptide biosurfactants and their interaction with chemical surfactants for advanced foaming control
Dominic Agyei, Chemical Engineering, Monash University. Commenced 1/7/2012

Biofilm inhibition by immobilisation of antimicrobial proteins
Peter Akers, School of Chemical Sciences, The University of Auckland. Commenced 1/7/2012

Temperature dependence of superstructural order and its role in oxide ion conduction in brownmillerites
Josie Auckett, School of Chemistry, The University of Sydney. Commenced 1/7/2012

The potential of Corchia Cave (Italy) speleothem trace element and radiocarbon variations as indicators of past environmental change
Petra Bajo, Resource Management & Geography, The University of Melbourne. Commenced 1/7/2011

Investigations on the fabrication plasma polymerized organic thin films
Kateryna Bazaka, Engineering, James Cook University. Commenced 1/07/08

^{14}C analyses of organic and inorganic fractions in cave calcareous tufa: implication for $\delta^{13}\text{C}$ significance in speleothems
Romina Belli, Environmental and Life Sciences, The University of Newcastle. Commenced 1/07/08

Neutron scattering on functional transition metal oxide thin films
Joel Bertinshaw, Physics, The University of New South Wales. Commenced 1/7/2012

Shape-memory alloy actuators for nanoscale opto-mechanical applications
Vijay Bhatia, Institute for Nanoscale Technology, University of Technology Sydney. Commenced 1/7/2010

Development of defect perovskites for use as cathode materials in lithium ion batteries
William Brant, School of Chemistry, The University of Sydney. Commenced 1/7/2010

Palaeofire records and sedimentation in the context of past and current climate change in eastern Australia
Katherine Brownlie, School of Earth and Environmental Science, University of Wollongong. Commenced 1/7/2010

A coherent inelastic neutron scattering investigation of polycrystalline magnesium deuteride
Andrew Buckley, Imaging & Applied Physics, Curtin University of Technology. Commenced 1/7/2012

Negative thermal expansion in metal-organic frameworks and cyanide bridged co-ordination frameworks
Lisa Cameron, Chemistry, The University of Sydney. Commenced 1/7/2010

Hydrogen storage and negative thermal expansion properties of novel cyanide-bridged coordination frameworks
Jessica Chadbourne, Chemistry, The University of Sydney. Commenced 1/07/2009

From helicon discharges to fusion plasmas: Dynamics of wave-particle-plasma interaction between electromagnetic modes
Lei Chang, Plasma Research Lab, The Australian National University. Commenced 1/7/2012

Structure-function relations in polymer-protein conjugates for enhanced drug design
Xiaojing Chen, Australian Institute for Bioengineering & Nanotechnology, The University Queensland. Commenced 1/7/2010

Establishing a late Holocene chronology for the development and maintenance of open grasslands in northern Tasmania
Hahjung Chin, Archaeology & Natural History, The Australian National University. Commenced 1/7/2012

Alignment of nanostructures templated from lyotropic liquid crystals
Weimei Cong, Institute for Frontier Materials, Deakin University. Commenced 1/7/2012

Factors affecting quantification in positron emission tomography for radiopharmaceuticals with mixed neuronal and non-neuronal signals
Christopher Constable, Faculty of Health Sciences- Medical Radiation Science, The University of Sydney. Commenced 1/07/2009

Low dimensional spintronic materials studied with neutron reflectometry
David Cortie, Inst Superconducting & Electronic Mat, University of Wollongong. Commenced 1/7/2010

Design of novel radiopharmaceuticals based on calix[4]arene complexes of gallium and lutetium
Daniel D'Alessio, Chemistry, Curtin University of Technology. Commenced 1/7/2012

Catchment to regional-scale water and salinity impacts of changing land use in south-west Victoria
Joshua Dean, Environmental Geoscience, La Trobe University. Commenced 1/7/2010

Exploiting the water-energy nexus: using saline water electrolysis to provide energy security and desalinated water from renewable energy sources
Dario Alejandro Delgado Aguilar, Chemical & Mathematical Sciences, Murdoch University. Commenced 1/7/2012

Correlating the nanostructure of stimuli responsive liquid crystal systems with drug release behaviour in vitro and in vivo
Wye Khay Fong, Pharmacy, Monash University. Commenced 1/07/2009

Surface Chemistry of a Complex Mineral System: Mineralogy and Sorption Processes in Modified Bauxite Refinery Residues
Tiago Freire, School of Environment, Science and Engineering, Southern Cross University. Commenced 1/7/2012

The interaction of the molecular chaperone 14-3-3 with aggregating target proteins
Katy Goodwin, Chemistry, The University of Adelaide. Commenced 1/7/2011

Supramolecular solids as hydrogen storage materials
Gregory Hall, Chemistry, Monash University. Commenced 1/7/2010

Morphodynamics of coral reef environments and associated sedimentary bodies
Daniel Harris, School of Geosciences, The University of Sydney. Commenced 1/7/2010

From stellarators to tokamaks: the effects of 3D structure on Alfvén eigenmodes
Shaun Haskey, Physical Sciences and Engineering / Plasma Physics, The Australian National University. Commenced 1/7/2010

Investigations of bulk nanostructure in protic ionic liquids
Robert Leslie Hayes, Environment & Life Sciences, The University of Newcastle. Commenced 1/7/2011

Structure-dynamics-function relationships of replisomal macromolecular assemblies
Flynn Hill, School of Chemistry, University of Wollongong. Commenced 1/7/2010

Tracing the source of reservoir sediment using Pu-239 by AMS and Pb-210, Cs-137 by high resolution gamma spectrometry
Sarah Elizabeth Hobgen, Research Institute for Environment & Livelihoods, Charles Darwin University. Commenced 1/7/2011

Radiocarbon activities in soil particle-size fractions at different depths: insight on C dynamics in two NSW forest soils
Eleanor Hobley, School of Engineering, The University of Newcastle. Commenced 1/7/2010

Plasma deposition techniques for proton exchange membrane fuel cells
Jessica Hudspeth, Chemistry, The Australian National University. Commenced 1/07/2009

A late Quaternary ice sheet history from in-situ cosmogenic exposure dating, South Victoria Land, Antarctica
Kurt Richard Joy, Gateway Antarctica, University of Canterbury. Commenced 1/7/2011

Probing the effects of oxidative stress on cellular membrane interactions
Jacqueline Knobloch, Chemistry, The University of Auckland. Commenced 1/7/2010

STIM & PIXE mapping of diseased cerebral and other tissues
Joonsup Lee, Chemistry, The University of Sydney. Commenced 1/7/2010

Thickness-dependant resistivity of ultra-thin polymeric films and their application as novel selective gas sensors
Junqiao Lee, Chemistry, Curtin University of Technology. Commenced 1/7/2010

Development of solid state nano and microdosimetry for improvement of quality of life
Jayde Livingstone, Centre for Medical Radiation Physics, University of Wollongong. Commenced 1/7/2011

Geochemistry of highly sulfidic ancient deposits: A high resolution study of exceptional fossil preservation within carbonate concretions
Ines Melendez, Chemistry, Curtin University of Technology. Commenced 1/7/2012

Assessing the neuroinflammatory consequences of adolescent drug and alcohol exposure
Craig Motbey, Psychology, The University of Sydney. Commenced 1/07/2009

Fixation of atmospheric CO₂ during the carbonation of ultramafic rocks: constraints on timing of carbonation and quantification of contributions from different carbon sources derived from U-Th disequilibrium dating in conjunction with radiocarbon dating
Hans Christoph Oskierski, Priority Research Centre for Energy, The University of Newcastle. Commenced 1/7/2011

Towards single cell isolation
Stephen Geoffrey Parker, Chemistry, The University of New South Wales. Commenced 1/7/2011

Dual, receptor and DNA auger radiotherapy targeting strategy using lipid-coated nanoparticles
Annabelle Rodd, Pathology, The University of Melbourne. Commenced 1/7/2012

Low temperature synthesis of well-ordered titania nanoparticles for applications in green catalysis
Jan-Yves Ruzicka, Chemistry, University of Canterbury. Commenced 1/07/2009

Carbon burial and vertical accretion rates in seagrass sediments in Moreton Bay
Jimena Samper-Villarreal, Marine Spatial Ecology Lab, The University of Queensland. Commenced 1/7/2012

Investigation of the effect of ion irradiation on the superconducting properties of Un-doped and doped BaFe₂As₂ single crystals
Mahboobeh Shahbazi-Manshadi, Institute for Superconducting and Electronic Materials, University of Wollongong. Commenced 1/7/2012

Simulation of cyclic fatigue in lead-free piezoelectric ceramics
Hugh Simons, Materials Science & Engineering, The University of New South Wales. Commenced 1/07/2009

A crystal structural investigation of lead containing jarosite solid solutions
Henry Spratt, Chemistry, Queensland University of Technology. Commenced 1/7/2010

The environmental fate of silver iodide and indium(III) oxide used for cloud seeding operations in the Snowy Mountains region of New South Wales
Nicola Stromsoe, Geography, The University of Queensland. Commenced 1/7/2011

Nanostructure at complex surfactant-polymer interfaces
Kristian Tangso, Drug Delivery Disposition & Dynamics, Institute Pharmaceutical, Monash University. Commenced 1/7/2012

Surface waters, groundwaters, geology, and water-rock interactions in the Lawn Hill region of far NW Queensland
Mira van der Ley, School of Biological Earth and Environmental Sciences, The University of New South Wales. Commenced 1/7/2010

Neutron scattering techniques to probe hydride ligand dynamics in catalytically relevant metal hydrides
Catriona Vanston, School of Chemistry, University of Tasmania. Commenced 1/7/2012

Investigating the impact of Translocator Protein (18 kDa) under ionizing radiation conditions
Kelly Veale, Medical Radiation Sciences, The University of Sydney. Commenced 1/7/2012

UV-B screening compounds in the moss ceratodon purpureus: using radiocarbon dating and novel compounds to describe past Antarctic climates
Melinda Waterman, Biological Sciences, University of Wollongong. Commenced 1/7/2010

Structure-function relationships in metal hydrides: origin of pressure hysteresis
Timothy Webb, Queensland Micro-and Nanotechnology Centre, Griffith University. Commenced 1/7/2012

Understanding nanostructure in lead-containing piezoceramics

Ross Whitfield, Chemistry, The Australian National University. Commenced 1/07/2009

Improving biological parameters estimation in pre-clinical longitudinal PET imaging of the rat brain

Catriona Wimberley, Brain & Mind Research Institute, The University of Sydney. Commenced 1/7/2012

Tertiary starch structure and improving human nutrition

Torsten Witt, Centre for Nutrition and Food Science, The University of Queensland. Commenced 1/07/2009

Characterising antimicrobial protein-membrane complexes by neutron reflectometry

Gloria Xun, School of Biological Sciences/Department of Chemistry, The University of Auckland. Commenced 1/07/2009

Aluminium mobility and geochemistry in Acid Sulfate Soils using novel isotope exchange techniques and Accelerator Mass Spectrometry

Yliane Yvanes-Giuliani, Civil and Environmental Engineering, The University of New South Wales. Commenced 1/7/2011

AINSE Honours Scholarships

In 2012 AINSE continued the Honours program which first commenced in 2011. This program provides Honours Scholarships to a small number of excellent students who have a project which utilises the research facilities at ANSTO. The scholarships provide a stipend of \$5,000. The students' supervisors held a current AINSE Research Award to support the facility access as well as travel and accommodation requirements.

The purpose of the scholarships are to provide a link between the Winter School and the other AINSE programs. There were 25 applications from 19 Universities.

The ten students and their projects were:

Felix Barber, Victoria University of Wellington
Oxygen isotope effect in HTS superconductors - phonons or magnons?

Sarah Fitzpatrick, University of Canterbury
Targeting tuberculosis: A SAXS investigation into the synergistic feedback

Rory Williams, Macquarie University
A new approach to extracting hydrological history from River Red Gum- high resolution tree ring scanning

Heather Moody, Swinburne University of Technology
Residual stress analysis of laser treated nickel-aluminium bronze

Jane Hinton, The University of Queensland/James Cook University
Towards an understanding of temporal and spatial variability in the aboriginal occupation of Bentinck Island, Gulf of Carpentaria

Stan Kinis, Southern Cross University
Sedimentary burial of ancient Olympia (Peloponnese, Greece) by high-energy flood deposits

Caitlin McCluskey, The Australian National University
Chemistry, mineralogy and optical properties of Australian desert dust aerosol

Joshua Lorenzo, The University of Queensland
Non-fullerene based acceptors for organic solar cells.

Jake Ewan, The University of Queensland
Diffusion kinetics in multilayer small molecule organic films for organic photonics

Anita Raharjeng, James Cook University
Effect of gamma irradiation on the shelf life and quality characteristics of Tempe

AINSE Research Fellows

AINSE, in conjunction with the Australian Nuclear Science and Technology Organisation (ANSTO), has established a Fellowship Scheme to add impetus to member Universities' growing stature in nuclear science and engineering and in related fields. The first two Fellowships were awarded in 2006. Fellowships are for a three-year appointment in the first instance with the possibility of an extension to five years where subsequent continuing appointment at the university is foreseen. The Research Fellowship scheme was continued into 2012 with the selection of a new Research Fellow Dr Neeraj Sharma. However, due to financial constraints, the AINSE Board has decided not to offer any more new Research Fellowships from 2013.

Applications for 2012 were also considered, as in past years, where the research aligns with the broad spectrum of research foci supported by AINSE. While the four highlighted directions were promoted in calling for Research Fellowship applications, applicants could also propose research programs which fall outside these topics as long as they required the use of ANSTO facilities and were aligned with the joint research interests of ANSTO and the AINSE member university.

Since the commencement of the program in 2006 AINSE has awarded the following Fellowships:

2006 **Darren Goossens** The Australian National University
Study of the nature and role of nanoscale order in complex materials
Concluded November 2011

Dr Goossens is employed in the Research School of Chemistry, ANU as a research associate.

2006 **Daniel Riley** The University of Melbourne
Use of ultra-fast in-situ diffraction in the development of advanced materials
Concluded June 2010

Dr Riley is employed at ANSTO as a research scientist in the Institute of Materials Science.

2007 **Duncan McGillivray** The University of Auckland
Probing the mechanisms of biomembrane interactions
Concluded December 2010

Dr McGillivray is employed as a senior lecturer in the School of Chemistry at The University of Auckland.

2007 **Moeava Tehei** University of Wollongong
Study of relationships between function, structure and dynamics of biological molecules by neutron scattering

2008 **Lizhong He** The University of Queensland
The physical states of pharmaceutical proteins and self-assembled proteins
Concluded December 2011

Dr He is employed as a senior lecturer School of Chemical Engineering at Monash University.

2008 **Helen McGregor** University of Wollongong
El Niño in context: reading the coral record of past climate extremes

2009 **David Turner** Monash University
Structural studies of metal organic materials for gas storage and anion exchange
Concluded December 2012

Dr Turner is employed as ARC Future Fellow at Monash University.

