

# Summary of Linkage Projects Proposals for Funding to Commence in 2008

## South Australia

### The University of Adelaide

LP0882675 Dr P Bi; A/Prof P Ryan; Prof JE Hiller; Prof D Roder; A/Prof G Han

**Approved Project Title** **Changing disease patterns amongst migrants: a focus on the National Health Priority Areas**

2008 : \$ 25,627

2009 : \$ 25,627

2010 : \$ 25,627

**Primary RFCD** 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(I) Award(s): 1

#### Collaborating/Partner Organisation(s)

SA Department of Health

Migrant Resource Centre South Australia

**Administering Organisation** The University of Adelaide

#### Project Summary

The proposed project will make significant practical and scientific contributions to Australians, especially to the health of the migrant population. It is particularly important to the aged migrant population, the people from disadvantaged socioeconomic groups and those with language barriers. The study results will provide a more complete and updated picture of migrant health in Australia. Such important information is necessary to Federal and State departments in their policy making and resource allocation. The study results will be disseminated to local migrant community and migrant service organisation for their health promotion and health education campaigns.

LP0882399 A/Prof DF Callen; Prof HA Morris

**Approved Project Title** **Determining the regulation of vitamin D metabolism.**

2008 : \$ 92,000

2009 : \$ 92,000

2010 : \$ 92,000

**Primary RFCD** 2701 BIOCHEMISTRY AND CELL BIOLOGY

#### Collaborating/Partner Organisation(s)

Institute of Medical and Veterinary Health Sciences

**Administering Organisation** The University of Adelaide

#### Project Summary

The proposed project will lead to a better understanding of factors that influence the biological function of vitamin D. This will impact in several areas of human health and will provide new avenues for the development of preventative approaches and treatment of cancer. This project is based on the use of 'Frontier Technologies' that will be applied to elucidate basic biological questions.

LP0882109 A/Prof SD Connell; Dr BD Russell; Dr CF Gurgel

**Approved Project Title** **Forecasting change in subtidal habitats: connecting local pollution with global climate in temperate Australia.**

2008 : \$ 98,656

2009 : \$ 98,758

2010 : \$ 98,698

**Primary RFCD** 2707 ECOLOGY AND EVOLUTION

#### Collaborating/Partner Organisation(s)

Department for Environment and Heritage

Abalone Industry Association of SA Inc.

**Administering Organisation** The University of Adelaide

#### Project Summary

The current narrow focus of management on local and contemporary environmental conditions (e.g. water quality) has indeterminate outcomes in the face of climate change. This proposal seeks to forecast marine habitats under realistic scenarios of climate change and continuing local population growth and activity. This information provides managers with information needed to understand the consequences of current policy and debates about its improvement.

## Summary of Linkage Projects Proposals for Funding to Commence in 2008

**LP0882622** Prof A Cooper

**Approved Project Title** **Developing new methods to retrieve and analyse preserved genetic information**

**2008 :** \$ 135,000

**2009 :** \$ 130,000

**2010 :** \$ 130,000

**Primary RFCD** 2702 GENETICS

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

National Geographic Society

Forensic Science South Australia

Australian Federal Police

National Institute of Forensic Sciences

**Administering Organisation** The University of Adelaide

### **Project Summary**

This project will position Australia at the leading edge of research into preserved DNA, and will use innovative molecular biology approaches to develop a range of new forensic, archaeological and medical applications. It will build Australian knowledge and scientific capacity by developing core expertise and training personnel in areas important for biosecurity, customs and quarantine, forensics/counter-terrorism, and studies of climate change. It will also create and foster research innovation in molecular biology with spin-offs for evolution, archaeology, medical and conservation biology research, and will also encourage involvement with the rapidly expanding field of genomics and bioinformatics.

**LP0882394** Dr MS Gold; A/Prof AJ Braunack-Mayer; A/Prof P Ryan; Prof CA Gericke; Prof JJ McNeil; Dr CJ Freemantle; Prof CJ thomson; Dr EE Roughead; Dr LK Taylor; Prof E Elliott; Dr DR Filby; Dr JP Buttery

**Approved Project Title** **Can and should we link data at a national level? Vaccine safety surveillance: A case study**

**2008 :** \$ 165,154

**2009 :** \$ 146,254

**2010 :** \$ 142,824

**Primary RFCD** 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(I) Award(s): 2

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

NSW Department of Health

Australian Paediatric Surveillance Unit (APSU)

Department of Health SA

Royal Children's Hospital

**Administering Organisation** The University of Adelaide

### **Project Summary**

This project provides many benefits for the community, exploring the legal and ethical issues around consent for data linkage, convening Citizens' Juries to weigh the evidence and make recommendations. It addresses National Research Priorities: Promoting and Maintaining Good Health and Safeguarding Australia as well as National Collaborative Research Infrastructure Strategy priorities. It uses vaccine safety surveillance as a case study to evaluate the effectiveness of data linkage (through linking Commonwealth immunisation data to state hospital data) and the methodologies and lessons learnt from cross jurisdictional data linkage can be transferred to other areas.

