Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

Victoria

RMIT University

LP100200859 Prof Suresh K Bhargava, A/Prof Kourosh Kalantar-zadeh, Dr Anthony P O'Mullane, Dr Vipul Bansal, Dr Samuel J Ippolito, Dr Steven Rosenberg, Dr Ian R Harrison

Approved Project Title **A highly sensitive and selective nano-engineered sensor for the online monitoring of mercury vapour emissions from harsh industrial processes**

2010	$50,000.00
2011	$97,500.00
2012	$95,000.00
2013	$47,500.00
2014	
2015	

Primary FoR 0301 ANALYTICAL CHEMISTRY

APDI Dr Samuel J Ippolito

Partner/Collaborating Organisation(s)

Alcoa of Australia Ltd, BHP Billiton Worsley Alumina Pty Ltd

Administering Organisation RMIT University

Project Summary

The Australian alumina and aluminium industries contribute over $11 billion export income annually. All refineries, except one, operate in rural areas and are the main economic drivers in these regions. In order to maintain the industry's commitment to reduce the environmental impact of its processes and remain economically sustainable, innovative technologies are required to monitor mercury emissions. The aim of this project is to develop robust sensors, for online monitoring of mercury vapours, that operate under challenging industrial environments. This project will also provide excellent training for young researchers in established international industrial research groups, thereby meeting skill shortages in the Australian resource sector.

LP100200118 Dr David S Carlin, Prof Peta L Tait, A/Prof James A Thom, A/Prof Laurene K Vaughan, Mr Adrian Miles, Mr Michael Finch, Ms Patricia A Stokes, Mr Peter F Williams, Dr Nicholas D Herd

Approved Project Title **The Circus Oz Living Archive: developing a model of online digital engagement for the performing arts**

2010	$59,000.00
2011	$114,500.00
2012	$114,500.00
2013	$59,000.00
2014	
2015	

Primary FoR 1904 PERFORMING ARTS AND CREATIVE WRITING

APAI_IT 2

Partner/Collaborating Organisation(s)

Australia Council for the Arts, Circus Australia Ltd, Victorian Arts Centre Trust

Administering Organisation RMIT University

Project Summary

The performing arts play a crucial role in defining our national identity. Circus Oz, as a flagbearer of contemporary Australian cultural identity around the globe, shares the challenges faced by the sector, including increasing competition for audiences and changing expectations about the relationship between audiences and creative content. Cultural dialogue and creative activity increasingly occur online. The performing arts need to explore novel ways to deepen online community engagement to strengthen their artform. This project researches how digital technologies can help the performing arts employ their documented cultural heritage to drive innovations in repertoire development, performance scholarship and audience interaction.

Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

LP100200497 Asst Prof Christopher W Chamberlain, Dr Guy A Johnson

Approved Project Title **Breaking the cycle: the role of housing and support in resolving chronic homelessness**

2010	$13,334.50
2011	$26,669.00
2012	$26,669.00
2013	$13,334.50
2014	
2015	

Primary FoR 1608 SOCIOLOGY

APAI 1

Partner/Collaborating Organisation(s)

Sacred Heart Mission

Administering Organisation RMIT University

Project Summary

The Australian Government aims to reduce homelessness by half by 2020 and to offer supported accommodation to all rough sleepers by 2020. Chronically homeless people are often part of an impoverished underclass, largely excluded from the labour force and other mainstream institutions. This research will lead to improvements in service delivery and program designs and will link them to the wider areas of housing policy and social inclusion. The findings will directly contribute to the National Research Priority, promoting and maintaining good health and the priority goal strengthening Australia's social and economic fabric.

LP100200538 A/Prof Jiankun Hu, Prof Zahir Tari, Prof Xinghuo Yu, Dr Fengling Han

Approved Project Title **Developing smart embedded host-based intrusion detection systems**

2010	$60,000.00
2011	$117,500.00
2012	$122,500.00
2013	$65,000.00
2014	
2015	

Primary FoR 0805 DISTRIBUTED COMPUTING

APAI_IT 1

Partner/Collaborating Organisation(s)

All Table Sports Australia Pty Ltd, Seculand Pty Ltd

Administering Organisation RMIT University

Project Summary

Computer intrusion is a major concern in many places. It is estimated that cybercrime cost firms US$1 trillion globally in 2008. Many serious cyber attacks, including cyber espionage, do not generate significant network traffic and can easily penetrate network-based intrusion detection systems (NIDS). Such attacks often attempt to compromise individual hosts and hence they are best detected at the host level. We aim to design innovative host-based IDS, as a complement to the NIDS, to address this issue. The outcomes of this project will strengthen the national capability to resist attacks by criminals and terrorists on Australian networked critical infrastructures and also enhance the global competitiveness of Australia's information technology industry.

Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

LP100200034 Prof Sabu J John, Prof Simon Watkins

Approved Project Title **Energy capture from polymer based synthetic foliage**

2010	$26,669.00
2011	$53,338.00
2012	$53,338.00
2013	$26,669.00
2014	
2015	

Primary FoR 0913 MECHANICAL ENGINEERING

APAI 2

Partner/Collaborating Organisation(s)

FCST (Fabrics and Composites Science and Technologies)

Administering Organisation RMIT University

Project Summary

Wind powered renewable energy technologies are rejected in urban or natural environments because of their noise and perceived danger to avian wildlife from conventional rotary wind turbines. The synthetic foliage will be used as a device for low energy applications which is expected to be more socially acceptable in urban settings. We anticipate that this will lead to increased adoption of renewable energy by the Australian public. Success of the project will lead to long term benefits for Australia including reduction of greenhouse gas emissions and the creation of jobs in the sustainable energy sector.