- 2009 **John Daniels** The University of New South Wales
Application of advanced diffraction techniques for component and material design in functional, biological and structural applications
- 2010 **Rachel Popelka-Filcoff** Flinders University
Geochemical characterisation of Australian ochre by k_0 -neutron activation analysis for characterisation and sourcing of aboriginal Australian mines and artefacts
- 2010 **Roman Dronov** Flinders University
Design of advanced optical biosensors through neutron based surface analysis
- 2011 **Alison Blyth** Curtin University of Technology
Molecular, stable isotopic and radiocarbon analyses of organic matter preserved in terrestrial records
- 2012 **Dr Neeraj Sharma** The University of New South Wales
Developing improved materials for energy generation and storage

Summary of AINSE Research Awards

The primary purpose of the AINSE Research Award program is to facilitate access by researchers from member organisations to the nuclear science and technology facilities at Lucas Heights and other AINSE supported facilities. They provide facility access fees as well as travel and accommodation expenses during periods of attachment. AINSE Research 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. For neutron scattering projects conducted at ANSTO's Bragg Institute facility charges do not generally apply, however, projects of novice users allow for a facility charge.

The disciplines involved during 2012 included the following:

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

chemistry applied, biochemistry, chemical technology, polymer science

engineering chemical, electrical, mechanical, materials science, microelectronics

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

environmental and earth sciences Antarctic and Southern Ocean studies, environmental biology, environmental geology, geochemistry, geomorphology, geography, coastal management, marine science

medicine medical and health physics, and nuclear

plus Aboriginal and Torres Strait Studies, anthropology, archaeology, botany, cultural studies, geophysics, microscopy and microanalysis, natural history, resource science and management, safety science, zoology.

Research Awards for 2012 are shown on the following pages in order by member organisation to highlight the diversity of institutions and disciplines within which projects occur. This program includes arrangements for general research students to access Lucas Heights facilities but does not include access arrangements for AINSE postgraduate scholars, see pages 31-35. The total amount of the awards for each member organisation is also shown. Where travel support or novice user support is given for access to the ANSTO Bragg facility the name of the person supported is listed above the proposal title. Nearly all of these projects involved close cooperation with ANSTO staff and required substantial use of the reactor, accelerators and other facilities at ANSTO.

For information on particular facilities utilised, see the Researchers' Guide on our home page, <http://www.ainse.edu.au>

A total of 200 projects were supported in 2012. They had a total value of \$1,806,352 involving thirty-eight of the forty-six members. The table on the following page shows the distribution of research awards by institution and by specialist areas.

UNI	A	B	E	G	M	N	Total
ADE	1				2		3
AKL	1	2		4			7
ANU	3		1	3		1	8
BAL	1		1				2
CAN	1		1				2
CSI				1			1
CSU		1	1				2
CUR	1	1	1	1	1	1	6
ECU			1		2		3
FLI	2		2	1			5
GNS					1		1
GRI			1		1	1	3
JAM	4	1	2	1			8
LAT	1	1	1		1		4
MAC		1	4	2			7
MEL	1	1		3		1	6
MON	1		2	7	1		11
MUR					1		1
NCT				4			4
NSW		3	3	12	3	5	26
QLD	6	1	4	6			17
QUT			1		1		2
RMI			1	1	2	2	6
SCU	2	1	3				6
SWI				5			5
SYD	2	3		6		1	12
SYN				1			1
TAS						1	1
UNE	5		2				7
USA			1				1
USC				1			1
USQ	1						1
UTS			1			1	2
UWA		1	2	3			6
UWS				1	1	2	4
VUW	1		1	1			3
WAI	1						1
WOL	2	2		9	1		14
Total	37	19	37	73	18	16	200

Specialist Areas

Legend

- A Archaeology and Geosciences
- B Biomedical Science and Biotechnology
- E Environmental Science
- G Bragg Institute - Neutron Scattering
- M Materials - Properties and Engineering
- N Materials - Structures and Dynamics

The legend for the university abbreviations can be found on page 77

University of Adelaide

12/016	Dr Barbara Etschmann Mechanism of de-alloying reactions: dissolution-precipitation versus surface diffusion	\$25,620
12/035	Associate Professor Dusan Losic Probing of molecular transport properties of carbon nanotubes using radio tracer (RT) technology	\$12,495
12/125	Professor Nigel Spooner Low level uranium, thorium and potassium determinations for luminescence research	\$15,350
University of Adelaide TOTAL		\$53,465

The University of Auckland

12/043	Associate Professor Michael Hay Reduction potentials of novel nitroimidazole radiosensitizers for stereotactic beam radiotherapy	\$4,750
12/075P	Associate Professor Paul Kench Improving depositional chronologies of coral reef islands through application of single constituent dating of the calcareous algae Halimeda	\$11,400
12/1654	Dr Duncan McGillivray Probing oxidative stress of cellular membranes	\$504
12/1655	Dr Duncan McGillivray Probing oxidative stress of cellular membranes	\$1,896
12/078	Professor Laurence Melton Understanding interactions between beta lactoglobulin nanofibrils and pectins	\$9,435
12/2285	Dr Tilo Soehnel Design of magnetic ordering in $\text{Sn}_2\text{Co}_3\text{S}_2$ upon substitution	\$4,790
12/1789	Dr Geoff Waterhouse In-situ neutron diffraction investigations of a novel direct reduction process for producing Ti based alloys	\$369
The University of Auckland TOTAL		\$33,144

Australian National University

12/081	Dr Marnie Forster Calibration of OPAL for use in $^{40}\text{Ar}/^{39}\text{Ar}$ age determination of K-rich minerals for geological research	\$11,940
12/1806	Dr Darren Goossens Short-range order in ferroelectric triglycine sulphate	\$564
12/2460	Dr Darren Goossens Magnetic structures in $(1-x)\text{BiFeO}_3-x\text{SrTiO}_3$	\$427
12/2202	Qian Li Dynamical Characteristics of Phase Transitions in Lead-based Relaxor Ferroelectric Single Crystals under Electrical Fields and Variable Temperatures	\$4,625
12/013P	Professor Gordon Lister Experimental determination of diffusion rates between garnet and ilmenite using pulsed laser deposition of thin films	\$6,725
12/022	Dr Shannon Notley Determining crystal structure of hafnia and zirconia thin films prepared using ALD	\$4,725
12/095	Dr Ulrike Proske Holocene coastal dynamics: unravelling abrupt and long-term change in mangrove forests using ITRAX-scanning and laser particle analysis	\$11,025

12/047P	Dr Christian Reepmeyer Pleistocene antiquity? Radiocarbon dating the rock-art of Arnhem Land	\$8,160
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Australian National University TOTAL	\$48,191
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The Australian Synchrotron

12/2378	Helen Maynard-Casely Structural studies of water-rich sulfuric acid hydrates	\$6,681
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The Australian Synchrotron TOTAL	\$6,681
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University of Ballarat

12/051P	Professor Peter Gell Sea Change: water quality change in the Anglesea estuary, Victoria	\$12,860
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12/026	Dr Jessica Reeves Palaeo-lakes revisited: re-investigating key lake sites of temperate Australia through the last glacial period	\$11,385
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University of Ballarat TOTAL	\$24,245
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University of Canterbury

12/119P	Professor Timothy Davies Using Pb-210, C-14 and ITRAX to reconstruct the palaeotsunami and palaeostorm record in the Samoan Islands	\$16,850
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12/057P	Professor Bryan Storey Is there a link between deglaciation and biodiversity in Antarctica: clues from the Beardmore, Shackleton and Scott glaciers	\$15,410
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University of Canterbury TOTAL	\$32,260
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CSIRO

12/2275	Dr Nathan Webster In situ diffraction investigation of phase formation during iron ore sintering	\$4,474
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CSIRO TOTAL	\$4,474
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Charles Sturt University

12/008P	Dr Simon Clarke The effect of soil temperature on the water and nitrogen use efficiency of grapevines	\$9,000
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12/061	Dr Padraig Strappe In vitro and in vivo assessment of a PET reporter gene	\$10,363
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Charles Sturt University TOTAL	\$19,363
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Curtin University of Technology

12/104	Professor Kliti Grice Use of ITRAX for determining elemental distribution of modern microbial mats and ancient samples (Devonian carbonate concretion and Paleoproterozoic Pb/Zn deposit)	\$4,430
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12/070P	Dr Caroline Jaraula Recent climate activity in the northern and southern boundaries of the Indo-Pacific Warm Pool	\$21,465
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12/101	Professor It-Meng Low Designing new materials through ion-implantation	\$12,330
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12/114	Dr Massimiliano Massi Bioconjugation of radiolabeled calix[4]arene complexes	\$19,855
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12/027	Dr Akira Otsuki Development of an in-situ method for observing pearl chain formations of dielectric nanoparticles under an electric field by small-angle X-ray scattering	\$3,085
12/1657	Dr Akira Otsuki Development of an in-situ method for observing pearl chain formations of dielectric nanoparticles under an electric field by small-angle neutron scattering	\$795
Curtin University of Technology TOTAL		\$61,960

Edith Cowan University

12/029P	Associate Professor Hinckley Gamma ray dosimetry using optical fibre Bragg grating sensors	\$7,090
12/011P	Professor Paul Lavery Carbon preservation in seagrass ecosystems - characterising Australia's Blue-Carbon reserves	\$16,840
12/049	Dr Magdalena Wajrak Investigating factors which affect electrodeposition of arsenic film on solid gold electrode using SIMS instrument.	\$10,265
Edith Cowan University TOTAL		\$34,195

Flinders University

12/042	Professor Peter Cook Use of carbon isotopes to constrain groundwater ages in arid environments	\$21,710
12/085	Dr Georgia Guild Distribution of micronutrients in SUT-1 overexpressed transgenic wheat	\$3,735
12/2171	Andrew Jane Analysis of the Self-Assembled S-layer Protein SpbA on Silanised Planar Silicon Oxide	\$284
12/005P	Dr Rachel Popelka-Filcoff Neutron Activation Analysis of Archaeological Australian Ochre for Archaeometric Research	\$34,845
12/054P	Dr Keryn Walshe Establishing the chronology and context of Koonalda Cave	\$12,800
Flinders University TOTAL		\$73,374

GNS Science

12/037	Dr John Kennedy High resolution transmission electron microscopy investigations of magnetic nanoclusters	\$17,520
GNS Science TOTAL		\$17,520

Griffith University

12/113	Dr Andrew Brooks ITRAX x-ray scanning of Eucalyptus microtheca tree ring density and element composition	\$6,060
12/034	Dr Jisheng Han A SIMS investigation of the SiC/SiO ₂ interface - a unique advantage of SiC as a wide energy-gap material	\$9,985
12/120	Dr Gretel Heber An x-ray reflectometry study of octanohydroxamate with iron	\$9,870
Griffith University TOTAL		\$25,915

James Cook University

12/019	Professor Michael Bird Environmental degradation of charcoal: three years on	\$27,880
12/017P	Dr Nigel Chang Shell dating of prehistoric Thailand	\$5,125
12/100	Dr Zhaoshan Chang Mineralisation process in high-sulfidation epithermal Au-Cu deposits: insight from pyrite geochemistry	\$17,575
12/128	Dr Jennifer Elliman Effect of gamma irradiation on the shelf life and quality characteristics of Tempe	\$3,825
12/2172	Dr Rosalind Gummow In-situ structural changes of lithium manganese silicates with lithium-ion battery cycling	\$895
12/030P	Dr Gustavo Saiz Past and present tropical vegetation dynamics and their impact on soil organic carbon pools	\$6,040
12/058	Dr Sean Ulm Towards an understanding of temporal and spatial variability in the aboriginal occupation of Bentinck Island, Gulf of Carpentaria	\$16,650
12/135	Dr Nathan English Determining growth-rates and estimating ages of mountain cactus using radiocarbon.	\$18,050
	James Cook University TOTAL	\$96,040

La Trobe University

12/103	Dr Peter Barnard N-heterocyclic carbene and amide containing ligands for the development of ^{99m}Tc -, $^{67/64}\text{Cu}$ -based molecular imaging agents	\$14,870
12/048P	Dr Richard Cosgrove Fire, people and climate in the Wet Tropics bioregion, north Queensland	\$8,550
12/044	Dr Denise Fernando Micro-PIXE studies of multiple metal accumulation by Gossia (Myrtaceae), a distinctly manganese-specific tree genus native to Eastern Australia	\$17,635
12/055	Dr Anne Richards Functionalized phosphorous based acids as selective heavy metal ion scavengers	\$12,655
	La Trobe University TOTAL	\$53,710

Macquarie University

12/079	Dr Thi Thuy Duong Characterisation of gamma knife radiosurgery-induced endothelial molecular changes in an animal model of AVM using PET/CT imaging	\$12,100
12/088	Dr Kirstie Fryirs The geomorphic character and age structure of upland swamps in Eastern Australia: Extending the analysis in the Southern Highlands and Blue Mountains	\$4,750
12/093	Dr Matthew Kosnik Method development: joint analysis of amino acid racemization and AMS C-14 using a single sample	\$7,657
12/2178	Dr Sandra Piazzolo In-situ deformation of ice II: Temperature, strain rate and finite strain effects	\$3,651

12/012P	Dr Timothy Ralph Unravelling catchment and river response to hydrological change: a coupled TCN and OSL approach	\$19,808
12/090	Dr Timothy Ralph Tracing sources of deposited sediment in floodplain wetlands of the Macquarie River	\$4,914
12/1613	Associate Professor Willows Determination of the binding location(s) of the H subunit to the ID core of Magnesium chelatase	\$14,300
Macquarie University TOTAL		\$67,180

The University of Melbourne

12/006	Dr Uwe Ackermann Evaluating the significance of in vitro metabolite assays in radiotracer development	\$14,020
12/131	Dr Matt Cupper Radiocarbon Chronology of Ancient Human DNA Samples from Caleta Vitor, Northern Chile	\$12,100
12/1666	Dr Cyril Curtain Structure of toxic protein oligomers in neurodegenerative disease	\$1,090
12/2591	Dr Trevor Finlayson Stresses in a Model Metal Matrix Composite and their Variation with plastic Strain - Al-Si-Mg	\$607
12/003P	Dr Michael-Shawn Fletcher Using ITRAX scanning and grain size analyses to track the response of Australian climate to abrupt climate change over the last 2000 years.	\$12,935
12/2395	Associate Professor Christopher Ritchie Investigation of a hydrogen bond templated polyoxometalate nanocluster	\$6,599
The University of Melbourne TOTAL		\$47,351

