

# Summary of Linkage Projects Proposals for Funding to Commence in 2007

## South Australia

### The University of Adelaide

**LP0775341** A/Prof AJ Braunack-Mayer; A/Prof WA Rogers; Mr JR Moss; Prof JE Hiller; Dr P Bi; Dr AB Salter; Dr RC Givney; Dr H van Eyk  
**Approved Project Title** **Citizens' juries: enabling effective influenza pandemic policy through engagement with the community**  
**2007 :** \$ 32,000  
**2008 :** \$ 52,000  
**Primary RFCD** 3212 PUBLIC HEALTH AND HEALTH SERVICES

#### Collaborating/Partner Organisation(s)

Department of Health

**Administering Organisation** The University of Adelaide

#### Project Summary

The project will provide information and practical guidance to assist with South Australian pandemic management specifically and will have implications for the state and national disaster planning generally. The project will provide resources for both state and national policy makers in the form of technical reports and comprehensive public health information modules appropriate for dissemination to the wider Australian community. The project will contribute to increased community awareness of pandemic influenza and enhanced community acceptance of (and cooperation with) pandemic management plans while establishing a mechanism for future pandemic and disaster policy planning and evaluation.

**LP0775223** Prof SA Greenhalgh; Dr J Zhe

**Approved Project Title** **New developments in 3D electrical resistivity imaging of the shallow subsurface**  
**2007 :** \$ 45,000  
**2008 :** \$ 47,000  
**2009 :** \$ 47,000  
**Primary RFCD** 2602 GEOPHYSICS  
APA(I) Award(s): 1

#### Collaborating/Partner Organisation(s)

ZZ Resistivity Imaging Pty Ltd

**Administering Organisation** The University of Adelaide

#### Project Summary

This project is concerned with developing improved procedures for electrical imaging of hidden geological features in the subsurface. These techniques are required to solve urgent problems associated with important issues, such as natural hazards, disposal of dangerous waste, groundwater and construction of major buildings and tunnels. The project will develop new hardware, software and interpretation aids, as well as providing postgraduate training in an area of vital national importance.

**LP0774891** A/Prof GS Heinson; Prof D Giles; Mr JA de Wet; Ms L Vella; Mr S Bilben; Mr M Cawood

**Approved Project Title** **Three-dimensional magnetotelluric imaging of lithospheric-scale mineral systems from source to deposit**  
**2007 :** \$ 124,534  
**2008 :** \$ 140,904  
**2009 :** \$ 85,227  
**Primary RFCD** 2602 GEOPHYSICS

#### Collaborating/Partner Organisation(s)

BHP Billiton

Teck Cominco Australia Pty. Ltd.

**Administering Organisation** The University of Adelaide

#### Project Summary

Geochemical studies indicate that world-class mineral deposits are partly sourced from fluids emerging from Earth's mantle and lower crust. Finding major mineral deposits in the future will therefore require knowledge of which parts of the crust and mantle yield the most prospective locations. However, there are few methods that can image deep Earth resources, and these can be very expensive. We propose to develop the magnetotelluric method as a low-cost and rapid approach for delineating 3D information on deep mineral systems beneath existing major deposits, and adapting this to explore in greenfield locations.

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**LP0775632** Prof GJ Hugo

**Approved Project Title** **New Information and Communication Technologies and The Elderly: Practice, Problems and Potential**

**2007 :** \$ 25,118  
**2008 :** \$ 25,118  
**2009 :** \$ 25,118

**Primary RFCD** 3701 SOCIOLOGY

APA(I) Award(s): 1

**Collaborating/Partner Organisation(s)**  
City of Charles Sturt

**Administering Organisation** The University of Adelaide

### Project Summary

Recent government reports (Costello 2002; 2004; Productivity Commission, Australian Government 2005) indicate that demographic ageing which will see a doubling of the aged population both numerically and as a proportion of the total population in the next quarter century presents a substantial challenge to Australia. One element of that challenge is to maintain and enhance the wellbeing of older Australians while controlling the costs of providing them with support services. New developments in ICT have the potential to facilitate achieving these twin goals but little is known of the take up of ICT among older Australians and those who will enter the older ages over the next three decades.

