2000 Special Research Centres by Institution - contents

Australian Capital Territory

Australian Geological Survey Organisation	0
CAMBIA	0
The Australian National University	0
University of Canberra	0
TOTAL NUMBER OF CENTRES	**0**

New South Wales

Australian Catholic University	0
Avondale College	0
Centenary Institute of Cancer Medicine and Cell Biology	0
Centre for Advanced Studies in Physics	0
Charles Sturt University	1
Macquarie University	1
Royal North Shore Hospital	0
Southern Cross University	0
The Australian Museum	0
The Heart Research Institute	0
The University of New England	0
The University of New South Wales	2
The University of Newcastle	0
The University of Sydney	0
University of Technology, Sydney	0
University of Western Sydney	0
University of Wollongong	0
Victor Chang Cardiac Research Institute	0
TOTAL NUMBER OF CENTRES	**4**

Northern Territory

Menzies School of Health Research	0
Northern Territory University	0
TOTAL NUMBER OF CENTRES	**0**

Queensland

Bond University	0
Central Queensland University	0
Griffith University	0
James Cook University of North Queensland	0
Queensland Institute of Medical Research	0
Queensland Museum	0
Queensland University of Technology	0
The University of Queensland	1
University of Southern Queensland	0
TOTAL NUMBER OF CENTRES	**1**

South Australia

South Australian Museum	0
The Flinders University of South Australia	0
The University of Adelaide	1
University of South Australia	1
TOTAL NUMBER OF CENTRES	**2**

Tasmania

Australian Maritime College	0
University of Tasmania	0
TOTAL NUMBER OF CENTRES	**0**

Victoria

Deakin University	0
La Trobe University	1
Ludwig Institute for Cancer Research	0
Monash University	1
Murdoch Institute	0
Museum of Victoria	0
National Vision Research Institute	0
Peter MacCallum Cancer Institute	0
Royal Melbourne Institute of Technology	0
St Vincent's Institute	0
Swinburne University of Technology	0
The University of Melbourne	2
University of Ballarat	0
Victoria University of Technology	0
TOTAL NUMBER OF CENTRES	**4**

Western Australia

Curtin University of Technology	0
Edith Cowan University	0
King’s Park and Botanic Garden	0
Murdoch University	0
The University of Western Australia	0
Western Australian Maritime Museum	0
TOTAL NUMBER OF CENTRES	**0**

Charles Sturt University

S00001556

Prof Seumas Miller - Charles Sturt University
Prof Cecil Coady - The University of Melbourne
Mr Andrew Alexandra - Charles Sturt University
Dr Bruce Langtry - The University of Melbourne
Prof Donald Thomson - Charles Sturt University
Ms Margaret Coady - The University of Melbourne
Dr Stephen Pickard - Charles Sturt University

2000: $986,670.00 **2001:** $846,000.00 **2002:** $846,000.00

Category: 4401 - PHILOSOPHY

Title: Centre for Applied Philosophy and Public Ethics

Summary:
The Centre for Applied Philosophy and Public Ethics is an innovative proposal combining the complementary strengths of two existing centres specialising in the important, burgeoning area of applied philosophy. It builds upon existing collaborative links between the Centre for Philosophy and Public Issues at the University of Melbourne and the Centre for Professional and Applied Ethics at Charles Sturt University and utilises their extensive local and overseas connections for new initiatives bearing on vital public issues. It concentrates the energies of outstanding applied philosophers in a single unit dealing with some of the most central ethical problems facing Australia today.