Monash University

12/028	Professor Ian Cartwright Constraining rates of floodplain processes and ages of water in rivers	\$20,535
12/139	Dr Perran Cook Reconstructing the history of cyanobacterial blooms in the Gippsland Lakes	\$11,010
12/2566	Dr Lizhong He Deuteration of a stimuli-responsive biosurfactant protein for neutron reflection study of its interaction with surfactant for Neutron Proposal P2454	\$15,600
12/1959	Cameron Jones Characterization of new hydridic clusters	\$291
12/2520	Bahar Khodabakhshi Characterisation of residual stresses in an AISI Grade 1005 steel plate	\$6,017
12/2269	Daniele Pelliccia Sub-micrometer neutron waveguides for high resolution imaging	\$4,133
12/134	Professor Raman Singh SIMS characterisation of thin oxide layers developed over nanocrystalline Fe-Cr-Ni-Zr alloys	\$20,495
12/2651	Dr Tim Slingsby Residual stresses and fatigue behaviour of aluminothermic rail welds	\$737
12/1824	Dr David Turner Single crystal neutron diffraction of hydrogen-bonded materials	\$462
12/2215	Dr David Turner Single crystal neutron diffraction of hydrogen-bonded materials	\$1,489

12/111	Dr Duncan Wright Calendars, chronologies and past-environmental change in West Arnhem Land	\$11,400
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	Monash University TOTAL	\$92,169
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Murdoch University

12/020	Dr Danielle Meyrick Exploiting the water-energy nexus: using saline water electrolysis to provide energy security and desalinated water from renewable energy sources	\$19,900
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	Murdoch University TOTAL	\$19,900
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University of Newcastle

12/1568	Associate Professor Rob Atkin Morphological transitions of polyethylene oxide dissolved in Ethylammonium Nitrate under shear	\$1,007
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12/897	Dr Michael Gladys Chiral interfaces: Templates for Molecular Recognition	\$2,667
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12/2445	Professor Erich Kisi In situ study of stress distribution in a compacting particulate system: 2. Influence of particle plasticity and die wall properties	\$3,818
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12/1568	Thomas Murphy Morphological transitions of polyethylene oxide dissolved in Ethylammonium Nitrate under shear	\$2,667
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	University of Newcastle TOTAL	\$10,159
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The University of New South Wales

12/2372	Mr Ali Alamry Internal residual stresses in low angle and high angle crossing wingrail	\$5,335
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12/107	Dr Jenny Beer Using stable isotopes to measure plant water use efficiency and soil nutrient cycling in urban bushland dominated by <i>Pittosporum undulatum</i>	\$4,794
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12/025	Dr Stephen Bremner Gold doped silicon	\$2,337
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12/052	Dr Sebastian Brueck Interface properties of a thin film exchange bias system using a spin glass	\$4,000
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12/2220	Dr Sebastian Brueck Magnetic training effects on the reversal mechanism in NiFe/hematite films	\$2,667
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12/2274	Professor Sean Cadogan Magnetic structures of R_2MgGe_2 (R=Nd, Tb, Ho, Er)	\$3,844
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12/2467	Professor Sean Cadogan Magnetic structures of ErGa and TmGa	\$583
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12/2258	Emeritus Professor Stewart Campbell Magnetostructural Transitions in Magnetocaloric Materials - Effects of Magnetic Field	\$1,246
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12/087	Dr Catherine Chague-Goff Multi-proxy evidence for sea-level change and extreme wave events on the Mexican Pacific coast, using ITRAX, C-14 and Pb-210	\$12,085
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12/009	Dr Simone Ciampi XRR characterization of nanoscale water on molecular organic thin films on silicon surfaces	\$4,800
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12/140	Dr Sheila Devasahayam Characterisation of iron alloys and chars using Secondary Ion Mass Spectrometry (SIMS) and Neutron Diffraction.	\$15,785
12/2144	Matthias Ehmke In situ studies of kinetics, relaxation, creep, and fatigue of ferroelectric ceramics during the application of electric fields	\$2,667
12/040	Associate Professor John Foster Why is Chitosan antimicrobial? - relating polymer chain conformation to bactericide activity	\$26,157
12/067	Professor Justin Gooding Towards single-cell isolation using electrochemically-switchable molecules	\$8,000
12/015	Dr Ivan Ho Shon Molecular imaging of cell death with a novel 90kDa heat shock protein ligand	\$20,000
12/2312	Wayne Hutchison Examining the second field induced magnetic transition in TbNiAl ₄	\$645
12/099	Dr Joshua Larsen Towards an understanding of timescales in the freshwater carbon cycle in Australia	\$6,050
12/2617	Narendirokumar Narayanan Determination of the crystal and magnetic structures of the spin kagome staircase compound Cu ₃ V ₂ O ₈ (CuVO)	\$526
12/123	Professor Brett Neilan Deuterium labelling of a novel N-hydroxylase responsible for cyanobacterial toxin production for NMR structural studies	\$34,857
12/2111	Ms Nicole Reynolds Search for the Orbital Peierls State in the Vanadates	\$2,667
12/053	Dr Glen Stewart Magnetic order and hyperfine interactions in TmGa: a crystal-field study	\$5,080
12/084P	Dr Thiam Teck Tan Investigation of subtle interaction between cobalt and europium codoped ZnO ultra diluted magnetic semiconductor	\$6,657
12/023	Dr Clemens Ulrich X-ray reflection studies of multiferroic functional thin films	\$4,000
12/2311	Dr Clemens Ulrich Novel multiferroic materials for the next generation of microelectronics: the physics behind the coupling between the electric and magnetic degrees of freedom	\$3,503
12/2627	Dr Clemens Ulrich Novel multiferroic materials for the next generation of microelectronics: the physics behind the coupling between the electric and magnetic degrees of freedom	\$6,328
12/2631	Dr Clemens Ulrich Novel multiferroic materials for the next generation of microelectronics: the physics behind the coupling between the electric and magnetic degrees of freedom	\$994
The University of New South Wales TOTAL		\$185,607

University of Queensland

12/1506	Xiaojing Chen Ligand induced structure alternations of protein-polymer conjugate	\$1,365
12/1467	Jap Pang Chuan Structure of immobilized viral proteins at a solid-liquid interface	\$3,691
12/0632	Mirjana Dimitrijevic Structure of a stimuli-responsive peptide at an air-water interface	\$3,458
12/036	Dr Andrew Fairbairn Re-evaluation of the chronology of aceramic Neolithic Can Hasan III, Turkey	\$8,535
12/076	Dr Andrew Fairbairn Evaluating stable isotopes as a means of investigating changing Bronze Age agricultural practices in Central Turkey	\$12,360
12/065	Associate Professor Massimo Gasparon ¹⁴ C dating of the Tinchi Tamba estuarine deposits, southeast Queensland: implications for Holocene stratigraphy and water resources	\$9,500
12/1539	Mike Gidley Effect of soluble fibres on bile salt micelle structure	\$2,667
12/077	Professor Daryl Joyce Disinfestation of Calypso mango using irradiation	\$13,360
12/136	Dr Patrick Moss Late Quaternary environments of Surrey Hills, north-western Tasmania	\$3,800
12/091	Professor John Pandolfi ITRAX Core Scanner: Palaeoenvironmental reconstruction of Holocene reefs of the inshore Great Barrier Reef and Moreton Bay	\$15,935
12/038	Associate Professor Susanne Schmidt Evaluating soil carbon turnover along the Cooloola chronosequence with radiocarbon dating	\$11,070
12/056	Dr James Shulmeister Surface Exposure Age dating of late glacial limits in the Rangitata Valley, New Zealand	\$25,320
12/004	Professor Marshall Weisler Determining the Chronology of Reef Island Development for Constraining Initial Human Colonisation of Pacific Atolls and Establishing a Robust DeltaR for the Central Tropical Pacific	\$26,600
12/1390	Dr Andrew Whitten Structural characterisation of the Munc18c-Syntaxin4-SNAP23-VAMP2 complex	\$619
12/098	Dr Brad Witt Developing semi-arid taxa as tools for paleoclimate analyses using dendrochronology	\$16,365
12/1900	Thorsten Witt Correlation of nanostructure and branch length in waxy starches	\$5,334
12/071P	Dr Craig Woodward Testing the chronology of sediment records from Little Llangothlin Lagoon, using plutonium activity profiles and lead-210 dating	\$15,945
	University of Queensland TOTAL	\$175,924

Queensland University of Technology

12/106	Dr Malcolm Cox Cressbrook alluvial aquifer: hydrological processes and isotopic character	\$7,500
12/062	Dr Tuquabo Tesfamichael Development and characterisation of multilayer metal oxide thin film gas sensors for pollution and environmental monitoring	\$16,735
Queensland University of Technology TOTAL		\$24,235

RMIT University

12/045	Dr Mohammad Al Kobaisi Studying the electro-mechanical properties of ion irradiation nano-structured biopolymeric films	\$21,570
12/024	Professor Gary Bryant Partial deuteration of the DOPC for the study of the interaction between the cell penetrating peptide Penetratin and phospholipids using neutron membrane diffraction	\$14,220
12/007	Dr Matthew Currell Geochemical Investigation of mixing, flow dynamics and salinisation processes in a coastal aquifer vulnerable to seawater intrusion: Westerntport Basin, Victoria	\$19,510
12/137	Dr Kay Latham In situ small-angle x-ray scattering studies on the co-crystallisation of guanidinium cation with sulphonate, phosphonate and arsonate species: a preliminary competitive investigation	\$4,820
12/031	Professor David Mainwaring Irradiation produced doped carbon nanostructures in polymeric thin films	\$18,270
12/2394	Nurofini Assila Mohd Rafi Partial deuteration of the DOPC for the study of the interaction between the cell penetrating peptide Penetratin and phospholipids using neutron membrane diffraction	\$2,667
RMIT University TOTAL		\$81,057

Southern Cross University

12/102	Professor Bill Boyd Crisis or continuity? The end of the Iron Age settlement of the Mun flood plain, NE Thailand	\$5,700
12/097P	Dr Malcolm Clark Radio-isotope exchange techniques for the assessments of treatment sludge stability	\$33,500
12/066	Dr Joannes-Boyau New high-resolution sea surface current reconstruction using post-bomb radiocarbon records of a large coral core from Rowley Shoals Western Australia	\$19,965
12/089	Associate Professor Anja Scheffers Sedimentary burial of ancient Olympia (Peloponnese, Greece) by high-energy flood deposits - the Olympia Tsunami Hypothesis in the context of Eastern Ionian Sea tsunami evidence	\$10,483
12/063P	Dr Kathryn Taffs An investigation of the coastal evolution of the Mesopotamian marshes, southern Iraq.	\$2,750
12/132	Dr Hans Wohlmuth Effects of gamma irradiation on pharmacologically active compounds in medicinal plants	\$3,590
Southern Cross University TOTAL		\$75,988

Swinburne University of Technology

12/2310	Dr Ryan Cottam Residual stress analysis of laser treated nickel-aluminium bronze	\$2,057
12/2076	Dr Rezwanul Haque Develop a relationship among gauge volume, detection time and measurement error of residual stress by neutron diffraction technique in SPR joint	\$720
12/2198	Dr Rezwanul Haque Effect of sheet material and rivet properties on residual stress profile in different SPR joints of high strength material	\$2,833
12/2502	Novana Hutasoit To measure the residual stress levels generated by laser cladding of Stellite 6 and Deloro40G on round bar AISI4130 steel	\$4,483
12/2146	Aimin Yu Effect of pH and salt on the structure change of polypeptide multilayer films	\$485
Swinburne University of Technology TOTAL		\$10,578

The University of Sydney

12/1454	Dr Peter Blanchard Field dependence of magnetically frustrated platinum-group oxides	\$2,667
12/2267	Anita Das & Deanna D'Alessandro Carbon dioxide separation using functionalised Metal-Organic Frameworks	\$5,334
12/126	Professor Trevor Hambley Evaluation of [18F] and [68Ga] imaging agents for metastatic cancer	\$29,500
12/082	Associate Professor Thomas Hubble Submarine landslides on the upper southeast Australian continental margin	\$12,450
12/032	Dr Bob Hudson Improving the periodisation of the First Millennium CE urban sites of Upper Myanmar (Burma): 2012 program	\$3,800
12/2604	Alexander Kammer Ex-situ neutron diffraction studies of Mn-containing defect perovskite cathodes	\$2,667
12/080	Professor Brendan Kennedy How does anion disorder impact the magnetism in gd pyrochlores?	\$17,000
12/050	Dr Guo Jun Liu Production of TSPO protein for structural-functional studies	\$11,000
12/2594	Samuel Liu Sillen-Aurivillius phases as templates for naturally layered multiferroics	\$2,667
12/2642	Stephen Hudson Ogilvie Selective gas-separation for energy applications using Metal-Organic Frameworks (2012-2 Echidna)	\$2,667
12/072	Dr David Pattison Are selenium based antioxidants effective in the repair of protein radicals?	\$10,050
12/2256	Adriano Pavan Low-temperature magnetism in Lu ₂ Fe ₁₆ Ru	\$2,667
The University of Sydney TOTAL		\$102,469

University of Tasmania

12/039	Dr Michael Gardiner Hydride dynamics in a germanium complex with potential as a hydrogen storage material and hydrogenation catalyst	\$7,740
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University of Tasmania TOTAL **\$7,740**

University of New England

12/112	Associate Professor Robert Baker Past episodes of sea-level rise and their use in predicting rates of future sea-level rise: a case study from Kempsey on the NSW mid-north coast	\$1,000
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12/046	Dr Peter Grave Evaluating the effects of solvents on accurate AMS dating of archaeological ceramic residue extracts	\$2,960
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12/060P	Dr Peter Grave Comparing the resolution of "standardless" K0 and Comparator Neutron Activation Analysis for 1000-600BC trade ceramics from the Eastern Mediterranean	\$19,755
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12/069	Dr Peter Grave High Resolution Dating of a Late Bronze Age Mycenaean Palace, Southwest Greece	\$11,775
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12/121	Dr Michael Reid Palaeoecological assessment of high conservation refugia: Implications for climate change	\$4,250
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12/010P	Dr Darren Ryder Isotopic fingerprinting of sources of suspended sediment in water supply catchments	\$1,900
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12/059	Dr Alice Storey Dating the dispersal of domestic chickens in the Pacific and the Americas	\$14,555
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University of New England TOTAL **\$56,195**

University of South Australia

12/138P	Dr Erica Donner Mechanisms controlling metal bioavailability in biosolids and implications for their use in agriculture	\$18,370
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University of South Australia TOTAL **\$18,370**

University of the Sunshine Coast

12/2158	Professor Roland de Marco A neutron reflectometry study of interactions between syndiotactic-PMMA and organic ISE-dopants at the air/water interface (copy of 1700)	\$5,120
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University of the Sunshine Coast TOTAL **\$5,120**

University of Southern Queensland

12/033	Associate Professor Bryce Barker Mine Island Stone Arrangement Complex; assessing the archaeological signature of marine spiritscapes	\$4,750
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University of Southern Queensland TOTAL **\$4,750**

