

Summary of Linkage Projects Proposals for Funding to Commence in 2007

Victoria

The University of Melbourne

LP0775187 Dr B Appleton; Prof ME Goddard; Dr J Vaughan

Approved Project Title **Breeding for the future - Alpaca genetics**

2007 : \$ 74,000

2008 : \$ 74,000

2009 : \$ 74,000

Primary RFCD 2702 GENETICS

Collaborating/Partner Organisation(s)

Alpaca Genomics Australia Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

The Australian alpaca industry is recognised as an international leader. Alpaca fleece provides an annual national economic benefit of \$1 million and has enormous potential for growth. This project will use a novel molecular mapping approach to generate a genetic test for desirable Suri fleece - the single biggest factor in developing a purebreeding suri line whilst retaining variation in other traits and avoiding inbreeding. This will quickly increase the industry value, providing opportunity for rural communities to diversify farming enterprises and maximise income, and offering further employment in regional areas. This project will ensure Australian breeders retain a competitive edge in the face of alpaca research beginning in the USA.

LP0774949 A/Prof MJ Davern; A/Prof KE Stagnitti; Prof CB Ferguson

Approved Project Title **Modelling the adoption and use of virtual services technologies for rural and regional healthcare: Economic and quality of care perspectives**

2007 : \$ 62,000

2008 : \$ 60,000

2009 : \$ 60,000

Primary RFCD 3502 BUSINESS AND MANAGEMENT

Collaborating/Partner Organisation(s)

Southwest Alliance of Rural Health (SWARH)

Administering Organisation The University of Melbourne

Project Summary

Rural and regional Australians account for more than a third of the population. Compared with their urban counterparts, they face higher mortality rates and experience higher hospitalisation rates. They face significant challenges in accessing healthcare services and expertise. This research will provide guidelines on the effective and efficient use of virtual services technologies to provide more equitable access to healthcare for rural and regional Australians. This will enable healthcare providers and government agencies to select and deliver appropriate technology solutions yielding improved quality of care at a reduced cost. Access delays will be reduced through localised healthcare delivery.

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LP0775172 Prof NJ Enright; Prof BB Lamont
Approved Project Title **Management of fire-prone shrublands in Western Australia: testing the effects of frequent fire**
2007 : \$ 70,000
2008 : \$ 90,000
2009 : \$ 50,000
Primary RFCD 2707 ECOLOGY AND EVOLUTION

Collaborating/Partner Organisation(s)

Department of Conservation and Land Management

Administering Organisation The University of Melbourne

Project Summary

Understanding the impacts of different fire regimes (frequency, intensity, patchiness, size of fires) on high diversity shrublands will help CALM (the land managers) develop fire management prescriptions that ensure the conservation of rare and threatened flora, and maintain biodiversity. The research will identify relationships between weather, fuel and fire behaviour that is currently lacking for shrubland vegetation types. It offers advances in our understanding of ecosystem structure and function, with applied value in fire management for conservation and asset protection. The project contributes to development of ecological theory, and provides a scientific basis for improved management of Australia's unique natural heritage.

LP0775224 Prof PE Griffin; Prof RJ Adams; Dr CL Parsons; Mr JJ Allman; Mr IJ Claridge; Ms K Underwood
Approved Project Title **Profiling developmental standards of learning for students with intellectual disabilities**
2007 : \$ 105,000
2008 : \$ 105,000
2009 : \$ 105,000
Primary RFCD 3301 EDUCATION STUDIES

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Department of Education and Training

Centre for Advanced Assessment and Therapy Services

Administering Organisation The University of Melbourne

Project Summary

This project addresses an area of educational assessment that has been traditionally neglected as 'too hard'. It offers hope to students with intellectual disabilities. If developmental progress can be mapped and identified in competency terms and linked to successful teaching and learning strategies, the students can be expected to make more rapid progress towards achieving their potential. Teachers in mainstream schools can also expect to be helped in recognising development and given advice for intervention. The materials will be made available world wide to help all students in this challenging area.

LP0775052 Dr CA Hartley; Dr JR Gilkerson; Dr J Huang; Dr SJ Symes
Approved Project Title **Equine rhinitis A virus; molecular pathogenesis and methods for control**
2007 : \$ 25,118
2008 : \$ 25,118
2009 : \$ 25,118
Primary RFCD 3005 VETERINARY SCIENCES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Pfizer Animal Health

Administering Organisation The University of Melbourne

Project Summary

The horse industry in Australia is primarily based in rural locations and is a major contributor to the national economy both in terms of direct economic contribution to gross domestic product and as a major employer of people in regional Australia. The research proposed in this project will improve our understanding of the pathogenesis of a virus that causes respiratory disease in horses that is related to the virus that causes foot and mouth disease in ruminants and swine. The technology developed during this project would have a global market.

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LP0775023 Prof JR O'Toole; Dr N Jeanneret

Approved Project Title **Mapping and augmenting engagement, learning and cultural belonging for children undertaking ArtPlay workshops**

2007 : \$ 72,535

2008 : \$ 67,367

2009 : \$ 76,224

Primary RFCD 4199 OTHER ARTS

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

ArtPlay, Birrarung Marr

Australia Council for the Arts

Administering Organisation The University of Melbourne

Project Summary

The project's triple focus on engagement, learning and cultural citizenship will benefit arts and culture provision for children. Public and private art partnerships are multiplying rapidly, with provision, programming and training largely unmonitored. The project supports both partners' aims: 'promote creative capacity of children, and increased access and engagement in the arts' (Melbourne City) and 'improved opportunities in education and the arts through productive links and strengthened partnerships between education and arts' (Australia Council). It is in line with the federal Government's Early Childhood Strategy: 'helping people maximise their potential and achieve good, healthy, lifetime outcomes'