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Macquarie University

S00001507

Prof Max Coltheart - Macquarie University
Prof Mary Beckman - Ohio State University
Prof Martin Davies - RSSS, Australian National University
A/Prof Jonathan Harrington - Macquarie University
A/Prof Veronika Coltheart - Macquarie University
Dr Sachiko Kinoshita - Macquarie University
Dr Timothy Bates - Macquarie University
Dr Johannes Ziegler - Macquarie University
Prof Michael Corballis - Auckland University
Ms Anne Maquire - University of Western Sydney
Ms Nora Breen - Macquarie University

2000: $848,622.00 **2001:** $699,500.00 **2002:** $699,500.00

Category: 3803 - COGNITIVE SCIENCE

Title: Centre for Cognitive Science and Cognitive Neuropsychology

Summary:
We plan to establish Australia's major centre of excellence for research and research training in cognitive science and cognitive neuropsychology at Macquarie University, with international collaborative links to the USA, Canada, France, Italy, Spain, Germany and New Zealand. The Centre would initially carry out research on (a)how people understand and produce language, and how these capabilities can break down after brain damage; (b)the relationship between visual memory and reading; (c)the nature of the delusions seen in schizophrenia and other disorders, and what causes these delusions.

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The University of New South Wales

S00001506

Prof Robert Clark - The University of New South Wales
Prof Gerard Milburn - The University of Queensland
Dr Andrew Dzurak - The University of New South Wales
Dr Michelle Simmons - The University of New South Wales
Dr Alex Hamilton - The University of New South Wales
Dr Nancy Lumpkin - The University of New South Wales
Dr Neale McAlpine - The University of New South Wales
A/Prof Halina Rubinsztein-Dunlop - The University of Queensland
A/Prof Steven Prawer - The University of Melbourne
A/Prof David Jamieson - The University of Melbourne

2000: $1,480,005.00 **2001:** $1,000,000.00 **2002:** $1,000,000.00

Category: 2402 - THEORETICAL AND CONDENSED MATTER PHYSICS

Title: Centre for Quantum Computer Technology

Summary:
Centre programs focus on the fundamental physics and technology of building, at the atomic level, a revolutionary prototype solid state quantum computer in silicon. The ability of a quantum computer to carry out calculations by manipulation of superpositions of quantum states will provide massive parallel processing power in applications of commercial and national significance. Construction of quantum computational devices at UNSW is in collaboration with the Universities of Queensland and Melbourne and Los Alamos National Laboratory, USA. The Centre will enable Australia to play a central role in the development of 21st century computer technology.

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S00001498

Prof Martin Green - The University of New South Wales
Dr Armin Aberle - The University of New South Wales
Dr Aihua Wang - The University of New South Wales
Dr Pietro Altermatt - The University of New South Wales
Dr Patrick Campbell - The University of New South Wales
Dr Richard Corkish - The University of New South Wales
Dr Mark Gross - The University of New South Wales

2000: $740,003.00 **2001:** $400,000.00 **2002:** $400,000.00

Category: 2909 - ELECTRICAL AND ELECTRONIC ENGINEERING

Title: Third-Generation Photovoltaics, a Commonwealth Special Research Centre

Summary:
Photovoltaics (pollution-free, direct sunlight-to-electricity conversion using solar cells) is the most rapidly growing sector of the electricity generation industry, poised to become a multi-billion dollar industry over this decade. Australia has figured prominently in first-generation photovoltaic technology, using silicon wafers, and is strongly positioned with second-generation, involving photoactive thin-films deposited onto glass. Present and anticipated commercial energy-conversion efficiencies (6-15%) fall well below thermodynamic limits (93%). The present major, internationally-focused, initiative targets a quantum leap to higher energy conversion efficiency third-generation technologies, combining thin-films with advanced conversion concepts.