University of Technology, Sydney

12/068P	Professor Peter Ralph	\$4,320
	Effects of acidification on carbon sequestration by macrophytes	
12/018	Dr Stella Valenzuela	\$8,062
	Metamorphic protein CLIC1 interactions with model cell plasma membranes	
	University of Technology, Sydney TOTAL	\$12,382

The University of Western Australia

12/2160	Dr Simon Grabowsky	\$4,009
	Towards the understanding of proton-transfer reactions by means of topological catastrophes - Accurate hydrogen parameters in short intramolecular hydrogenbonds of hydrogen maleate salts	
12/2437	Dr Simon Grabowsky	\$1,731
	Towards the understanding of proton-transfer reactions by means of topological catastrophes - Part 2	
12/083P	Dr Grzegorz Skrzypek	\$19,115
	Paleoenvironmental changes in the Arctic recorded in permafrost-preserved moss macrofossils - radiocarbon dating	
12/073	Associate Professor Scott Stewart	\$10,805
	Radiolabeling thalidomide analogues for the eventual determination of pharmacokinetic and pharmacodynamic effects	
12/001	Dr Francois Teste	\$840
	Phosphorus transfer between Proteaceae and mycorrhizal plants in nutrient poor soils	
12/1253	Professor Alice Vrielink	\$1,958
	Neutron Diffraction Studies of Cholesterol Oxidase - Studying the Role of Hydrogen Atoms in Oxidative Catalysis	
	The University of Western Australia TOTAL	\$38,458

University of Western Sydney

12/064	Dr Marta Bello Lamo	\$4,120
	Study of gamma-radiation effect on the electronic properties and photocatalytic performance of N-doped TiO ₂ photocatalysts	
12/2456	Fidelis Mashiri	\$2,679
	Residual stresses in high strength steel tubes for large scale infrastructure	
12/002	Professor Thomas Millar	\$7,322
	The effect of temperature on the molecular organisation of meibomian lipid films.	
12/014	Professor Thomas Millar	\$6,347
	Using X-ray reflectometry to understand the behaviour of estolides	
	University of Western Sydney TOTAL	\$20,468

Victoria University of Wellington

12/130P	Professor Rewi Newnham	\$29,985
	The marine reservoir effect in the east Tasman Sea and ocean-atmosphere carbon exchange	
12/133P	Dr Kevin Norton	\$11,695
	Mobility of trace elements in New Zealand pastoral hillslope soils	
12/2161	Professor Jeffrey Tallon	\$2,667
	Oxygen isotope effect in HTS superconductors - phonons or magnons?	
	Victoria University of Wellington TOTAL	\$44,347

The University of Waikato

12/129	Professor Peter Kamp Fission track analysis	\$16,800
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The University of Waikato TOTAL \$16,800

University of Wollongong

12/116	Professor Allan Chivas Lacustrine history of Lake Llanquanelo, Argentina, climate teleconnections with Australia and tephra history	\$20,900
12/2011	Dr Zaiping Guo In-situ neutron diffraction studies LiMnPO ₄ cathode materials for Li-ion batteries	\$74
12/2148	Fong Hong The magnetic structure evolution and control in multiferroic DyMn _{1-x} FexO ₃ system	\$3,563
12/2482	Nicholas Hoyer Residual stress measurements on Ti aerospace component produced by additive manufacturing	\$5,348
12/074	Professor Xu-Feng Huang Investigating the interaction between inflammation, obesity and colon cancer	\$14,900
12/021P	Dr John Jansen Dating the largest known glacial outburst flood, Glacial Lake Vitim, eastern Siberia	\$11,142
12/2230	Dr Cheng Lu Texture measurement of ultrafine grained aluminium processed by equal-channel angular pressing and post deformation annealing	\$230
12/2232	Dr Cheng Lu Residual stress measurement of 1050/6061 laminated aluminium processed by accumulative roll bonding	\$2,962
12/105	Dr Stephen Ralph Selective removal of nuclear waste using carbon nanotubes	\$10,156
12/041	Associate Professor Marie Ranson Optimisation of PAI-2 forms for non-invasive PET imaging of malignant tumours	\$22,724
12/2384	Lisa Thoennessen Transformation mechanisms in beta-titanium alloys using in-situ neutron diffraction	\$246
12/2538	Lisa Thoennessen In-situ studies on thermomechanical processing of beta titanium alloys	\$3,102
12/2304	Dr Jianli Wang Neutron study on the co-existence of magnetic state phases in magnetocaloric material MnFeP _{0.5} As _{0.4} Si _{0.1} under magnetic fields	\$3,887
12/2328	Dr Jianli Wang Texture measurements of hydrided and deuterided Zircaloy-4 by neutron diffraction	\$5,334

University of Wollongong TOTAL \$104,568

TOTAL AINSE AWARDS FUNDING APPROVED FOR 2012 \$1,806,352

Summary of experiments at ISIS

ISIS is a world-leading centre for research in the physical and life sciences and is situated in Oxfordshire in the United Kingdom. AINSE coordinates funding for Australia's membership of ISIS. The membership fee is paid with the assistance of the Australian Research Council's Linkage Infrastructure Equipment and Facilities Fund, supplemented with contributions from 11 universities, ANSTO and AINSE. Our application to the ARC for a five-year LIEF grant was successful and we were awarded \$1,000,000 over five years from 2008. This represents 50% of the membership fee. By paying a membership fee Australian researchers may compete for instrument time in the ISIS competitive rounds. The time granted is several times that which could be bought for \$400,000.

Applications from Australian researchers for 2012 resulted in 90 days being awarded to 22 proposals from 10 groups. Instrument time was awarded on 13 different instruments. There was an additional 15 days of access for Australian researchers who were designated as co-investigators on proposals originating from Europe and the UK. Overall, Australian proposals have received around 3% of ISIS beamtime in 2012. The community are using TS-1 and TS-2 instruments, with an occasional use of muons.

Proposals with an Australian or New Zealand Chief Investigator

Principal Investigator	Organisation	Title	Days
Mr R Aldus	ANSTO	Further crystal field excitation data for pyrochlore zirconates	5
Dr R Atkin	University of Newcastle	Salts Dissolved in Salts: Ionic Liquid + inorganic salt mixtures	9
Professor IR Gentle	University of Queensland	Non-Fullerene Based Acceptors for Organic Solar Cells	4
Professor IR Gentle	University of Queensland	Nanoscale Phase Separation in Organic Solar Cells and Its Impact on Device Performance	2
Professor IR Gentle	University of Queensland	Compatibility of organic/inorganic layers in optoelectronic devices	5
Professor EM Gray	Griffith University	Quantum heating effect in molecular hydrogen	7
Professor EM Gray	Griffith University	In-situ high-resolution study of the Pd-D2 system after passage over the thermodynamical critical point	6
Dr SA Holt	ANSTO	Outer membrane mimics using novel thiol-PC	4
Dr SA Holt	ANSTO	Chloride Intracellular Channel insertion into Tethered Bilayer Membranes	4
Professor BJ Kennedy	University of Sydney	The role of Disorder in Phase Transitions in some manganese Perovskites	5
Professor BJ Kennedy	University of Sydney	Anion disorder in Ti pyrochlores as a precursor in the transition to fluorite	2
Professor BJ Kennedy	University of Sydney	The role of Bi in magnetic and structural dimerization of Ba ₃ BiRu ₂ O ₉ .	2

Dr CD Ling	University of Sydney	Spin gap opening associated with an extraordinary magnetovolume effect in some iridium and ruthenium oxides	2
Dr CD Ling	University of Sydney	MuSR study of a spin gap opening associated with an extraordinary magnetovolume effect in some iridium and ruthenium oxides	2
Dr CD Ling	University of Sydney	Structural details of unusual pressure-induced first-order volume collapses in Ba ₃ BiIr ₂ O ₉ and Ba ₃ BiRu ₂ O ₉	6
Dr CD Ling	University of Sydney	Effects of external and chemical pressure on the magnetovolume effects in Ba ₃ BiIr ₂ O ₉ and Ba ₃ BiRu ₂ O ₉	6
Dr DJ McGillivray	University of Auckland	Characterising the membrane binding interaction of plant annexin Gh1	4
Dr DJ McGillivray	University of Auckland	Neutron diffraction from polyunsaturated multilayer membranes containing a polyphenolic antioxidant	3
Dr O Muransky	ANSTO	Investigation of strengthening mechanisms in nano-structured bainitic steels and the influence of transformation kinetics of retained austenite	3
Dr S Schmid	University of Sydney	PDF analysis of Li ⁺ ordering in defect perovskite Li _{0.18} Sr _{0.66} Ti _{0.5} Nb _{0.5} O ₃ (LSTN)	3
Dr S Schmid	University of Sydney	Investigation of the Li-intercalation mechanism for the perovskite Li _{0.18} Sr _{0.66} Ti _{0.5} Nb _{0.5} O ₃ (LSTN)	3
Dr S Schmid	University of Sydney	Phase transitions and structures in ferroelectric tungsten bronze type solid solutions	3

Proposals with an Australian or New Zealand Co-investigator

Principal Investigator	Institution	Title	Days	Australia New Zealand Collaboration.
Dr M Barbagallo	Physikalisches Institut Wuerzburg Universitaet EP4	Spin-polarized electron states at the interface of EuO and 3d transition metal oxides	4	ANSTO
Professor M A Carpenter	University of Cambridge	Magnetoelastic coupling behaviour of incommensurate and commensurate colossal-magneto-resistance (CMR) manganites	3	University of Newcastle
Dr R Chen	University of Leeds	Determining the membrane binding structure of drug-delivery polymers	3	University of Auckland
Dr A Hughes	Science and Technology Facilities Council	The effect of applied potential on the structure of a phospholipid bilayer	3	ANSTO
Professor J H Lakey	University of Newcastle Upon Tyne	The solution structure of the OmpF Colicin N complex in lipid nanodiscs	2	ANSTO

ISIS Publications with Australian or New Zealand authors 2012

Chatzidimitriou-Dreismann, C. A. G., Gray, E. M. A.: Blach, T. P. (2012). Breaking time-inversion invariance through decoherence—Energetic consequences for attosecond neutron scattering. *Journal of Physics: Conference Series*, IOP Publishing.

Chatzidimitriou-Dreismann, C. A. G., Gray, E.: Blach, T. P. (2012). "Distinguishing new science from calibration effects in the electron-volt neutron spectrometer VESUVIO at ISIS." *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment* 676: 120-125.

Clifton, L. A. J., Christopher L.: Solovyova, Alexandra S.: Callow, Phil: Weiss, Kevin L.: Ridley, Helen: Le Brun, Anton P.: Kinane, Christian J.: Webster, John R. P.: Holt, Stephen A.: Lakey, Jeremy H. (2012). "Low Resolution Structure and Dynamics of a Colicin-Receptor Complex Determined by Neutron Scattering." *Journal of Biological Chemistry* 287(1).

Gray, E. M. W., C. J. (2012). "In-situ diffraction techniques for studying hydrogen storage materials under high hydrogen pressure." *International Journal of Hydrogen Energy* 37(13): 10182-10195.

Hayes, R. I., Silvia: Warr, Gregory G.: Atkin, Rob (2012). "How Water Dissolves in Protic Ionic Liquids." *Angewandte Chemie International Edition* 51(30): 7468-7471.

Miiller, W. A., Maxim: Zhou, Qingdi: Kennedy, Brendan J.: Sharma, Neeraj: Kuttah, Ramzi: Kearley, Gordon J.: Schmid, Siegber: Knight, Kevin S.: Blanchard, Peter E. R.: Ling, Chris D. (2012). "Giant Magnetoelastic Effect at the Opening of a Spin-Gap in $\text{Ba}_3\text{BiIr}_2\text{O}_9$." *Journal of the American Chemical Society* 134(6).

Mostert, A. B. P., Benjamin J.: Pratt, Francis L.: Hanson, Graeme R.: Sarna, Tadeusz: Gentle, Ian R.: Meredith, Paul (2012). "Role of semiconductivity and ion transport in the electrical conduction of melanin." *Proceedings of the National Academy of Sciences of the United States of America* 109(23): 8943-8947.

Muránsky, O. D., M. R.: Bhattacharyya, D.: Zanellato, O.: Vogel, S. C.: Edwards, L. (2012). "Load partitioning and evidence of deformation twinning in dual-phase fine-grained Zr-2.5% Nb alloy." *Materials Science and Engineering*.

Tan, Teck-Yee: Kennedy, Brendan J.: Zhou, Qingdi: Ling, Christopher D.: Miiller, Wojciech: Howard, Christopher J.: Carpenter, Michael A.: Knight, Kevin S. (2012). "Impact of Jahn-Teller active Mn^{3+} on strain effects and phase transitions in $\text{Sr}_{0.65}\text{Pr}_{0.35}\text{MnO}_3$." *Physical Review B* 85(10).

Wakeham, D. W., Warr, Gregory G.: Atkin, Rob (2012). "Surfactant Adsorption at the Surface of Mixed Ionic Liquids and Ionic Liquid Water Mixtures." *Langmuir* 28(37): 13224-13231.

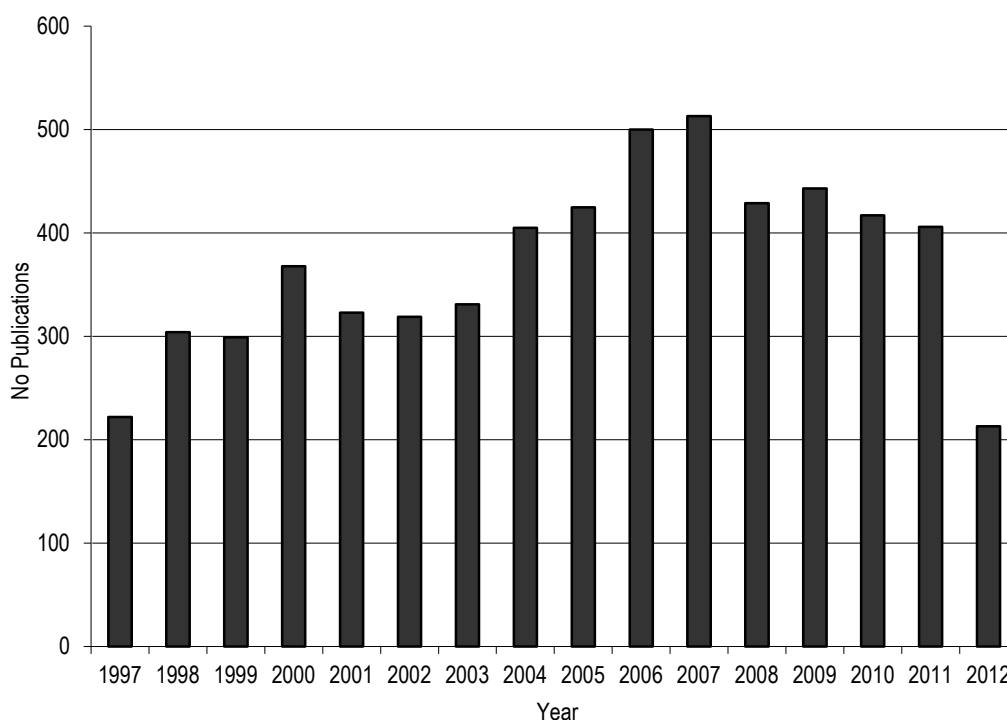
Zhang, Z. K., Brendan J.: Howard, Christopher J.: Carpenter, Michael A.: Miiller, Wojciech: Knight, Kevin S.: Matsuda, Motohide: Miyake, Michihiro (2012). "Crystal structures, strain analysis, and physical properties of $\text{Sr}_{0.7}\text{Ce}_{0.3}\text{MnO}_3$." *Physical Review B* 85(17).