## Summary of Linkage Projects Proposals for Funding to Commence in 2008

**LP0883050** Prof GJ Hugo; Dr B Craig

**Approved Project Title** **The development and testing of a theory of the processes that shape material culture diversity using a New Guinea dataset**

**2008 :** \$ 70,000

**2009 :** \$ 60,000

**Primary RFCD** 3703 ANTHROPOLOGY

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

OK Tedi Mining Limited  
South Australian Museum

**Administering Organisation** The University of Adelaide

### **Project Summary**

Australian museums hold approximately 150,000 artefacts from the Pacific. Estimates of overseas holdings suggest another 500,000. From these collections, objects are selected for research or exhibition based on restricted themes. No attempt has yet been made to utilise these collections in a comprehensive way to maximise their research potential. This has now been done for the north-central region of New Guinea and the available information provides the opportunity to develop a theory of the processes that bring about diversity of material culture. Such a theory would be of international significance for ethnologists and archaeologists and add value to publicly-funded collections.

**LP0882492** Prof MJ McLaughlin; Dr DJ Chittleborough; Dr GM Hettiarachchi; Dr JK Kirby

**Approved Project Title** **Explaining the interactions between drought and fertiliser use efficiency using tracing and imaging techniques**

**2008 :** \$ 90,584

**2009 :** \$ 81,584

**2010 :** \$ 76,584

**Primary RFCD** 3001 SOIL AND WATER SCIENCES

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

South Australian Grains Industry Trust

**Administering Organisation** The University of Adelaide

### **Project Summary**

With climate change, Australian agriculture is faced with periods of increasing drought and changing rainfall patterns. At the same time, Australian farmers are faced with increasing costs of fertiliser inputs (their largest variable input cost), yet have little information on how they should change their nutrient management programs to suit the changing climatic conditions. This project aims to determine the effect of drought and rainfall patterns on the efficiency of fertiliser use by crops, through examination of the effects of soil moisture conditions on the interaction between soil and added fertilisers.

**LP0882754** Prof GJ Nathan; A/Prof RM Kelso; Dr PA Kalt; Prof J Mi; Mr RJ Truce; Mr JW Wilkins

**Approved Project Title** **Aerodynamic enhancement of the capture of fine particle emissions and gaseous pollutants by sorbents**

**2008 :** \$ 250,000

**2009 :** \$ 150,000

**2010 :** \$ 150,000

**Primary RFCD** 2918 INTERDISCIPLINARY ENGINEERING

APA(I) Award(s): 1

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

Indigo Technologies Group Pty Ltd.

**Administering Organisation** The University of Adelaide

### **Project Summary**

Fine particulate emissions alone, and just within Australia's four largest cities, are estimated to be responsible for some 1600 deaths annually, and are a leading cause of asthma and other lung disease. Hence the economic and social benefits of greatly reducing fine particulate emissions is enormous. Similar benefits can be expected to arise from the enhanced capture of SO<sub>x</sub>, NO<sub>x</sub> and heavy metals. Many of these pollutants also contribute to the greenhouse effect, so the international exploitation of the technology will also help to mitigate climate change. Should suitable sorbents be developed for CO<sub>2</sub> capture, the technology will also enhance carbon capture and storage.

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**LP0882494** Dr ES Scott; Prof O Schmidt; Dr M Rowney; Dr PR Grbin; Prof DK Taylor; Dr TJ Wicks

**Approved Project Title** **Control of foliar diseases in horticulture using milk components: widening applicability through understanding mechanisms**

**2008 :** \$ 107,351  
**2009 :** \$ 105,571  
**2010 :** \$ 104,421

**Primary RFCD** 3003 HORTICULTURE

APA(I) Award(s): 1

**Collaborating/Partner Organisation(s)**  
MG Nutritionals, Murray Goulburn Co-operative Co. Ltd  
Temple Bruer Wines  
Organic Crop Protectants Pty Ltd  
Transgrain Technologies

**Administering Organisation** The University of Adelaide

### Project Summary

Fungal diseases, such as powdery mildew and Botrytis grey mould, have the potential to cause considerable losses in horticultural crops. Chemical fungicides, some of which are broad-spectrum biocides potentially harmful to human health, are applied routinely in disease management. Milk and whey, which can damage powdery mildew fungi, offer alternatives to conventional fungicides. Identification of the components of milk which damage fungi, and their mechanisms of activity, will facilitate the development of environmentally sustainable strategies for management of fungal diseases in Australian horticulture. This will have particular benefits for personnel who regularly apply fungicides in glasshouses.