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La Trobe University

S00001520

Prof Ary Hoffmann - La Trobe University
Dr Philip Batterham - The University of Melbourne
A/Prof Stephen McKechnie - Monash University
Dr David Heckel - The University of Melbourne
Prof John McKenzie - The University of Melbourne

2000: $740,003.00 **2001:** $710,500.00 **2002:** $710,500.00

Category: 2702 - GENETICS

Title: Centre for Environmental Stress and Adaptation Research (CESAR)

Summary:
As our environment becomes more polluted, organisms are exposed to increasingly stressful conditions. This Centre aims to understand evolutionary processes that organisms use to counter stresses. We will achieve three objectives. Firstly, we will learn how to minimise the evolution of resistance to toxins. This will reduce the likelihood of pests evolving resistance to chemicals used to control them. Secondly, we will learn how to maximise evolutionary responses to stresses. This is critical for long-term survival of threatened species likely to become extinct without adaptation. Finally, we will develop sensitive measures for monitoring stresses. This will provide a sensitive way of detecting toxic effects on populations before they become extinct.

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Monash University

S00001490

Prof William Jackson - Monash University
Prof Colin Raston - Monash University
Prof Alan Bond - Monash University
Dr Peter Duggan - Monash University
Dr Maria Forsyth - Monash University
Dr Donald McNaughton - Monash University
Dr Andrea Robinson - Monash University
Dr Ian McKelvie - Monash University
Dr Patrick Perlmutter - Monash University
Dr Leone Spiccia - Monash University
Dr Christopher Strauss - CSIRO, Molecular Science

2000: $1,171,671.00 **2001:** $867,500.00 **2002:** $867,500.00

Category: 2503 - ORGANIC CHEMISTRY

Title: Centre for Green Chemistry

Summary:
The Centre aims to use its academic excellence in embracing the principles of Green Chemistry leading to improvement in the Environment through cleaner production techniques. Projects within the Centre will involve collaboration with researchers in CSIRO and Industrial laboratories and where appropriate with the EPA, PACIA and Centre for Cleaner Production. Key projects will involve the replacement of organic solvents by water, CO2, and ionic liquids, the use of the synthesis of, new aqueous based catalyst systems, the use of microwave energy in chemical reactions, new energy efficient materials together with the development of new, appropriate analytical methods.

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The University of Melbourne

S00001515

Prof David Boger - The University of Melbourne
Prof Thomas Healy - The University of Melbourne
Prof Derek Chan - The University of Melbourne
Prof Geoff Stevens - The University of Melbourne
Dr Franz Grieser - The University of Melbourne
Prof Jan Van Deventer - The University of Melbourne
Dr Peter Scales - The University of Melbourne
Dr Andrea O'Connor - The University of Melbourne
Dr John Sader - The University of Melbourne

2000: $1,480,005.00 **2001:** $606,500.00 **2002:** $606,500.00

Category: 2906 - CHEMICAL ENGINEERING

Title: Particulate Fluids Processing Centre

Summary:
The Particulate Fluids Processing Centre (PFPC) develops key science for the processing of particulate fluids. Application is focussed on the agricultural, chemical, food, inkjet printing, mineral, water treatment, waste management, ceramic and pigment industries. Of primary interest are colloidal systems where inter-particle forces dictate the continuum properties of the fluid, generating exciting non-Newtonian properties. Processing industries generally need to control, manipulate and exploit the properties of particulate fluids. The Centre co-ordinates proven international strengths, in an effective management structure, in surface chemistry, continuum mechanics and non-Newtonian fluid mechanics, directed towards solution of particulate fluid processing problems.

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S00001540

Prof Rodney Tucker - The University of Melbourne
A/Prof David Everitt - The University of Melbourne
Dr Stephen Hanly - The University of Melbourne
A/Prof Vikram Krishnamurthy - The University of Melbourne
Dr Steven Low - The University of Melbourne
Dr Doreen Thomas - The University of Melbourne
Dr Wen Zhong - The University of Melbourne

2000: $616,669.00 **2001:** $709,500.00 **2002:** $709,500.00

Category: 2917 - COMMUNICATIONS TECHNOLOGIES

Title: Centre for Ultra-Broadband Information Networks

Summary:
The Centre for Ultra-Broadband Information Networks (CUBIN) will be a national focus for research into future generations of telecommunications networks that will provide virtually limitless amounts of information to any place at any time. Ultra-Broadband Information Networks will be key infrastructure for all of society, and will be of central importance to Australia’s future economic growth. The aim of the Centre is to advance fundamental theory and to develop a practical basis for the design, implementation and management of these networks. The Centre will allow Australia to fully capitalise on its international profile in ultra-broadband telecommunications well into the new millennium.