Publications

The following papers incorporate results from AINSE-supported projects. AINSE received notification of these 251 publications during 2012. The references are as supplied by the chief investigator in Progress Reports and other notifications provided to AINSE. This list may not contain all 2012 publications arising from AINSE supported work, nor does it necessarily relate to Awards held only in 2012.

The publications are listed in university order, with the name of the chief investigator(s) in bold. Where the chief investigator is not an author the name is in brackets. Publications arising from AINSE Postgraduate Research Awards (PGRA) and Research Fellowships (FEL), and some experiments at ISIS are also listed. The complete ISIS publication list is given on page 56.

The graph below shows the total number of publications by year of publication.



Project Number	Authors	Title of Publication	Reference
University of Adelaide			
12/035	Nambiar M; Evans P J; Triani G; Shapter J G; Losic D	Study of titania modified porous alumina membranes for protein transport and separation	International Conference on Nanoscience and Nanotechnology 726-729 2012

The University of Auckland

09/005	Allen M S ; Flenley J; Butler K; Horrocks M	New Pollen, Sedimentary, and Radiocarbon Records from the Marquesas Islands, East Polynesia: Implications for Archaeological and Palaeoclimate Studies	Holocene 21 473-484 2012
05/004	Augustinus P ; Cochran U; Kattel G; D'Costa D; Shane P	Late Quaternary paleolimnology of Onepoto maar, Auckland, New Zealand: Implications for the drivers of regional paleoclimate	Quatern Int 253 18-31 2012
10/048	(Campbell K); Figueira B	Salt marsh foraminiferal record of Late Holocene sea level rise around the South Island of New Zealand	PhD thesis 2012
PGRA	Knobloch J	Cellular membrane interactions of plant annexin GH1 following oxidative stress	International Small-Angle Scattering Conference 330 2012
PGRA	Knobloch J	Determining the effect of oxidative damage on the degradation of cellular membranes by Phospholipase A2	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 38 2012 Lucas Heights
11/126	Waterhouse G I ; Murdoch M; Llorca J; Idriss H	Ethanol photoreaction to hydrogen over Au/TiO ₂ catalysts. Investigating the synergistic effect of nanoparticles	Int J Nanotechnol 9 113-120 2012
09/119	Nadeem A M; Waterhouse G I ; Idriss H	The reactions of ethanol on TiO ₂ and Au/TiO ₂ anatase catalysts	Catal Today 182 16-24 2012

Australian National University

06/026	Cameron J	The Dong Xa shroud	In: Blair S (ed) Weaving Together Two Ways of Knowing: Archaeological Organic Artefact Analysis and Indigenous Textile Arts Fredericton 2010
PGRA	Chang L ; Hole M J; Caneses J F; Chen G; Blackwell B D; Corr C S	Wave modeling in a cylindrical non-uniform helicon discharge	Phys Plasmas 19 83511 2012
BRG001540		The bicontinuous cubic phase in star-polyphiles	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 27 2012 Lucas Heights
07/037	dos Santos R A L; Wilkins D; De Deckker P ; Schouten S	Late Quaternary productivity changes from offshore Southeastern Australia: A biomarker approach	Palaeogeogr Palaeoclimatol 256 45-56 2012

07/042	Dunlap W ; Fraser G L; Bagas L; Huston D L	⁴⁰ Ar/ ³⁹ Ar evidence for the timing of Paleoproterozoic gold mineralisation at the Sandpiper Deposit, Tanami region, northern Australia	Aust J Earth Sci 59 399-409 2012
05/051	Baird D; Carruthers D; Fairbairn A ; Pearson J	Ritual in the landscape : Evidence from Pinarbasi in the seventh-millennium cal BC Konya Plain	Antiquity 85 380-394 2011 0003-598X; 1745-1744
FEL	Goossens D J ; Henderson L S F; Trevena S; Hudspeth J M; Avdeev M; Hester J R	The crystal and magnetic structures of LaCa ₂ Fe _{3-x} M _x O ₈ (M = Al, Ga, In)	J Solid State Chem 196 238-242 2012
FEL	Hutchison W D; Goossens D J ; Whitfield R E; Studer A J; Nishimura K; Mizushima T	Field-induced incommensurate spin structure of TbNiAl ₄	Phys Rev B 86 14412 2012
FEL	Welberry T R; Chan E J; Goossens D J ; Heerdegen A P	Diffuse scattering as an aid to the understanding of polymorphism in pharmaceuticals	Metall Mater Trans A 43A 1434-1444 2012
FEL	Chan D E J; Goossens D J	Study of the single-crystal X-ray diffuse scattering in paracetamol polymorphs	Acta Cryst B68 80-88 2012
FEL	Hudspeth J M; Goossens D J	Vapour diffusion growth and characterisation of fully deuterated triglycine sulphate (ND ₂ CD ₂ COOD) ₃ D ₂ SO ₄	J Cryst Growth 338 177-180 2012
FEL; PGRA	Goossens D J ; Whitfield R E; Studer A J	Optimising sintering in metal injection moulding using in situ neutron diffraction	Mat Sci Forum 706 - 709 1737-1742 2012
FEL; PGRA	Whitfield R E ; Welberry T R; Goossens D J	Temperature dependence of diffuse scattering in PZN	Metall Mater Trans A 1429-1433 2012
BRG2202	Li Q ; Liu Y; Danilkin S; Studer A J; Deng G; Li Z; Withers R; Xu Z	Elastic and inelastic neutron scattering studies on lead-based relaxor ferroelectric single crystals	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 49 2012Lucas Heights
BRG001519; P613; P923	Liu Y ; Norén L; Studer A; Withers R; Guo Y; Li Y X; Yang H; Wang J	Response of the intergrown microstructure to an electric field and its associated consequences in lead-free piezoelectric bismuth sodium titanate	J Solid State Chem 187 309-315 2012
05/157	Ledru M P; Stevenson J	The rise and fall of the genus Araucaria: A southern hemisphere climatic connection. Terra Australis	ANU E-Press 34 240-254
PGRA	Whitfield R E ; Goossens D J; Studer A J; Forrester J	Measuring single-crystal diffuse neutron scattering on the Wombat high-intensity powder diffractometer	Metall Mater Trans A 1423-1428 2011
PGRA	Whitfield R E ; Goossens D J	Pair distribution function and single crystal neutron diffuse scattering of PbZn _{1/3} Nb _{2/3} O	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 45 2012 Lucas Heights
06/068; 10/143	Bowler J M; Gillespie R ; Johnson H; Bolkjovac K	Wind v water: Glacial maximum records peopled landscapes: Archaeological and biogeographic approaches to landscapes	Terra Australis 34 271-296 2012
06/068; 10/143	Gillespie R ; Camens A B; Worthy T H; Rawlence N J; Reid C; Bertuch F; Levchenko V; Cooper A	Man and megafauna in Tasmania: closing the gap	Quaternary Sci Rev 37 38-47 2012

University of Ballarat

09/064	Grundell R; Gell P ; Zawadzki A; Mills K	Interaction between a river and its wetland: evidence from spatial variability in diatom and radioisotope records	J Paleolimnol 47 205-219 2012
09/065	Soeprbowati T; Hadisusanto S; Gell P ; Zawadzki A	The diatom stratigraphy of Rawapening Lake, implying eutrophication history	American Journal of Environmental Sciences 8 334-344 2012

Charles Darwin University

PGRA	Antwertinger Y	Coral biomonitoring of a macrotidal Harbour	PhD Thesis 2011
PGRA	Hobgen S ; Child D P; Heijnis H; Hotchkis M A C	Where is the mud coming from? Radionuclides and GIS: partners in sediment budgeting	12th South Pacific Environmental Radioactivity Association Conference (SPERA2012) 34 2012 Lucas Heights

Curtin University of Technology

08/008	Tian H Y; Buckley C E ; Paskevicius M; Sheppard D A	Hydrogen storage in carbon aerogels	2011 In: Carbon nanomaterials for gas adsorption, Editors M.L. Terranova, M.Rossi and S. Orlanducci, ©2010 by Pan Stanford Publishing Pte Ltd
08/008	Paskevicius M; Tian H-Y; Sheppard D A; Webb C J; Pitt M P; Gray E; Kirby N M; Buckley C E	Magnesium hydride formation within carbon aerogel	J Phys Chem C 115 1757-1766 2011
11/143	Liu H; Chaudhary D ; Roberts J; et al	The interaction in sorbitol-plasticized starch bionanocomposites via positron annihilation lifetime spectroscopy and small angle X-ray scattering	Carbohydr Polym 88 1172-1176 2012 doi:10.1016/j.carbpol.2012.01.069
11/135	Noor Azman N; Siddiqui S; Ionescu M; Low I M	Synthesis and characterisation of ion-implanted epoxy samples for x-ray shielding	Nucl Instrum Meth B 287 120-123 2012 http://dx.doi.org/10.1016/j.nimb.2012.06.004
10/127	Low I M ; Curtain B; Philipps M; Liu Z Q; Ionescu M	High temperature diffraction study of in-situ crystallization of nanostructured TiO ₂ photocatalysts	J Aust Ceram Soc 48 198-204 2011 DOI: 10.1002/9781118095362.ch17
11/134	Low I M ; Albetran H; De La Prida V; Manurung P; Ionescu M	Effect of Cr-doping on the crystallization and phase stability in anodized TiO ₂ nanotubes	10-14 2012 36th Int. Conf. on Advanced Ceramics & Composites. (ICACC) Daytona Beach, Florida, USA
ISIS	Low I ; Pang W; Kennedy S J; Smith R	Study of high-temperature thermal stability of max phases in vacuum	book 31 2010 In: Strategic Materials and Computational Design: Ceramic Engineering and Science Proceedings, Volume 31 (eds W. M. Kriven, Y. Zhou, M. Radovic, S. Mathur and T. Ohji)
11/160	Buckley A C; Carter D J; Sheppard D A ; Buckley C E	Density functional theory calculations of magnesium hydride: A comparison of bulk and nanoparticle thermodynamics	J Phys Chem C 116 17985-17990 2012 DOI: 10.1021/jp306613t

PGRA	Veder J-P ; Patel K; Sohail M; Jiang S P; James M and De Marco R	An electrochemical impedance spectroscopy/neutron reflectometry study of water uptake in the poly(3,4-ethylene dioxathiophene):poly(styrene sulfonate)/ polymethyl methacrylate-polydecyl methacrylate copolymer solid-contact ion-selective electrode	Electroanalysis 24 140-145 2012
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Deakin University

PGRA	Cong W W ; Garvey C J; She F H; Kong L X	Alignment of Nanostructure Templated from Lyotropic Liquid Crystals in Membrane Preparation	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 31 2012 Lucas Heights
11/156	Salim N V; Hanley T L; Waddington L; Hartley P G; Guo Q	A simple and effective approach to vesicles and large compound vesicles via complexation of amphiphilic block copolymer with polyelectrolyte in water	Macromol Rapid Comm 33 401-406 2012
11/149	Patil K; Smith S V; Rajkhowa R; Tsuzuki T; Wang X; Lin T	Milled cashmere guard hair powders: Absorption properties to heavy metal ions	Powder Technol 218 162-168 2012
11/149	(Lin T); Patil K A	Fabrication, characterisation and applications of cashmere guard hair powder	PhD Thesis 2012

Flinders University

09/022; 11/012	Osborne O D; Pring A; Popelka-Filcoff R S ; Bennett J W; Stopic A; Glascock M D; Lenahan C E	Comparison of the relative comparator and k0 neutron activation analysis techniques for the determination of trace-element concentrations in pyrite	Mineral Mag 76 1229-1245 2012
FEL	Popelka-Filcoff R	On the trail of Aboriginal ochre	Chemistry in Australia 20-23 2012

GNS Science

12/037	Kennedy J ; Leveueur J; Takeda Y; Williams G V M; Kupke S; Mitchell D R G; Markwitz A; Metson J B	Evolution of the structure and magneto-optical properties of ion beam synthesized iron nanoclusters	J Mater Sci 47 1127-1134 2012
08/036	Kennedy J ; Leveueur J; Markwitz A	High temperature annealing effects on low energy iron implanted SiO ₂	Nucl Instrum Meth B 273 182-185 2012

Griffith University

ISIS	Gray E MacA; Chatzidimitriou-Dreismann C A; Blach T P	Sensitivity of peak positions to flight-path parameters in a deep-inelastic scattering neutron TOF spectrometer	Nucl Instrum Meth A 661 64-69 2012
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James Cook University

PGRA	Bazaka K; Jacob M V; Crawford R J; Ivanova E P	Efficient surface modification of biomaterial to prevent biofilm formation and the attachment of microorganisms	Appl Microbiol Biotechnol 95 299-311 2012
PGRA	Jacob M V; Bazaka K; Taguchi D; Manaka T, Iwamoto M	Electron-blocking hole-transport polyterpenol thin films	Chem Phys Lett 528 26-28 2012
11/120; 11/1443	Gummow R J; Sharma N; Peterson V K; He Y	Crystal chemistry of the Pmnb polymorph of Li ₂ MnSiO ₄	J Solid State Chem 188 32-37 2012
11/1443	Gummow R J; Sharma N; Peterson V K; He Y	Synthesis, structure and electrochemical performance of magnesium-substituted lithium manganese orthosilicate cathode materials for lithium-ion batteries	J Power Sources 197 231-237 2012
09/070P	Lewis S E; Wüst R A J; Webster J M; Shields G A; Lough J M; Jacobsen G	Development of an inshore fringing coral reef using textural, compositional and stratigraphic data from Magnetic Island, Great Barrier Reef, Australia	Mar Geol 299-302 18-32 2012
08/067	Webster J M; Beaman R J; Puga-Bernabéua A; Ludman D; Renema W; Wust R A J; George N P J; Reimere P J; Jacobsen G E; Moss P	Late Pleistocene history of turbidite sedimentation in a submarine canyon off the northern Great Barrier Reef, Australia	Palaeogeogr Palaeocl 75-89 2012