LP100200617 Prof Stefan Kasapis, A/Prof John F Ashton

Approved Project Title **Creation of a new branch of food research by utilising whey protein in the development of novel products of low calorie content and glycemic response**

2010	$35,000.00
2011	$72,500.00
2012	$77,500.00
2013	$40,000.00
2014	
2015	

Primary FoR 0908 FOOD SCIENCES

APAI 1

Partner/Collaborating Organisation(s)

Sanitarium Health Food Ltd

Administering Organisation RMIT University

Project Summary

Australian consumers are demanding healthy foods, yet our society is suffering from 'diseases of choice' such as obesity that largely result from our lifestyle. One particular problem is the low intake of nutrients in contemporary diet. Growing consumer interest in readily available and affordable foods with good nutrition has focused the industry on the merits of whey protein in processed products. This project will address the issue of consumer acceptability of whey-protein based products by rationalising at the molecular level the interactions of the protein with soluble dietary fibre and starch leading to added value formulations of appealing texture, low-calorie content and low glycemic load.

Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

LP100200328 Prof Adrian P Mouritz, Prof Chun Hui Wang, Prof Dong Yang Wu

Approved Project Title **Optimisation of self-healing repair systems in aerospace composite structures**

2010	$14,334.50
2011	$28,719.00
2012	$28,769.00
2013	$14,384.50
2014	
2015	

Primary FoR 0912 MATERIALS ENGINEERING

APAI 1

Partner/Collaborating Organisation(s)

Boeing Research and Technology Australia

Administering Organisation RMIT University

Project Summary

Design and manufacture of composite structures for civilian and military aircraft is a multi-billion dollar export business for Boeing Aerostructures Australia and other Australian aerospace companies. To remain globally competitive, Australian industry must develop new expertise for next-generation composite aerostructures that are lighter, cheaper, more damage tolerant and easily repaired. Autonomic self-healing of composites is an innovative repair technology with many future potential applications for damaged aerostructures. This project will develop analytical tools and data to enable the Australian aerospace industry to take advantage of the economic benefits offered by self-healing repair systems in aircraft composite structures.

LP100200710 A/Prof Peter Smooker, Prof Peter J Coloe, Dr Russell Conduit, Dr Anthony C Sasse

Approved Project Title **Increasing the utility of tetanus toxins by protein engineering**

2010	$26,970.00
2011	$54,470.00
2012	$55,000.00
2013	$27,500.00
2014	
2015	

Primary FoR 1109 NEUROSCIENCES

Partner/Collaborating Organisation(s)

Nocturne Sleep Pty Ltd

Administering Organisation RMIT University

Project Summary

There are a variety of common diseases that are the result of muscular defects. Some of these may be able to be treated with an agent that increases muscle tone, thereby giving benefit to the patient in the alleviation of symptoms. This project aims to use some of the most potent substances known, bacterial toxins, and engineer them to be valuable agents for treatment of certain muscular disorders.

Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

LP100200088 A/Prof Linda V Williams, Dr Philip Samartzis, Dr Larissa Hjorth, Mr Simon J Perry, Mr Dominic Redfern, Dr Kristen Sharp, Ms Carolyn Viney, Mr Anthony Cullen

Approved Project Title **Spatial dialogues: public art and climate change**

2010	$33,000.00
2011	$59,850.00
2012	$48,850.00
2013	$22,000.00
2014	
2015	

Primary FoR 1902 FILM, TELEVISION AND DIGITAL MEDIA

Partner/Collaborating Organisation(s)

Grocon (Media House) Pty Ltd, John Fairfax Holdings Pty Ltd

Administering Organisation RMIT University

Project Summary

This project will yield both social and environmental benefits through the creative ways it combines highly innovative public art projects with electronic social network systems to initiate trans-national civic dialogues on the problem of adaptation to climate change. It extends our sense of urban space to include the regional and global ecologies upon which cities are dependent. The role of water in the city will not only be represented as a vital resource, but as an element essential to life and, as such, replete with deep cultural values frequently overlooked in the expedience of everyday urban life.

LP100200638 Prof Xinghuo Yu, Prof Dr Jeffery D Hughes, Dr Wei Peng

Approved Project Title **Practice-based Systematized Nomenclature of Medicine (SNOMED) concept learning for drug-disease precaution early detection and refinement**

2010	$26,669.00
2011	$53,338.00
2012	$53,338.00
2013	$26,669.00
2014	
2015	

Primary FoR 1117 PUBLIC HEALTH AND HEALTH SERVICES

APAI	1
APAI_IT	1

Partner/Collaborating Organisation(s)

First DataBank Australia Pty Ltd

Administering Organisation RMIT University

Project Summary

The outcome of the Systematized Nomenclature of Medicine (SNOMED) concept learning system will help mitigate the impact of Adverse Drug Events hence directly contribute to the National Research Priority promoting and maintaining good health. It will tailor SNOMED knowledge to different clinical settings and provide evidence-based preventative health care. The enabling methodology from this project for building computerised cognitive learning systems will be a frontier technology to enhance smart information use in clinical decision support. It will also contribute to the development of knowledge-based systems. A network version of the developed system will assist doctors working in rural and remote areas with their clinical decision making and prescribing practice.