

Summary of Linkage Projects Proposals for Funding to Commence in 2009

New South Wales

The University of Newcastle

LP0989965 A/Prof SG Fityus; Prof SW Sloan; Prof JP Carter; Dr OP Buzzi; Prof GE Giani; Mr HG Buys

Approved Project Title **Barriers for cost - effective rock fall hazard mitigation.**

2009 : \$ 180,000

2010 : \$ 180,000

2011 : \$ 160,000

Primary RFCD 2908 CIVIL ENGINEERING

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Roads and Traffic Authority

RailCorp

Administering Organisation The University of Newcastle

Project Summary

Rock fall barriers are used throughout Australia to protect its extensive road and rail networks. These networks are vital links in the nation's infrastructure and underpin its economic prosperity and development. There are thousands of cuttings on Australia's transport networks, many of which have the potential to be affected by rock falls. These events can take lives and severely disrupt the performance of our transport infrastructure. This project will develop new cost-effective methods for designing against rock fall events using a combination of advanced testing and computer modelling.

LP0989636 Prof KP Galvin

Approved Project Title **Application of Water Based Fractionation in the Assessment of Metallurgical Coal**

2009 : \$ 38,000

2010 : \$ 110,000

2011 : \$ 40,000

Primary RFCD 2906 CHEMICAL ENGINEERING

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Australian Coal Research Limited

Rio Tinto Australia

Administering Organisation The University of Newcastle

Project Summary

The metallurgical coal market (13% of coal market) is highly specialized, and competitive. The coal, which is utilized as a reducing agent in iron making, represents more than 52% of Australian coal exports. This study addresses growing evidence that organic liquids used to fractionate and in turn assess metallurgical coals lead to negative assessments, hence loss of markets, and lost opportunities. A new water based fractionation method will be established, and a systematic investigation into the effects of the organic liquids will be undertaken. These results will be used to build a case for replacing the organic liquids used in the industry, which are known to have negative health and environmental impacts.

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LP0989757 Prof GC Goodwin; Dr JC Agüero Vasquez; Dr JA De Dona; Dr MM Seron; Dr L Brus; Dr T Wigren; Dr S Craig

Approved Project Title **Power Control and Scheduling for Cellular Communications**

2009 : \$ 120,000

2010 : \$ 150,000

2011 : \$ 100,000

Primary RFCD 2301 MATHEMATICS

Collaborating/Partner Organisation(s)

Ericsson AB

Administering Organisation The University of Newcastle

Project Summary

Australia is a major user of cellular communications technology with four 3G networks. There is huge public interest in core performance metrics including coverage, quality of service, power consumption and cost. The research covered by this proposal is aimed at improving the above performance metrics and hence achieving greater satisfaction from the Australian public in their wireless communication systems.

LP0990068 Prof JM Gore; Dr WA Amosa; Dr A Bracken

Approved Project Title **Effective Implementation of Pedagogical Reform**

2009 : \$ 65,000

2010 : \$ 50,000

2011 : \$ 56,000

2012 : \$ 56,000

Primary RFCD 3303 PROFESSIONAL DEVELOPMENT OF TEACHERS

Collaborating/Partner Organisation(s)

Catholic Education Office, Diocese of Parramatta

Administering Organisation The University of Newcastle

Project Summary

A central challenge faced by nations around the globe is how to maximise the quality of teaching, since the quality of teaching itself is the main contributor to student achievement. Building on an internationally recognised model for Quality Teaching, this collaborative project promises to advance national initiatives in improving teaching quality and improve Australia's international status in the provision of quality education for all school students.

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LP0989459 Dr MJ Mahony; Dr J Clulow; Dr A Ward; Prof SC Donnellan

Approved Project Title **Building sound ecological restoration strategies for endangered amphibians**

2009 : \$ 231,000
2010 : \$ 131,000
2011 : \$ 155,000
2012 : \$ 140,000
2013 : \$ 118,000

Primary RFCD 3008 ENVIRONMENTAL SCIENCES

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Sydney Olympic Park Authority
Strathfield Council
South Australian Museum
NSW Roads and Traffic Authority
Department of Environment and Conservation NSW

Administering Organisation The University of Newcastle

Project Summary

This project integrates the principles of ecology and restoration ecology to secure the persistence of a population of an endangered frog in the context of a large urban renewal and ecological rehabilitation precinct at the Sydney Olympic Park. Habitat rehabilitation at the site provides an unrivalled opportunity for ecology to provide robust scientific direction and support for conservation management practices and develops the site as a model site illustrating adaptive management practices. The project investigates the role of two threatening processes in amphibian decline in a habitat management context and the outcomes have wide implications for the global amphibian decline.

LP0989386 A/Prof J Wiggers; Prof RG Room; Dr P McElduff; Mr BC Rowland; Dr JL Mallick; A/Prof C Bell; Dr L Wolfenden; Mr MJ Livingston; Ms KE Gillham

Approved Project Title **Reducing alcohol misuse: The efficacy of a comprehensive accreditation intervention in community sports clubs**

2009 : \$ 90,000
2010 : \$ 140,000
2011 : \$ 132,000
2012 : \$ 84,964

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

Australian Drug Foundation
Hunter New England Population Health
Turning Point Alcohol and Drug Centre

Administering Organisation The University of Newcastle

Project Summary

The prevention of alcohol misuse is increasingly recognised as a priority by State and Commonwealth governments, and the community alike. A similar increasing recognition of the role of sport in the occurrence of such misuse has resulted in a call for action in this community setting. Very limited data are available regarding effective intervention strategies in sports clubs. The proposed intervention directly addresses this knowledge deficit. In addressing the culture of excessive alcohol consumption in sports clubs, the intervention, should it be effective, has the potential to contribute to a reduction in both short and long term alcohol harms in Australia.