**LP0775207** Dr MA Keller; Dr ES Scott

**Approved Project Title** **Blue-banded bees as greenhouse pollinators: healthy and consistent supplies for reliable pollination services**

**2007 :** \$ 100,000  
**2008 :** \$ 90,000  
**2009 :** \$ 80,000

**Primary RFCD** 2705 ZOOLOGY

**Collaborating/Partner Organisation(s)**  
Biological Services  
Perfection Fresh Australia PTY LTD  
Timbercorp

**Administering Organisation** The University of Adelaide

### Project Summary

Native blue-banded bee pollination of tomatoes will increase crop yield by 15-20% through improved pollination and simultaneously decrease labour costs by \$16,000/Ha/year. The use of blue-banded bees will change the face of the industry. It will cause a 90% decrease in the use of pesticides, increase the use of biological pest management and give rise to a novel industry to provide pollination services. Blue-banded bee pollination will open up international markets through production of improved quality with less production costs and healthier production methods. Furthermore, the project will remove an environmental threat by providing a native substitute for alien bumblebees.

## Summary of Linkage Projects Proposals for Funding to Commence in 2007

**LP0774959** Dr MS Lee; Dr JR Paterson; Dr JG Gehling; Dr GD Edgecombe; A/Prof JB Jago

**Approved Project Title** **The Cambrian Population Explosion of Arthropods in Australia: Ediacaran origins, evolution and biodiversity**

**2007 :** \$ 90,000

**2008 :** \$ 90,000

**2009 :** \$ 90,000

**Primary RFCD** 2601 GEOLOGY

### **Collaborating/Partner Organisation(s)**

Beach Petroleum Pty Ltd  
The South Australian Museum  
The Australian Museum

**Administering Organisation** The University of Adelaide

### **Project Summary**

This project addresses key questions on the origin and diversification of life, by investigating the evolution of the most important fossil group (arthropods) across arguably the most important event after the origin of life (the Cambrian explosion of macroscopic life). It will also excavate, promote and conserve two key geological resources of national importance, in the Flinders Ranges and Kangaroo Island. Also, it will lead to increased knowledge of the palaeoecology and geology of the economically-important Adelaide geosyncline, and benefit rural SA communities through ecotourism, a rural schools education program, and public outreach.

**LP0775100** Dr DM Lewis

**Approved Project Title** **Heterotrophically grown microalgae as a feed source for the Australian aquaculture industry**

**2007 :** \$ 46,118

**2008 :** \$ 32,118

**2009 :** \$ 30,118

**Primary RFCD** 2704 BOTANY

APA(I) Award(s): 1

### **Collaborating/Partner Organisation(s)**

South Australian Oyster Hatchery

**Administering Organisation** The University of Adelaide

### **Project Summary**

The Australian aquaculture industry has rapidly grown in the past decade producing premium quality, high value species, e.g. tuna and oyster. In the new millennia it is predicted that the Australia aquaculture industry will be the most profitable area within the Australian seafood industry. An integral component for the long-term sustainability of the Australian aquaculture industry is the availability of top-quality microalgal concentrates, shelf-stable pastes or live feeds, which provide the nutritional requirements of aquatic species in the hatcheries. This project will develop novel microalgal production strategies that would add value to the Australian aquaculture industry.