La Trobe University

07/034	Ferrier A; Cosgrove R	Aboriginal exploitation of toxic nuts as a late- Holocene subsistence strategy in Australia's tropical rainforests	Terra Australis 34 104-120 2012
PGRA	Dresel P E; Hekmeijer P; Dean J F; Harvey W; Webb J A; Cook P	Use of laser-scan technology to analyse topography and flow in a weir pool	Hydrol Earth Syst Sci 16 2703-2708 2012
PGRA	Dean J F; Webb J A; Jacobsen G; Chisari R; Dresel P E	Vegetation uptake controlling groundwater solute evolution on a southeast Australian granite	Mineral Mag 75 1635 2012
PGRA	Grover S P P; Baldock J A; Jacobsen G E	Accumulation and attrition of peat soils in the Australian Alps: isotopic dating evidence	Austral Ecology 37 510-517 2012
04/123	McPhee I; Pemberton EG	Results of Corinth excavations	In: Late Classical Pottery from Ancient Corinth: Drain 1971-1 American School of Classical Studies at Athens book 7 2012 Princeton New Jersey

10/050	Hashim H; Usher B F	The Incorporation of In in GaAsN as a Means of N Fraction Calibration	International Conference of Applied Mathematics, Mechanics and Physics, Singapore, World Academy of Science, Engineering and Technology 217 2011
10/050	Hashim H; Usher B F	"Strain Cancellation by Indium Incorporation for the Calibration of Nitrogen Fractions in GaAsN", in Semiconductor Electronics (ISCE)	IEEE International Conference 8-11 2010

Macquarie University

PGRA	Brown J	Growth and characterisation of rare Earth nitride thin films	PhD Thesis 2012
12/088	Fryirs K ; Freidman B; Kohlhagen T	The formation and geomorphic condition of upland swamps in the Blue Mountains: Implications for the rehabilitation of these endangered ecosystems	6th Australian Stream Management Conference. Managing for Extremes 574-580 2012
08/127P	White D; Hafsteinsdottir E; Gore D ; Thorogood G; Stark S	Formation and stability of Pb-, Zn- & Cu-PO ₄ phases at low temperatures: implications for heavy metal fixation in Polar Environments	Environ Pollut 161 143-153 2012
10/094P	Smith H G ; Sheridan G J; Nyman P; Child D P; Lane P N J; Hotchkis M A C; Jacobsen G E	Quantifying sources of fine sediment supplied to post-fire debris flows using fallout radionuclide tracers	Geomorphology 139-140 403-415 2012
11/102	Mohiuddin K; Strezov V ; Stelcer E; Morrison A; Nelson P	Characterisation of size resolved air particulates in the vicinity of electric arc furnace steelmaking facility	6th International Conference on Environmental Science and Technology 1 1019 2012 Houston USA

The University of Melbourne

10/120	Chen D; Cao L; Hanley T L; Caruso R A	Facile synthesis of monodisperse mesoporous zirconium titanium oxide microspheres with varying compositions and high surface areas for heavy metal ion sequestration	Adv Funct Mater 22 1966-1971 2012
08/083 & 07/026	Wang X; Dornom T; Blackford M; Caruso R A	Solvothermal synthesis and photocatalytic application of porous Au/TiO ₂ nanocomposites	J Mater Chem 22 11701-11710 2012
08/083	Wang X; Blackford M; Prince K; Caruso R	Preparation of boron-doped porous titania networks containing gold nanoparticles with enhanced visible-light photocatalytic activity	ACS Appl Mater Inter 4 476-482 2012
07/031	(Chen D) Huang F; Li Q; Thorogood G J; Cheng Y B; Caruso R A	Zn-doped TiO ₂ electrodes in dye-sensitized solar cells for enhanced photocurrent	J Mater Chem 22 17128-17132 2012
08/146, 10/148	Griffiths M L; Fohlmeister J; Drysdale R N ; Hua Q; Johnsona K R; Hellstrom J C; Gagan M K; Zhao J	Hydrological control of the dead carbon fraction in a Holocene tropical speleothem	Quat Geochronol 14 81-93 2012

ISIS	Davidson C J; Finlayson T R ; Griffiths J R; Fitzpatrick M E; Oliver E C; Wang Q G	Stresses in inclusions resulting from plastic flow in the matrix of a two-phase composite during cyclic loading	20th AIP National Congress of Physics University of N.S.W published on Congress CD 2012
07/089P	Tian Y; Kohn B P ; Zhu C; Xu M; Hu S; Gleadow A J W	Post-orogenic evolution of foreland basin systems: An example from the mesozoic micang shan foreland basin, central China	Basin Res 24 70-90 2012
07/148	Fletcher M-S; Thomas I	A quantitative late quaternary temperature reconstruction from western Tasmania, Australia	Quaternary Sci Rev 29 2351-2361 2010

Monash University

07/016	Rizwan S B; Assmus D; Boehnke A; Hanley T; Boyd B J ; Rades T; Hook S	Preparation of phytantriol cubosomes by solvent precursor dilution for the delivery of protein vaccines	Eur J Pharm Biopharm and Biopharmaceutics 79 15-22 2011
10/057;	Nino M; Evans R A; Hawley A; Boyd B J ; Hanley T L	Alkylation of spiropyran moiety provides reversible photo-control over nanostructured soft materials	Biointerphases 7 3 2012
09/131	Gagliardi F M; Cashion J D	Solvation of gold and rare earths by tributyl phosphate	Hyperfine Inter 207 13-17 2012
12/139	(Cook P) Jennings M T	The history of diazotrophic cyanobacterial blooms in the Gippsland Lakes	Honours Thesis 2012
PGRA	Fong W K ; Hanley T L; Thierry B; Kirby N; Waddington L J; Boyd B J	Controlling the nanostructure of gold nanorod-lyotropic liquid-crystalline hybrid materials using near-infrared laser irradiation	Langmuir 28 14450-14460 2012
PGRA	Phan S; Fong W K ; Kirby N; Hanley T; Boyd B J	Evaluating the link between self-assembled mesophase structure and drug release	Int J Pharm 421 176- 182 2011
PGRA	Hall G ; Edwards A J; Batten S R; Turner D R	Investigation of hydrogen bonding networks using neutron diffraction	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 34 2012 Lucas Heights
01/084	(Kershaw P) Brown J	Late Quaternary history of landscape processes, southeast highlands, Victoria	PhD Thesis 2011
08/104	(Kershaw P) Sabri Y M; Ippolito S J; Al Kobaisi M; Griffin M J; Nelson D R; Bhargava S K	Investigation of Hg sorption and diffusion behavior on ultra-thin films of gold using QCM response analysis and SIMS depth profiling	J Mater Chem 22 20929-20935 2012
09/007	McNiven I J; Crouch J; Richards T; Gundiŋ Mirring Traditional Owners Aboriginal Corporation; et al	Dating Aboriginal stone-walled fishtraps at Lake Condah, southeast Australia	J Archaeol Sci 39 268-286 2012
09/1013	Menzies D J ; Nelson A; Shen H-H; McLean K M; Forsythe J S; Gengenbach T; Fong C; et al	An x-ray and neutron reflectometry study of 'PEG-like' plasma polymer films	J R Soc Interface 9 1008-1019 2012
11/129	Mahesh B V; Singh R K ; Koch C C	Bimodal grain size distribution: An effective approach for improving the mechanical and corrosion properties of Fe-Cr-Ni alloys	J Mater Sci 47 7735-7743 2012

12/134	Mahesh B V; Singh R R K ; Joardar J; Joshi S V; Koch C C	Mechanical properties and oxidation resistance of Fe-Cr alloys with controlled dispersion of microcrystalline grains in a nanocrystalline matrix	Proc. (CDROM) Corrosion and Protection Conf 39 1-May 2012
FEL	Turner D R ; Edwards A J; Piltz R O	Nitrile groups as hydrogen-bond acceptors in a donor-rich hydrogen-bonding network	Crystengcomm 14 6447-6451 2012
FEL	Chesman A S R; Turner D R ; Moubaraki B; Murray K S; Deacon G B Batten S R	In situ ligand formation in the synthesis of an octanuclear dysprosium 'double cubane' cluster displaying single molecule magnet features	Dalton Trans 41 3751-3757 2012
PGRA	van Lierop B	Dicarpa mimetics of cystine-containing peptides	PhD Thesis 2010
10/028	Wright D	Mid Holocene maritime economy in the western Torres Strait	Archaeology in Oceania 46 23-27 2011

Murdoch University

11/133	Sathiyaraj K; Singh P; Appadoo D; Ionescu M; Minakshi M	Olivine-type cathode for rechargeable batteries: role of chelating agents	Electrochim Acta 82 302-308 2012
11/133	Minakshi M ; Ralph D; Blackford M; Ionescu	LiNiPO ₄ aqueous rechargeable battery	ECS Transactions 35 281-292 2011
11/133	Minakshi M ; Blackford M; Ionescu	Characterization of alkaline-earth oxide additions to the MnO ₂ cathode in an aqueous secondary cell	J Alloy Compd 509 5974-5980 2011
BRG001492	Minakshi M ; Meyrick D; Sharma N; Appadoo D	Olivine Li(Co _{0.5} Ni _{0.5})PO ₄ cathode for battery applications	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 48 2012 Lucas Heights
11/133	Minakshi M ; Singh P; Ralph D; Appadoo D; Blackford M; Ionescu M	Structural characteristics of olivine Li(Mg _{0.5} Ni _{0.5})PO ₄ via TEM analysis	Ionics 18 583-590 2012
10/053	Minakshi M ; Singh P; Sharma N; Blackford M; Ionescu M	Lithium extraction-insertion from/into LiCoPO ₄ in aqueous batteries	Ind Eng Chem Res 50 1899 2011

The University of Newcastle

PGRA	Carstens T; Hayes R ; El Abedin S Z; Corr B; Webber G B; Borisenko N; Atkin R; Endres R	In situ STM, AFM and DTS study of the [Hmim]FAP / Au(111) interface	Electrochim Acta 82 48-59 2012 ISSN: 0013-4686
PGRA	Warr G G; Atkin R; Hayes R ; Bernard S	Amphiphilic structure and solubility in ionic liquids	Association in Solution III – Self-assembly: From Bio-colloids to Nano-engineering 36 2012
PGRA	Hayes R ; Imberti S; Warr G G; Atkin R	How water dissolves in protic ionic liquids	Angew Chem Int Edit 51 7468-7471 2012
PGRA	Sweeney J; Hausen F; Hayes R ; Webber G B; Endres F; Rutland M W; Bennowitz R; Atkin R	Control of nanoscale friction on gold in an ionic liquid by a potential-dependent ionic lubricant layer	Phys Rev Lett 109 155502-155506 2012

PGRA	Hayes R ; Borisenko N; Corr B; Webber G B; Endres F; Atkin R	Effect of dissolved LiCl on the ionic liquid–Au(111) electrical double layer structure	Chem Commun 48 10246–10248 2012
PGRA	Hayes R ; Warr G G; Atkin R	At the interface: solvation and designing ionic liquids	Phys Chem Chem Phys 12 1709-1723 2010
PGRA	Endres F; Borisenko N; El Abedin S Z; Hayes R ; Atkin R	The interface ionic liquid(s)/electrode(s): in situ STM and AFM measurements	Faraday Discuss 154 221-233 2012
PGRA	Hobley E U ; Willgoose G R; Frisia S; Jacobsen G	Chemical changes in soil charcoal of differing ages inferred from DRIFT spectra	European Geosciences Union General Assembly EGU2012-3778 2012
PGRA	Hobley E U ; Willgoose G R; Frisia S; Jacobsen G	Depth dependency, retention and stabilisation of organic carbon in a sandy tenesol E.U	Eurosoil S07.05-P-5 2012
PGRA	Hobley E U ; Willgoose G R; Frisia S; Jacobsen G	A quick, easy and low-cost method for sampling CO ₂ in soil gas	Eurosoil S04.06-P-2 2012
PGRA	Hobley E U ; Willgoose G R; Frisia S; Jacobsen G	A comparison of radiocarbon ages in organic carbon of charcoal and particle-size fractions in a sandy soil from South-east Australia	Eurosoil S07.06a -6 2012
BRG001458	Kisi E	Stress distribution in particulate materials: 1 – die compaction	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 50 2012 Lucas Heights
	Wensrich C M; Kisi E H ; Zhang J F; Kirstein O	Measurement and analysis of the stress distribution during die compaction using neutron diffraction	Granular Matter 14 671-680 2012
10/1451	Cenna AA; Page N W; Kisi E ; Jones M G	Single particle impact tests using gas gun and analysis of high strain-rate impact events in ductile materials	18th International Conference on Wear of Materials 271 1497–1503 2011
08/046; 09/088	Hua Q; McDonald J ; Redwood D; Drysdale R; Lee S; Fallon S; Hellstrom J	Robust chronological reconstruction for young speleothems using radiocarbon	Quat Geochronol 14 67-80 2012
PGRA	Wakeham D ; Warr G G; Atkin R	Surfactant adsorption at the surface of mixed ionic liquids and ionic liquid water mixtures	Langmuir 28 13224–13231 2012

The University of New South Wales

PGRA	Bertinshaw J	Polarised neutron and X-ray resonant magnetic reflectivity studies of multiferroic thin films	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 60 2012 Lucas Heights
11/067P	Cope J; Chagué-Goff C ; Mooney S; Goff J; Zawadzki A; Wong H; Kilroy C; Jacobsen G; Dominey-Howes D	Holocene record of gradual, catastrophic and human influenced environmental change at Moawhitu wetland, D'Urville Island, New Zealand	AMOS Annual Conference 226 2012 Sydney
12/087	(Chagué-Goff C) Blecher L	Multi-proxy analysis of the June 1932 Tsunamis on the Pacific Coast of Mexico	Honours thesis 2012