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University of Queensland

S00001543

Prof John Mattick - The University of Queensland
Prof Peter Andrews - The University of Queensland
Prof Brandon Wainwright - The University of Queensland
A/Prof Peter Koopman - The University of Queensland
Prof David James - The University of Queensland
A/Prof Robert Parton - The University of Queensland
Prof David Craik - The University of Queensland
Dr Victor Nurcombe - The University of Queensland
Dr Peter Noakes - The University of Queensland
Dr George Muscat - The University of Queensland

2000: $1,603,340.00 **2001:** $1,000,000.00 **2002:** $1,000,000.00

Category: 2701 - BIOCHEMISTRY AND CELL BIOLOGY

Title: Special Research Centre for Functional and Applied Genomics

Summary:
We are in the midst of the greatest period of discovery in human history, the exploration of the molecular basis of life and its diversity. The Centre will bring together researchers from existing research centres to create an integrated environment for computational biology, gene discovery, functional analysis, structural biology and biological chemistry, with the aim of understanding the complexity of vertebrate biology and utilising this knowledge to develop new industries. The Centre will have access to the most advanced equipment in Australia and be housed in a new $100m research complex, in conjunction with CSIRO, other research organisations and industry.

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The University of Adelaide

S00001531

Prof Robert Saint - The University of Adelaide
Dr Timothy Cox - The University of Adelaide
Dr Stephen Dalton - The University of Adelaide
Dr Simon Koblar - The University of Adelaide
Dr Michael Lardelli - The University of Adelaide
Prof Peter Rathjen - The University of Adelaide
Dr Helena Richardson - The University of Adelaide

2000: $2,096,674.00 **2001:** $1,000,000.00 **2002:** $1,000,000.00

Category: 2702 - GENETICS

Title: Centre for the Molecular Genetics of Development

Summary:
Understanding fundamental rules and mechanisms that govern cell behaviour from fertilisation to maturity constitutes an intriguing and important frontier in biological research. A mechanistic understanding of development will underpin medical and agricultural advances, providing more sophisticated genetic technologies, an understanding of human developmental disorders and the potential for new therapeutic agents. The outstanding researchers of this proposed Centre will apply innovative and integrated approaches to the discovery and characterisation of developmentally important genes. The intellectual synergy created by the diverse skills of Centre researchers and collaborators ensures that the Centre will have a high national and international impact.

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University of South Australia

S00001491

Prof John Ralston - University of South Australia
Prof Roger Horn - University of South Australia
Prof Roger Smart - University of South Australia
A/Prof Jani Matisons - University of South Australia
A/Prof Phil Attard - University of South Australia
Dr Namita Choudhury - University of South Australia
Dr Daniel Fornasiero - University of South Australia

2000: $1,233,338.00 **2001:** $657,500.00 **2002:** $657,500.00

Category: 2501 - PHYSICAL CHEMISTRY (INCL. STRUCTURAL)

Title: Centre for Particle and Material Interfaces

Summary:
A world-class Special Research Centre for Particle and Material Interfaces (CPMI) is proposed in this application. The Centre will occupy a unique research area in Australia. The proposed CPMI will concentrate on outstanding fundamental research on static and dynamic processes involving soft and hard interfaces. Practical examples include soft, deformable emulsion droplets in pharmaceutical formulations and hard, mineral particle surfaces in mineral slurries. Successful outcomes from this research have the potential to solve difficult environmental problems concerning acid mine drainage, reduce energy consumption in minerals processing, improve the quality of medical and dental implants and result in new printing technologies, as examples.

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