

Summary of Linkage Projects Applications for Funding to Commence in 2006

South Australia

The University of Adelaide

LP0668223 Dr P Bi; Dr DL Pisaniello; A/Prof P Ryan; Dr M Nitschke; Ms EF Curran

Approved Project Title Risk assessment for environmental health in Adelaide based on weather, air pollution and population health outcomes

2006 : \$24,650

2007 : \$24,650

2008 : \$24,650

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(l) Award(s): 1

Partner Organisation(s)

Department of Health

Administering Institution The University of Adelaide

Project Summary

This is the first systematic assessment of the effect of climate variation and air pollution on population health in an Australian temperate region. It is one of the ARC's research priorities (PG 7: Responding to climate change and variability). The results will provide a more complete picture of association among air pollution, climate variability and population health in Australia. They will also provide important information to policy-makers and communities for their relevant actions, including changes in resource management systems and the operation of these systems, a range of socioeconomic actions, infrastructure establishment, disaster prevention and emergency events response regulation, and health education and promotion campaigns.

LP0667744 Dr RS Brinkworth; Dr DC O'Carroll; Dr PA Shoemaker; Mr A Stanco

Approved Project Title Development Of An Artificial Vision System For Motion Detection

2006 : \$115,000

2007 : \$110,000

2008 : \$105,000

Primary RFCD 2999 OTHER ENGINEERING AND TECHNOLOGY

APA(l) Award(s): 1

APDI Dr RS Brinkworth

Partner Organisation(s)

Lastek Pty Ltd

Tanner Research, Inc.

Administering Institution The University of Adelaide

Project Summary

This work will have a broader impact beyond the advancement of a particular area of neurophysiology since it aims to produce a simple, robust velocity estimator in computer models and subsequently in silicon chips. We have already demonstrated the feasibility of transferring our basic preliminary models onto VLSI chips. Consistent with National Research Priorities 3 (Frontier Technologies), 4 (Defence Technologies) & 2 (Promoting and Maintaining Good Health) our work has applications in the area of miniature autonomous systems in defence and civilian roles, including miniature unmanned aerial vehicles and collision avoidance detectors, while in the longer term it will serve as the basis for designing implantable artificial eyes.

Summary of Linkage Projects Applications for Funding to Commence in 2006

LP0667863 Dr JM Facelli; Dr JR Watling; Dr JG Virtue

Approved Project Title **Assessing the impact of a native parasitic plant, *Cassytha pubescens*, on the weeds gorse (*Ulex europaeus*) and English broom (*Cytisus scoparius*).**

2006 : \$45,000

2007 : \$37,000

2008 : \$37,000

Primary RFCD 2704 BOTANY

Partner Organisation(s)

Mt Lofty Ranges Animal and Plant Control Board

Administering Institution The University of Adelaide

Project Summary

Each year invasive plants cost Australia billions of dollars through costs associated with their control and through lost agricultural production and degradation of native ecosystems. Two particularly damaging plants are gorse and broom. The problems gorse causes are so serious that it has been recognized as a Weed of National Significance (Federal Department of Environment and Heritage). Biological control efforts have seldom use native agents, and even less often, parasitic plants. This project will help to develop strategies for the control of two noxious species using a native parasitic plant.

LP0667986 Prof GB Fincher; Prof A Bacic; Dr K Dhugga; Dr JA Rafalski

Approved Project Title **Polysaccharide Synthase Genes in Agro-Industrial Applications**

2006 : \$250,000

2007 : \$223,000

2008 : \$216,000

Primary RFCD 2701 BIOCHEMISTRY AND CELL BIOLOGY

APA(I) Award(s): 2

Partner Organisation(s)

Dupont-Pioneer

Administering Institution The University of Adelaide

Project Summary

Achievement of the project aims will generate valuable intellectual property and meet National Research Priorities by: enhancing our knowledge base for the production of renewable bio-fuels from crop residues, for an environmentally sustainable Australia; developing preventative healthcare through adoption of healthier diets, rich in non-starchy cell wall polysaccharides that help reduce the incidence and severity of cardiovascular disease, obesity, diabetes and some cancers; and by developing breakthrough science in emerging agricultural technologies. The alliance will foster an intellectual environment to provide world-class basic research outcomes and training of highly skilled graduates, thereby contributing to the 'knowledge nation'.