10/088	Chagué-Goff C ; Goff J; Nichol S L; Dudley W; Zawadzki A; Bennett J W; Mooney S D; Fierro D; Hejnis H; Dominey-Howes D; Courtney C	Multi-proxy evidence for trans-Pacific tsunamis in the Hawaiian Islands	Mar Geol 299–302 77-89 2012
11/067P	Chagué-Goff C ; Cope J; Goff J; McFadgen B; Mooney S; Kilroy C; Zawadzki A; Wong H; Jacobsen G	Return of the Sea Monster – a tale from D'Urville Island, New Zealand	3rd Joint IGCP588/INQUA 1001 Meeting 47 2012 Germany
PGRA	Ciampi S ; James M; Le Saux G; Gaus K; Gooding J J	Electrochemical “switching” of silicon(100) modular assemblies	J Am Chem Soc 134 844–847 2012
FEL	Ehmke M C; Daniels J ; Glaum J; Hoffman M; Bowman K J	Reduction of the piezoelectric performance in lead-free (1-x)Ba(Zr _{0.2} Ti _{0.8})O ₃ x(Ba _{0.7} Ca _{0.3})TiO ₃ piezoceramics under uniaxial compressive stress	Appl Phys 112 114108 2012
FEL	Daniels J E ; Jo W; Donner W	High-energy synchrotron x-ray diffraction for in-situ diffuse scattering studies of bulk single crystals	JOM 64 174-180 2012
FEL	Daniels J E ; Kimpton J; Liss K D; Welberry T R	The advanced diffraction and scattering beamline: A high-energy x-ray beamline at the Australian Synchrotron for materials research	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 43 2012 Lucas Heights
PGRA	Hanaor D ; Chironi I; Karatchevseva I; Triani G; Sorrell C	Single and mixed phase TiO ₂ powders prepared by excess-hydrolysis of a titanium alkoxide	Adv Appl Ceram 111 149-158 2012
PGRA	Hanaor D ; Michelazzi M; Leonelli C; Sorrell C C	The effects of carboxylic acids on the aqueous dispersion and electrophoretic deposition of ZrO ₂	J Eur Ceram Soc 32 235-244 2012
11/1242	Princep A J; Mulders A M ; Schierle E; Weschke E; Hester J; Hutchison W D; Narumi Y, Nakamura T	High-order Ho multipoles in HoB ₂ C ₂ observed with soft resonant x-ray diffraction	J Phys-Condens Mat 24 075602 2012
09/012	(Ross S) ; Sobotkova A	The emergence of social complexity in 1st millennium Thrace	PhD thesis 2012
FEL	Chiang C-Y; Su H-C; Wu P-J; Liu H; Hu C-W; Sharma N ; Peterson V K; Hsieh H-W; Lin Y-F; Chou W-C; Lee C-H; Lee J-F; Shew B-Y	Vanadium substitution of LiFePO ₄ cathode materials to enhance the capacity of LiFePO ₄ based lithium-ion batteries	J Phys Chem C 116 24424–24429 2012
FEL	Sharma N	Lithium position and occupancy fluctuations in a cathode during charge/discharge cycling of a lithium-ion battery	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 85 2012 Lucas Heights
PGRA	Simons H ; Glaum J; Daniels J E; Studer A J; Liess A; Rödel J; Hoffman M	Domain fragmentation during cyclic fatigue in 94%(Bi _{1/2} Na _{1/2})TiO ₃ -6%BaTiO ₃	J Appl Phys 12 044101-044105 2012
12/053	Cadogan J M; Cobas Acosta R; Muñoz-Pérez S; Stewart G A ; Campbell S J; Avdeev M	Magnetic order in ErGa and TmGa	20th Annual Australian Institute of Physics Congress, Electronic handbook 19 2012 Sydney

11/147	Stewart G A ; Cadogan J M; Cobas Acosta R; Muñoz-Pérez S	The magnetic hyperfine field at the 169Tm-site in TmFe ₁₁ Ti	20th Annual Australian Institute of Physics Congress, Electronic handbook 7 2012 Sydney
12/084P	(Tan T) Lee J J; Ionescu M; Xing G Z; Li S	Depth distribution profile of the implanted Cobalt (Co) and Europium (Eu) ions in ZnO:Co and ZnO:Eu thin film	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 73 2012 Lucas Heights
12/023	(Ulrich C) Rovillain P; Liu J; Cazayous M; Gallais Y; Measson M-A; Sakata H; Sacuto A	Electromagnon and phonon excitations in multiferroic TbMnO ₃	Phys Rev B 86 014437 2012
12/023	(Ulrich C) Liu J; Toulouse C; Rovillain P; Cazayous M; Gallais Y; Measson M-A; Lee N; Cheong S W; Sacuto A	Lattice and spin excitations in multiferroic h-YbMnO ₃	Phys Rev B 86 184410 2012
12/023	Danilkin S A; Yethiraj M; Saerbeck T; Klose F; Ulrich C ; Fujioka J; Miyasaka S; Tokura Y; Keimer B	TAIPAN: first results from the thermal triple-axis spectrometer at OPAL research reactor	J Phys Conf Ser 340 012003 2012
PGRA	Van Der Ley M ; Cendon D; Graham I	Radiocarbon analysis of bulk and fractionated dissolved organic carbon from ground and surface waters in remote NW Queensland	34th International Geological Congress 922 2012
PGRA	Van Der Ley M ; Cendon D; Graham I	Hydrogeochemical processes in a monsoon dominated karst environment, NW Queensland	34th International Geological Congress 1442 2012
09/0942	Wang J L ; Campbell S J; Cadogan J M; Studer A J; Zeng R; Dou S X	Magnetocaloric effect in layered NdMn ₂ Ge _{0.4} Si _{1.6}	Appl Phys Lett 98 232509-232521 2011

The University of Otago

PGRA	Howarth J D ; Fitzsimons S J; Norris R J; Jacobsen G E	Lake sediments record cycles of sediment flux driven by large earthquakes on the Alpine fault, New Zealand	Geology 40 1091-1094 2012
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The University of Queensland

PGRA	Chen X ; He L; Middelberg A	Bioactivity and stability of engineered human galectin-2 protein	1st International Conference on BioNano innovation -- ECR symposium 117 2012 Brisbane
PGRA	Chen X ; Wilde K; Wang H; Lake V; Holden P; Middelberg A; He L; Duff A	High yield expression and efficient purification of deuterated human protein galectin-2	Food Bioprod Process 90 563-572 2012
90/008	Haberle S G; David B	Peopled Landscapes: Archaeological and Biogeographic Approaches to Landscapes	Terra Australis 34 359-373 2012
90/008	Lourandos H; David B ; Roche N; Rowe C; Holden A; Clarke S J	Hay Cave: A 30,000-year cultural sequence from the Mitchell-Palmer limestone zone, north Queensland, Australia	Terra Australis 34 27-63 2012

08/094; 09/08	Morellia G; Gasparona M ; Fierroc D; Hua W-P; Zawadzki A	Historical trends in trace metal and sediment accumulation in intertidal sediments of Moreton Bay, southeast Queensland, Australia	Chem Geol 300–301 152–164 2012
09/083	(Gasparon M) Morelli G	Human impact recorded in sediment cores from estuarine environments: an example from Moreton Bay, southeast Queensland, Australia	Quatern Aust 27 2 2010
FEL	Liu J; Wang B; Hartono S B; Liu T; Kantharidis P; Middelberg A P J; Lu G Q; He L ; Qiao S Z	Magnetic silica spheres with large nanopores for nucleic acid adsorption and cellular uptake	Biomaterials 33 970-978 2012
07/079	Kahn J G	Excavation data and site construction sequences for 'Opunohu Valley Marae (Windward Society Islands)	In: Bilan de la recherche archéologique en Polynésie française 2005-2006 B. Mou, ed 2008
11/114P	Santini N S; Schmitz N; Lovelock C E	Variation in wood density and anatomy in a widespread mangrove species. Trees structure and function	Trees 26 1555-1563 2012
08/049	Moss P T ; Cosgrove R; Ferrier A; Haberle S G	Holocene environments of the sclerophyll woodlands of the wet tropics of northeastern Australia	Terra Australis 34 329 – 341 2012
PGRA	Smith A R G ; Riley M J; Burn P L; Gentle I R; Lo S C; Powell B J	Effects of fluorination on Iridium(III) complex phosphorescence: magnetic circular dichroism and relativistic time-dependent density functional theory	Inorg Chem 51 2821-2831 2012
PGRA	Smith A	Properties of materials for organic light emitting diodes	PhD Thesis 2012
PGRA	Smith A R G ; Lee K H; Nelson A; James M; Burn P L; Gentle I R	Diffusion – the hidden menace in organic optoelectronic devices	Advanced Materials 24 822 2012
PGRA	Darwish T A; Smith A R G ; Gentle I R; Burn P L; Luks E, Holden P J; James M et al	Deuteration of molecules for neutron reflectometry on organic light-emitting diode thin films	Tetrahedron Lett 53 931–935 2012
10/071; 12/004	Weisler M ; Yamano I H; Hua Q	A multidisciplinary approach for dating human colonization of Pacific atolls	Journal of Island and Coastal Archaeology 7 102-125 2012
09/033P	(Zhao J); St Pierre E	U-series dating and geochemical analysis of speleothems: Developing a robust chronological tool for cave deposits and assessing Late Holocene human-environment interactions in western Flores, Indones	PhD Thesis 2012
10/076	Hua Q; Webb G; Zhao J ; Nothdurft L; Price G	Variations in marine reservoir corrections for the Great Barrier Reef during the last 7000 years	12th International Conference on Accelerator Mass Spectrometry 31 2011 New Zealand

Queensland University of Technology

PGRA	Spratt H ; Rintoul L; Avdeev; Martens W	Location of hydrogen atoms in hydronium and ammoniojarosite	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 86 2012 Lucas Heights
11/128	Ahsan M; Tesfamichael T ; Bell J; Wlodarsk W; Motta N	Low temperature response of nanostructured tungsten oxide films towards hydrogen and ethanol	Sensor Actuat B-Chem 173 789-796 2012
10/054	Ahsan M; Tesfamichael T ; Ionescu M; Bell J; Motta N	Low temperature CO sensitive nanostructured WO ₃ thin films doped with Fe	Sensor Actuat B-Chem 162 14-21 2012
12/062	(Tesfamichael T) Ahsan M	Thermally evaporated tungsten oxide (WO ₃) thin films for gas sensing applications	PhD Thesis 2012
12/062	Tesfamichael T ; Ponzoni A; Ahsana M; Faglia G	Gas sensing characteristics of Fe-doped tungsten oxide thin films	Sensor Actuat B-Chem 168 345-353 2012

RMIT University

12/024	Kent B; Bryant G ; Hunt T; Garvey C J	Studying lipid membrane – solute interaction with specular and off-specular neutron scattering	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 39 2012 Lucas Heights
PGRA	Kent B	Location of sugars in bilayer and non-bilayer lipid phases: relevance to membrane preservation during desiccation	PhD Thesis 2011
11/122; 12/031	Murugaraj P; Mainwaring D ; Siegele R	Influence of the nanocomposite interphase region on electron transport in device	6th International Composites Conference ACUN-6 283-289 2012
11/122; 12/031	Murugaraj P; Mainwaring D E ; Al Kobaisi M; Siegele R	Stable doped sp ² C-hybrid nanostructures by reactive ion beam irradiation	J Mater Chem 22 18403-18410 2012
11/057	(Nugegoda D); Cresswell T	Sources and mechanisms of cadmium bioaccumulation in the Lagaip and Strickland Rivers, Papua New Guinea	PhD Thesis 2012

Southern Cross University

11/070	Cheetham M D ; Wong V N L; Bush R T; Sullivan L A; Ward N J; Zawadzki A	Mobilisation, alteration, and redistribution of monosulfidic sediments in inland river systems	J Environ Manage 112 330-339 2012
11/070	Cheetham M D ; Wong V N L; Bush R T; Sullivan L A; Ward N J	Monosulfidic sediments in the Wakool River, Southern Australia: A preliminary investigation	Grove, J. and Rutherford, I. (eds) 214-222 2012 Canberra
08/087	Clark M W ; Payne T E; Harrison J J; Comarmond M J; Dore M J	Modified Bauxite refinery residues for immobilizing U(VI)	12th South Pacific Environmental Radioactivity Association Conference (SPERA2012) 23 2012 Lucas Heights
11/084	Tiago F; Clark M ; Comarmond J; Payne T; Reichelt-Brushett A; Thorogood G	Electroacoustic isoelectric point determinations of bauxite refinery residues: different neutralisation techniques and minor mineral effects	Langmuir 28 11802-11811 2012

08/087	Clark M W ; Payne T; Collins R; Harrison J; Johnston M; Comarmond J	Unravelling metal binding on modified Bauxite refinery residues	9th Alumina Quality Workshop 178 - 185 2012 Perth
07/045	Maher D T; Eyre B D	Carbon budgets for three autotrophic Australian estuaries: Implications for global estimates of the coastal air-water CO ₂ flux	Global Biogeochem Cy 26 GB1032 2012
11/079	Johnston S G ; Burton E D; Keene A F; Planer-Friedrich B; Voegelin A; Blackford M; Lumpkin G	Arsenic mobilization and iron transformations during sulfidization of As(V)-bearing jarosite	Chemical Geology 334 9-24 2012
05/087	Erskine W; Keene A ; Bush R; Cheetham M; Chalmers A	Influence of riparian vegetation on channel widening and subsequent contraction on a sand-bed stream since European settlement: Widden Brook, Australia	Geomorphology 147 102-114 2012

Swinburne University of Technology

P1989; P1751	Cottam R ; Luzin V; Thorogood K; Liu Q; Wong Y; Brandt M	Stress relief heat treatment for laser clad Ti-6Al-4V on a Ti-6Al-4V substrate	The First International Conference on Metallic Materials and Processing 73 2012
BRG2310	Cottam R ; Luzin V; Edwards D; Majumdar A; Brandt M	Laser surface engineering improving the all-around corrosion behaviour of nickel-aluminium bronze	Materials Australia 28-30 2012
P1989; P1751	Cottam R ; Luzin V; Thorogood K; Liu Q; Mathews N; Brandt M	Residual stress of laser clad aerospace alloys both pre and post heat treatment	Manufacturing Innovations in Laser Additive Manufacture' 4 2012
BRG001989; BRG001751	Cottam R	Laser materials processing and residual stress formation for several metallic materials	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 51 2012 Lucas Heights
BRG2198	Haque R ; Durandet Y; Paradowska A	Effect of sheet material properties on residual stress profile in Self-Pierce Riveted joint	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 67 2012 Lucas Heights
10/151	Haque R ; Beynon J H; Durandet Y; Kirstein O; Blacket S	Feasibility of measuring residual stress profile in different self-pierce riveted joints	Sci Technol Weld Joi 17 60-68 2012
09/1416	Haque R ; Beynon J H; Kirstein O; Wong Y C; Durandet Y	Evaluation of residual stress in SPR joint by neutron diffraction	Adv Mater Res 409 575-580 2012

The University of Sydney

PGRA	Abbey E	The effects of late-pleistocene sea-level and environmental change on submerged fossil reefs on the Great Barrier Reef and Tahiti	PhD Thesis 2011
PGRA	Auckett J E ; Studer A J; Sharma N; Ling C D	Floating-zone growth of Sr ₂ Fe ₂ O ₅ and observation of a chain-ordered superstructure by single-crystal neutron diffraction	Solid State Ionics 225 432-436 2012