**LP0775608** Prof J Munch; A/Prof PJ Veitch

**Approved Project Title** **The Development of High Power Cryo-Cooled Lasers and Their Application to Remote Sensing and Other Satellite-based Data Acquisition**

**2007 :** \$ 99,677

**2008 :** \$ 115,796

**2009 :** \$ 118,396

**Primary RFCD** 2404 OPTICAL PHYSICS

### **Collaborating/Partner Organisation(s)**

Northrop Grumman Space Technology (NGST)

**Administering Organisation** The University of Adelaide

### **Project Summary**

We shall develop high power cryo-cooled lasers which will contribute directly to the national research priorities in Frontier Technologies and Safe Guarding Australia. In particular it will contribute to photonics, to remote sensing of the environment and to space based defence and surveillance applications. It will establish Australia as a pioneer in the field and generate important IP. It will be of benefit to Australian and international laser and defence industry, and it will be an ideal project for educating young laser physicists and engineers, of which there currently is a serious shortage in Australia.

## Summary of Linkage Projects Proposals for Funding to Commence in 2007

**LP0774818** A/Prof TH Payenberg; A/Prof DM McKirdy; Dr PJ Boulton; A/Prof K Grice

**Approved Project Title** **Sediment transport in upwelling currents and its relevance to an active petroleum system in the Morum Sub-basin, South Australia**

**2007 :** \$ 35,118

**2008 :** \$ 60,118

**2009 :** \$ 28,118

**Primary RFCD** 2601 GEOLOGY

APA(I) Award(s): 1

### **Collaborating/Partner Organisation(s)**

Petroleum Group, Primary Industries South Australia

**Administering Organisation** The University of Adelaide

### **Project Summary**

Australia had a trade deficit of \$3.5 billion in petroleum products in 2005 and this is forecast to increase dramatically in the future. Giant oil fields may exist in the Morum Sub-basin and their exploitation could significantly reduce Australia's trade deficit in petroleum products. It would also reduce Australia's reliance on oil from politically unstable parts of the globe. Any exploration activity and subsequent exploration success would have a significant effect on the rural economy based around Portland, the main port in the area, through which most of the logistics would flow.

**LP0774857** Dr ES Scott; A/Prof JM Facelli; Ms RM Velzeboer; Dr AJ Able

**Approved Project Title** **Impact of Phytophthora cinnamomi on native vegetation in South Australia - understanding underlying mechanisms to improve management**

**2007 :** \$ 71,000

**2008 :** \$ 71,000

**2009 :** \$ 71,000

**Primary RFCD** 2704 BOTANY

### **Collaborating/Partner Organisation(s)**

Department for Heritage and Environment

SA Water

Forestry SA

City of Tea Tree Gully

Adelaide Hills Council

Adelaide Mount Lofty Natural Resource Management Board

SA Murray-Darling Basin Natural Resources Management Board

Department for Transport, Energy and Infrastructure

**Administering Organisation** The University of Adelaide

### **Project Summary**

The disease Phytophthora dieback threatens many Australian native plants and the animals that rely on them for food and habitat. This research will provide new knowledge of the susceptibility to the disease of plant species that are threatened with extinction, and of the effects of plant and soil microbial community composition on patterns of spread of the disease. This knowledge will assist the recovery of rare and threatened plant species and ecological communities statewide and nationwide.

## Summary of Linkage Projects Proposals for Funding to Commence in 2007

**LP0775279** Dr PJ Sendziuk; Ms A Sadao

**Approved Project Title** **The Art of AIDS Prevention: Cultural Responses to HIV/AIDS in Australia and the United States**

**2007 :** \$ 33,000

**2008 :** \$ 70,765

**2009 :** \$ 18,280

**Primary RFCD** 4199 OTHER ARTS

### **Collaborating/Partner Organisation(s)**

Visual AIDS

**Administering Organisation** The University of Adelaide

### **Project Summary**

While a number of studies have examined HIV/AIDS as a biological entity, the crucial 'cultural construction' of AIDS, and the effect of this construction on people living with AIDS and the wider public, is poorly understood. This project will assist wider awareness of the fact that public understandings of disease and affected individuals are both culturally mediated and contestable. In examining the important role that artists played in confronting AIDS, this project will also suggest how similar cultural interventions might be employed during existing and future disease epidemics and other public health threats.