LP0667689 Prof JD Foden

Approved Project Title **Aiding the Search for Diamonds in South Australia: Source and origin of Mesozoic kimberlite dyke swarms and their mantle samples.**

2006 : \$90,006

2007 : \$88,796

2008 : \$90,238

Primary RFCD 2601 GEOLOGY

Partner Organisation(s)

Flinders Diamonds Ltd

Primary Industry and Resources South Australia

Administering Institution The University of Adelaide

Project Summary

Because of significant, yet tantalising, alluvial diamond discoveries in the Adelaide Hills and Flinders Ranges over more than 100 years, South Australia can be viewed to have considerable potential as a diamond producer. Yet this potential is unresolved because little is known about the occurrence and diamond content of the kimberlite source rocks that have carried the diamonds to the near surface and shed them into the weathering environment. This collaborative research project will use new uncommonly available samples provided by commercial diamond exploration to determine the structure, geochemistry and history of the mantle that underlies the Flinders Ranges and Adelaide Hills at depths between 40 and 250km.

Summary of Linkage Projects Applications for Funding to Commence in 2006

LP0667819 Dr PA Gell; A/Prof DM McKirdy; Dr J Tibby

Approved Project Title **Retrospective ecological character assessment for a review of Ramsar status of The Coorong, SA.**

2006 : \$100,000

2007 : \$49,220

Primary RFCD 2707 ECOLOGY AND EVOLUTION

Partner Organisation(s)

Department of Water, Land and Biodiversity Conservation (DWLBC) I & B Division Upper South East Prog

Department for Environment and Heritage SE Region

Administering Institution The University of Adelaide

Project Summary

Integrated analyses of the chemical and biological remains contained in the sediments of the Coorong will provide for a reconstruction of ecological change and variability over the last several thousand years. Detailed analyses of the recent sediments will measure how the condition of the Coorong has departed from this natural background and so provide an audit of human impact on the last wetland in the Murray darling Basin. This evidence will directly inform the determination of the ecological character of this Ramsar listed, national ecological asset and steer its management for a sustainable future.

LP0667954 A/Prof GP Jones; Dr TJ Wicks

Approved Project Title **Extraction of flavour enhancers, antimicrobials and nutraceuticals from olive mill effluent**

2006 : \$100,000

2007 : \$92,500

2008 : \$85,500

Primary RFCD 3003 HORTICULTURE

APA(I) Award(s): 1

Partner Organisation(s)

Australian Olive Oil Brokerage

Administering Institution The University of Adelaide

Project Summary

The project aims to recover valuable materials from olive mill waste. Natural flavours will be recovered from the wastewater and from the dry pomace after oil extraction. The research and development will see these flavour compounds added back to olive oil to enhance the flavours of bland oils and to increase the shelf life of olive oil. The same compounds also have uses as enhancing the flavours of foods in general and provide a source of naturally occurring antioxidants. The compounds will be tested as natural antibiotics as a means of controlling fungal infections in vineyards and in vegetable production.

LP0667496 A/Prof BA Pocock; Mr KG Trimper; Dr SA Oakley

Approved Project Title **The Work, Housing, Services and Community Project**

2006 : \$61,000

2007 : \$60,000

2008 : \$61,000

Primary RFCD 3701 SOCIOLOGY

APA(I) Award(s): 1

Partner Organisation(s)

Lend Lease Lease Communities

Administering Institution The University of Adelaide

Project Summary

Australian cities are bursting at their seams. Major new housing developments are being undertaken to meet housing demand. These new developments sit alongside existing developments and raise issues about socio-spatial integration. New developments attempt to meet changing work, housing, services and community needs. This project examines how they are succeeding, how workers and residents see the relationship between work, home, services, and the community they want to live amidst, and what kinds of spatial alignments they seek. The project will assist urban planners, workplaces, service providers and the developer community, potentially improving the well being of men, women and children.

Summary of Linkage Projects Applications for Funding to Commence in 2006

LP0667667 Dr J Tibby; Dr PA Gell; Mr PJ Leahy

Approved Project Title **New approaches for protecting stream health in temperate Australia: Devising nutrient and salinity guidelines using diatoms**

2006 : \$24,650

2007 : \$24,650

2008 : \$24,650

Primary RFCD 2707 ECOLOGY AND EVOLUTION

APA(l) Award(s): 1

Partner Organisation(s)

Environment Protection Authority (South Australia)

Environment Protection Authority (Victoria)

Administering Institution The University of Adelaide

Project Summary

Salinity and nutrient enrichment are the most significant forms of water quality degradation in Australian lowland rivers. This project will identify the biological effect of the water quality pollution and develop new methods for its assessment. Most importantly, through the identification of water quality "thresholds" which result in reduced biodiversity, better guidelines for maintaining stream health will be developed.