PGRA	Miiller W; Auckett J ; Avdeev M; Ling C D	Coexistence of spin glass and antiferromagnetic orders in $Ba_3Fe_{2.15}W_{0.85}O_{9-x}$	J Phys-Condens Mat 24 206004-26012 2012
PGRA	Auckett J ; Ling C D	Neutron scattering investigations of high-temperature oxygen order in oxide ion conducting brownmillerites	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 23 2012 Lucas Heights
07/013	Birch G F ; Olmos M A; Lu X T	Assessment of future anthropogenic change and associated benthic risk in coastal environments using sedimentary metal indicators	J Environ Manage 107 64-75 2012
PGRA	Brant W ; Schmid S	Investigating Structure-Property Relationships in Cathode Materials via Combined Ex-situ and In-situ Diffraction Techniques	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 46 2012 Lucas Heights
PGRA	Brant W ; Schmid S; Kuhn A; Hester J; Avdeev M; Sale M; Gu Q	Rapid Lithium insertion and location of mobile lithium in the defect perovskite	ChemPhysChem 13 2293 2012
10/038	Wang S; Blazek J; Gilbert E; Copeland L	New insights on the mechanism of acid degradation of pea starch	Carbohydr Polym 87 1941-1949 2012
10/082; 11/047	Pattison D I; Shinde S S; Anderson R F; Davies M J	Intercepting Trp- and Tyr-derived protein radicals with nitroxide antioxidants: unravelling structural influences	Radiation 2012 – Radioprotection: Past, Present and Future 42 2012 Lucas Heights, Australia
PGRA	Harris D L ; Vila-Concejo A; De Carli E V; Webster J M	Geomorphology and morphodynamics of a sand apron, One Tree reef, southern Great Barrier Reef	J Coastal Res 64 760-764 2011
09/103P	Hashemi-Nezhad S R ; Zhuk I; Potapenko A; Kievets M; Krivopustov M I	Calibration factor for determination fission rate of thorium in an arbitrary neutron field	Nucl Instrum Meth A 664 154–160 2012
06/081	Hudson B	Buddhism and upper Myanmar's early walled cities: comparing the historical and archaeological evidence	In: Old Myths and New Approaches - Advances in the Interpretation of Religious Sites in Ancient Southeast Asia Monash Asia Institute, 2011 Melbourne
10/036	(Kench P) Clark M W; Akhurst D J; Fergusson L	The removal of Ra from Drinking waters using Bauxsol (erratum)	J Environ Qual 41 296 2012
10/036	(Kench P) Clark M W; Akhurst D J; Fergusson L	The removal of Ra from Drinking waters using Bauxsol	J Environ Qual 40 1835-1843 2011
12/080	Miiller W; Avdeev M; Zhou Q; Kennedy B J ; Sharma N; Kutteh R; Kearley G J; Schmid S; Knight K S; Blanchard P E R; Ling C D	Giant magnetoelastic effect at the opening of a spin gap in $Ba_3BiIr_2O_9$	J Am Chem Soc 134 3265–3270 2012
ISIS	Kennedy B ; Tan T-Y	The weird, but sometimes wonderful, world of managante perovskites	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 71 2012 Lucas Heights
Travel to ILL	Ling C D ; Miiller W; Johnson M R; Richard D; Rols S; Madge J; Evans I R	Local structure, dynamics, and the mechanisms of oxide ionic conduction in $Bi_{26}Mo_{10}O_{69}$	Chem Mat 24 4607-4614 2012
PGRA	Liu C	Self-assembly behaviour of cationic surfactants with hydrolysable counterions	PhD Thesis 2011

PGRA	Motbey C P ; Hunt G E; Bowen M T; Artiss S; McGregor I S	Mephedrone (4-methylmethcathinone; 'meow'): acute behavioural effects and distribution of Fos expression in adolescent rats	Addict Biol 17 409-422 2012
PGRA	Nguyen A	Biological speciation of therapeutic gallium drugs	PhD Thesis 2012
10/082; 11/047	Pattison D I ; Lam M; Shinde S S; Anderson R F; Davies M J	The nitroxide, TEMPO, is an efficient scavenger of protein radicals: cellular and kinetic studies	Free Radic. Biol. Med 53 1664-1674 2012
BRG002256	Pavan A	Optimising mixed ionic electronic conductors: The $Ba_xSb_{2-x}Nb_xTa_yO_9$ pseudo-ternary system	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 81 2012 Lucas Heights
02/098P	Tibby J; Penny D ; Leahy P; Kershaw P	Vegetation and water quality responses to Holocene climate variability in Lake Purrumbete, western Victoria	Terra Australis 34 359-373 2012
07/121P	Lustig T; Fletcher R; Kummu M; Pottier C; Penny D	Did traditional cultures live in harmony with nature? Lessons from Angkor, Cambodia	In: M. Kummu, M. Keskinen and O. Varis (Eds.), Modern Myths of the Mekong - A Critical Review of Water and Development Concepts, Principles and Policies. Water & Development Publications - Helsinki University of Technology, Finland 81-94 2008
07/121P	Penny D ; Pottier C; Kummu M; Fletcher R; Zoppi U; Barbetti M; Tous S	Hydrological history of the West Baray, Angkor, revealed through palynological analysis of sediments from the West Mebon	Bulletin de l'Ecole Francaise d'Extreme-Orient 92 497-521 2007
07/121P	Penny D	The Mekong River system and the end of the Angkor civilization; a water historical perspective	In T. Tvedt, R. Coopey (Eds.) Rivers and Society: From Early Civilisations to Modern Times. A History of Water, Series II Volume II. I.B. Taurus, London 129-143 2010 New York
11/075 and 11/031	Gale S J; Penny D A	Clastic spring sediments: a tool for palaeoflood reconstruction?	Zeitschrift fur Geomorphologie 56 387-400 2012
05/146, 05/213, 06/253	Schmid S ; Withers R	A-site deficient perovskites in the $SrO-ZrO_2-Nb_2O_5$ system: Composition dependent structures from neutron powder diffraction data	J Solid State Chem 191 63-70 2012
BRG001891	Schmid S ; Fung V	Incommensurate modulated structures in the $Ta_2O_5-Al_2O_3$ system	Aust J Chem 65 851-859 2012
11/167	Sharma S C; Warr G G	Phase Behavior, Self-Assembly, and Emulsification of Tween 80/ Water Mixtures with Limonene and Perfluoromethyldecalin	Langmuir 28 11707-11713 2012
09/143	Le Brun A P; Chow J; Bax D V; Nelson A; Weiss A S ; James M	Molecular orientation of tropoelastin is determined by surface hydrophobicity	Biomacromolecules 13 379-86 2011

University of Tasmania

11/155P	Vanston C; Edwards A; Kearley G; Darwish T; de Souza N; Gardiner M	Examination of solid state hydride dynamics of a $[\mu\text{-bis}(\text{NHC})_2\text{Pd}_2\text{H}]^+$ complex through neutron scattering techniques	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 89 2012 Lucas Heights
10/097	Ingleton T; McMinn A	Thermal plume effects: A multi-disciplinary approach for assessing effects of thermal pollution on estuaries using benthic diatoms and satellite imagery	Estuar Coast Shelf Sci 99 132-144 2012
10/097	Ingleton T; McMinn A	Assessing effects of thermal pollution on estuaries using benthic diatoms and satellite imagery. Estuarine, coastal and shelf	Science 99 132-144 2012
PGRA	Pedro J	High resolution ice core records of climate variability and forcing	PhD Thesis 2012
PGRA	Pedro J B ; McConnell J R; van Ommen T D; Fink D; Curran M A J; Smith A M; Simon K J; Moy A D; Das S B	Solar and climate influences on ice core ^{10}Be records from Antarctica and Greenland during the neutron monitor era	Earth Planet Sci Lett 174-186 2012
05/147	Townsend A T; Seen A J	Historical lead isotope record of a sediment core from the Derwent River (Tasmania, Australia): A multiple source environment	Sci Total Environ 424 153-161 2012

University of South Australia

10/058	Evans P J; Triani G; Nambiar M; Shapter J G; Losic D	Fabrication of titania nanotube membranes by atomic layer deposition using nanoporous alumina as a template	Chemeca 2011 432-436 2011 Sydney
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University of Technology Sydney

05/009P; 06/009	Ben-issan B ; Choi A H; Green D W; Latella B A; Chou J; Bendavid A	Synthesis and characterization of hydroxyapatite nanocoatings by sol-gel method for clinical applications	In: Sam Zhang (Ed.), Biological and Biomedical Coatings Handbook: Processing and Characterization Boca Raton, 2011 FL, USA CRC Press
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The University of Western Australia

07/019	Bradshaw D ; Bradshaw F	The physiology of the honey possum, <i>Tarsipes rostratus</i> , a small marsupial with a suite of highly specialised characters: a review	Comp Biochem Phys B 182 469-489 2012
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Victoria University of Wellington

BRG122161	Barber F; Tallon J L ; Mallett B P P; Avdeev M	Oxygen isotope effect in high temperature superconductors - phonons or magnons?	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 25 2012 Lucas Heights
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University of Wollongong

PGRA	Cortie D L ; Lewis R A	Importance of scattering, surface potential and vanguard-counter-potential in terahertz emission from GaAs	Appl Phys Lett 100 261601 2012
PGRA	Shueh C; Cortie D L	Modulating the exchange anisotropy CoFe/(Co,Fe)O	IEEE T Magn 48 2892-2895 2012
PGRA	Shueh C; Chen P S; Cortie D L ; Klose F; van Lierop J; Lin K W	Correlating uncompensated antiferromagnetic moments and exchange coupling in (Co,Fe)/(Co,Fe)O	Jap J App Phys 51 11PG02 2012
PGRA	Cortie D L ; Stampfl A P J; Klose F; Du Y; Wang X L; Zhao H; Kimura H; Cheng Z X	The magnetic structure of an epitaxial BiMn _{0.5} Fe _{0.5} O ₃ thin film on SrTiO ₃ (001) studied with neutron diffraction	Appl Phys Lett 101 172404 2012
PGRA	Cortie D L ; Lin K L; Shueh C; Lu C T; Wang X L; Fritzsche H; Brueck S; Klose F	Exchange bias in a nanocrystalline hematite/permalloy thin film investigated with polarized neutron reflectometry	Phys Rev B 86 054408-054417 2012
PGRA	Cortie D L ; Lewis R A	Terahertz surfoluminescence	Surf Sci 606 1573-1576 2012
PGRA	Cortie D L ; Lewis R A	The Importance of scattering, surface potential and vanguard-counter-potential in terahertz emission from GaAs	Appl Phys Lett 100 261601 2012
PGRA	Cortie D L	Spin-polarized neutron reflectometry investigation of rare-earth nitride thin films: DyN, HoN and ErN	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 70 2012 Lucas Heights
PGRA	Cortie D L ; Shueh C; Chen P S; Gao J F; Klose F; van Lierop J; Lin K	Exchange bias in Co/CoO with pillar-like structures	Jap J App Phys 51 11PG01 2012
BRG2148	Hong F ; Cheng Z; Wang J; Studer A	Neutron diffraction study on the frustrated multiferroic TbMn _{1-x} FexO ₃	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 69 2012 Lucas Heights
09/141	(Liu H-K) Ionescu M; Winton B; Wexler D; Siegele R; Deslantes A; Stelcer E; Atanacio A; Cohen D D	Enhanced biocompatibility of PDMS (polydimethylsiloxane) polymer films by ion irradiation	Nucl Instrum Meth B 273 161-163 2012
09/141	Choua S-L; Ionescu M; Wang J-Z; Winton B; Liu H-K	Irradiation Si on carbon nanotube paper as a flexible anode material for lithium-ion batteries	Nanosci Nanotechnol Lett 4 169-172 2012
PGRA	Livingstone J ; Prokopovich D A; Lerch M L F; Petasecca M; Reinhard M I; Yasuda H; Zaider M; Ziegler J F; Pisacane V L; Dicello J F; Rosenfeld A B	Large area silicon microdosimeter for dosimetry in high LET space radiation fields: charge collection study	IEEE T Nucl Sci 59 3126-3132 2012
08/124	Marx S K ; Kamber B S; McGowan H A; Zawadzki A	Atmospheric pollutants in alpine peat bogs record a detailed chronology of industrial and agricultural development on the Australian continent	Environ Pollut 158 1615-1628 2012

FEL	Fink H G; Wienberg C; Hebbeln F; McGregor H V ; Schmiedl G; Taviani M; Freiwald A	Oxygen control on Holocene cold-water coral development in the eastern Mediterranean Sea	Deep Sea Research Part I: Oceanographic Research Papers 62 89–96 2012
11/119	Petasecca M ; Cullen A; Fuduli I; Espinoza A; Porumb C; Stanton C; Aldosari A H; Bräuer-Krisch E; Requardt H; Bravin A; Perevertaylo V; Rosenfeld A B; Lerch M L F	X-Tream: a novel dosimetry system for synchrotron microbeam radiation therapy	J Instrum 7 P07022 2012
08/056	Weaver M; Green J; Petasecca M; Lerch M L F; Cutajar D; Franklin D; Jakubek J; Rosenfeld A B	Three-dimensional dosimetry imaging of I-125 plaque for eye cancer treatment	Nucl Instrum Meth A 633 276-278 2011
08/056	(Rosenfeld A B) Davis J; Ganesan K; Alves A; Guatelli S; Petasecca M; Livingstone J; Lerch M; Prokopovich D A; Reinhard M; Siegele R; Praver S; Jamieson D; Kuncic Z; et al	Characterization of a novel diamond-based microdosimeter prototype for radioprotection applications in space environments	IEEE T Nucl Sci 59 3110-3116 2012
FEL	Peters J; Trovaslet M; Trapp M; Florian N; Hill F; Royer E; Gabel F; van Eijck L; Masson P; Tehei M	Activity and molecular dynamics relationship within the family of human cholinesterases	Phys Chem Chem Phys 14 6764–6770 2012
BRG122538	Thoennesen L ; Liss K D; Dippenaar R; Dehghan-Manshadi A	Phase development in the near- β titanium alloy Ti-1Al-8V-5Fe	10th AINSE-ANBUG Neutron Scattering Symposium (AANSS) 87 2012 Lucas Heights

Member 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	OTA	University of Otago
ANU	The Australian National University	QLD	The University of Queensland
BAL	University of Ballarat	QUT	Queensland University of Technology
CAN	University of Canterbury	RMI	RMIT University
CBR	University of Canberra	SCU	Southern Cross University
CDU	Charles Darwin University	SYD	The University of Sydney
CQU	Central Queensland University	SWI	Swinburne University of Technology
CSU	Charles Sturt University	TAS	University of Tasmania
CSI	CSIRO	USA	University of South Australia
CUR	Curtin University of Technology	USC	University of the Sunshine Coast
DEA	Deakin University	USQ	University of Southern Queensland
ECU	Edith Cowan University	UNE	The University of New England
FLI	Flinders University	USA	University of South Australia
GNS	GNS Science	UTS	University of Technology Sydney
GRI	Griffith University	UWA	The University of Western Australia
JAM	James Cook University	UWS	University of Western Sydney
LAT	La Trobe University	VIC	Victoria University
MAC	Macquarie University	VUW	Victoria University of Wellington
MEL	The University of Melbourne	WAI	The University of Waikato
MON	Monash University	WOL	University of Wollongong

Specialist Areas

A	Archaeology and Geosciences
B	Biomedical Science and Biotechnology
E	Environmental Science
G	Bragg Institute - Neutron Scattering
M	Materials - Properties and Engineering
N	Materials - Structures and Dynamics