LP0775022 Prof S Praver; Dr RG Beausoleil

Approved Project Title **Optical Information Processing with Diamond**

2007 : \$ 271,309

2008 : \$ 232,113

2009 : \$ 220,942

Primary RFCD 2402 THEORETICAL AND CONDENSED MATTER PHYSICS

Collaborating/Partner Organisation(s)

HP Laboratories

Administering Organisation The University of Melbourne

Project Summary

The explosive growth in ideas for applications of quantum mechanics to practical devices for information processing has been a worldwide phenomenon of the past 4 years. A leading material which promises many of the desirable quantum properties is diamond. We aim to build on our extensive expertise in fundamental diamond research to design, fabricate and analyse novel quantum devices made from diamond. We will seek to attain the glittering prize of constructing diamond devices that will absorb, store and re-emit single light-photons with revolutionary applications to information storage and processing.

LP0775073 Prof GW Stevens; A/Prof DB Gore; Dr I Snape

Approved Project Title **Development of Low Cost In Situ Techniques for Petroleum Remediation in Cold Regions**

2007 : \$ 90,000

2008 : \$ 70,000

Primary RFCD 2906 CHEMICAL ENGINEERING

Collaborating/Partner Organisation(s)

B.P.

Administering Organisation The University of Melbourne

Project Summary

Internationally, Australia has taken a leading role in promoting environmental awareness and is committed to both the mitigation of future hazards, and the tackling of existing pollution. The clean-up of abandoned Antarctic sites is seen as a priority, and research into low-impact technology is central to meeting established remediation goals. Successful development of a low-cost in-situ remediation scheme will not only serve to protect vulnerable Antarctic habitats in Australian stewardship, but will do much to cement Australia as a global leader in environmental protection offering as it does, a generic cold region hydrocarbon remediation solution.

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LP0775467 Prof RS Tucker; Dr AV Tran; Prof M Zukerman; Dr KJ Hinton

Approved Project Title **Next-Generation Optical Broadband Access for Rural and Regional Areas**

2007 : \$ 130,000

2008 : \$ 100,000

2009 : \$ 90,000

Primary RFCD 2917 COMMUNICATIONS TECHNOLOGIES

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

NEC Australia Pty. Ltd.

Administering Organisation The University of Melbourne

Project Summary

Broadband services in less densely populated areas are a high priority for the Australian government as shown by the \$1.1 billion 'Broadband Connect' program. Current commercial broadband access in less densely populated areas is both limited and expensive. Both CUBIN and NEC are committed to developing solutions that enable truly broadband services. NEC Australia's large research and development capability is unique and it, together with CUBIN, will convert this research into national benefits including:

- Creating new knowledge and innovation
- Attracting foreign investment and promoting exports
- Training high quality post-doctoral researchers and postgraduate students
- Supporting job creation and retaining talented people in Australia

LP0774814 Dr AW Western; Mr MH Tyler; Dr JP Walker

Approved Project Title **Quantifying near-surface diffuse discharge from the southwest Great Artesian Basin**

2007 : \$ 114,754

2008 : \$ 110,288

2009 : \$ 71,836

Primary RFCD 2605 HYDROLOGY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

BHP Billiton Olympic Dam

Great Artesian Basin Coordinating Committee

South Australian Arid Lands Natural Resource Management Board

Santos Ltd

Administering Organisation The University of Melbourne

Project Summary

Groundwater from the Great Artesian Basin (GAB) supplies one of Australia's largest mining operations and many pastoral enterprises. The GAB is the only significant water resource through much of arid central Australia and supports unique environmental values in this region. This project will provide vital data on natural, near-surface leakage rates from the GAB that can be used to gain a greater understanding of the amount of water available for sustainable extraction. This will assist in the improved management of the GAB resource and in doing so contribute to greater certainty for the mining and pastoral users of the GAB groundwater and provide greater protection for unique ecosystems associated with natural discharge springs.

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LP0774989 Dr AF Williams; A/Prof E Manias; Prof P Dunning; A/Prof RG Walker

Approved Project Title **Improving safety and quality: psychosocial influences of managing medicines by consumers with chronic health problems**

2007 : \$ 77,030

2008 : \$ 77,030

2009 : \$ 77,030

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APDI Dr AF Williams

Collaborating/Partner Organisation(s)

The Royal Melbourne Hospital

IM Medical Limited

Administering Organisation The University of Melbourne

Project Summary

Many Australians have multiple chronic conditions that require complex prescribed medicine regimens to control symptoms and prevent further illness. Long-term health outcomes depend on how well consumers manage their medicines. This project will contribute to the development and evaluation of a medicine self-management training package to help consumers understand and manage their complex medication regimens. Optimal medicine self-management improves the consumer's general wellbeing and benefits the Australian community through promoting good health and reducing health care costs.

LP0775362 Dr IE Woodrow; Dr JQ Goodger

Approved Project Title **Enhancing the essential oil yield of clonal blue mallee plantations**

2007 : \$ 87,000

2008 : \$ 87,000

2009 : \$ 87,000

Primary RFCD 3006 FORESTRY SCIENCES

APDI Dr JQ Goodger

Collaborating/Partner Organisation(s)

Felton Grimwade and Bickford Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

Production of high quality eucalyptus oil in Victoria involves sustainable harvesting of foliage from public land. A recent review of land use by the Victorian Government has required that, over the next few years, oil producers move their harvesting operations into plantations on private land. This project will assist producers by developing methods for establishing plantations of eucalypts (blue mallee) with very high and economically viable yields of eucalyptus oil. This research will help restore Victoria's position as one of the major producers of high quality eucalyptus oil.