

Summary of Linkage Projects Proposals for Funding to Commence in 2009

Queensland

Griffith University

LP0989475 Dr MA Burford; Prof J Beardall; Prof BA Neilan; A/Prof GR Shaw; Dr PT Orr

Approved Project Title **Environmental drivers for production of the toxin, cylindrospermopsin, by the cyanobacterium Cylindrospermopsis raciborskii**

2009 : \$ 126,000

2010 : \$ 126,000

2011 : \$ 126,000

Primary RFCD 3008 ENVIRONMENTAL SCIENCES

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

SEQWater Corporation

Administering Organisation Griffith University

Project Summary

Water authorities spend significant resources to monitor and control algal blooms. A significant part of this is monitoring freshwater toxic algal blooms that can impact on drinking water and recreational uses. One of the difficulties in monitoring blooms is that the toxin content of individual species can vary considerably. It is unclear whether this is caused by changes in environmental conditions, i.e. nutrient, light, temperature. This project would provide the link between environmental conditions and toxin production to improve the ability to predict and monitor toxin production.

LP0989670 Dr C Chen; Prof Z Xu; Dr IR Phillips; Prof LM Condron

Approved Project Title **Ecosystem restoration of bauxite-processing residue sand disposal areas in Western Australia: Important biogeochemical processes and effective fertilisation strategies**

2009 : \$ 110,000

2010 : \$ 60,000

2011 : \$ 50,000

2012 : \$ 110,000

Primary RFCD 3008 ENVIRONMENTAL SCIENCES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Alcoa World Alumina Australia

Administering Organisation Griffith University

Project Summary

Alumina production is one of Australia's most important mining activities. Residue from bauxite-processing must be managed appropriately to minimise detrimental impacts on the surrounding environment. The location of Alcoa's WA Refineries in environmentally- and community- sensitive areas necessitates a detailed understanding of residue disposal area (RDA) management. Currently little is known about the biogeochemical cycling of nitrogen, phosphorus and carbon in the residue sand despite its importance for sustainable rehabilitation practice. Findings from this project are critical for developing improved fertilisation strategies and protocols for ecosystem restoration of RDAs, which will be applicable both in Australia and overseas.

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LP0989796 A/Prof RM Connolly; Dr KA Pitt; Dr D Rissik; A/Prof RC Babcock

Approved Project Title **Influence of Marine Protected Areas on ecosystem resilience and ecological processes**

2009 : \$ 105,000

2010 : \$ 79,000

2011 : \$ 46,000

2012 : \$ 90,000

Primary RFCD 2707 ECOLOGY AND EVOLUTION

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Environmental Protection Agency

Administering Organisation Griffith University

Project Summary

Australia is implementing a national representative system of marine protected areas (MPAs). The aims of the MPAs include ensuring ecological viability, maintaining ecological processes, and protecting biodiversity. The ability of MPAs to achieve these aims, however, is based largely on theory rather than empirical evidence.

Implementation of MPAs is often controversial as it may cause economic hardship to communities dependent on fishing. Our project will benefit environmental managers by determining if and how MPAs influence biodiversity, ecological processes, and ecosystem services and resilience. It will benefit the wider community by providing the rigorous scientific evidence in favour of MPAs that is demanded by stakeholders.

LP0989363 Prof RG Dromeay; Prof PA Lindsay; Prof IJ Hayes; Prof P Fritzon

Approved Project Title **Reducing the risks associated with developing large-scale, critical software-integrated systems**

2009 : \$ 100,000

2010 : \$ 110,000

2011 : \$ 100,000

Primary RFCD 2803 COMPUTER SOFTWARE

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Raytheon Australia

K.J. Ross & Associates Pty. Ltd.

Administering Organisation Griffith University

Project Summary

Industry, government and defence increasingly rely on large-scale, critical software-integrated systems. The scale and complexity of these systems means current methods of analysing, designing and assuring their dependability are struggling to provide the constructive support and assurance that is demanded. Consequently, there are significant risks of cost and schedule overruns and of system problems and failures. This project builds on results from our current collaboration - a new method for modelling, analysis and defect detection for the requirements of large-scale systems. We will develop and scale-up to industry strength, simpler, more powerful, strategies for analysing, designing and providing the high level of assurance required.

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LP0989509 Dr DA James; Prof DV Thiel; A/Prof B Burkett

Approved Project Title **Development and application of wearable micro technologies for the assessment of swimming performance and activity.**

2009 : \$ 80,000

2010 : \$ 40,000

2011 : \$ 75,000

Primary RFCD 3214 HUMAN MOVEMENT AND SPORTS SCIENCE

Collaborating/Partner Organisation(s)

Queensland Academy of Sport

Administering Organisation Griffith University

Project Summary

Australia's sporting performance at a national and international level are ingrained in the psyche of everyday Australians. It encourages sporting activity at every level of our society contributing to our well being and the development of tomorrow's athletes.

This research project will develop important tools for the assessment and servicing of our nations elite athletes, including those in regional areas. These tools will encompass the very latest in wearable technology and allow athletes to be measured under performance conditions rather than in the laboratory.

Assessment of human motion is also desirable as we seek to assess and aid a progressively aging population and a growing epidemic of obesity in our children.

LP0990060 Prof CJ Sampford; Prof RC Thakur; A/Prof S Chesterman

Approved Project Title **Building the Rule of Law in International Affairs**

2009 : \$ 83,000

2010 : \$ 106,000

2011 : \$ 107,000

Primary RFCD 3903 JUSTICE AND LEGAL STUDIES

Collaborating/Partner Organisation(s)

Centre for International Governance Innovation

Administering Organisation Griffith University

Project Summary

Australia has been committed to a rules-based international system since the foundation of the UN and, while recently wavering in practice has remained formally supportive of international law. This is not just a matter of values. As a major trading nation and a middle power, Australia prosperity and security would benefit from a more rules-based international order. This project aims to find practical ways of bolstering and building the rule of law in international affairs. In doing so, this international research involving the UN, a Canadian think tank and UN University's Australian based governance institute will allow Australia to take leadership role in multilateral thinking and action to bolster the international rule of law.

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LP0989243 Prof Dr H Schippers; Dr P Dunbar-Hall; Prof PR Hayward; A/Prof LM Barwick; Prof K Howard; Prof P Campbell; Prof J Drummond; Dr H Lundstrom; Dr RA Letts

Approved Project Title **Sustainable futures for music cultures: Toward an ecology of musical diversity**

2009 : \$ 133,000

2010 : \$ 130,000

2011 : \$ 130,000

2012 : \$ 168,000

2013 : \$ 60,000

Primary RFCD 4101 PERFORMING ARTS

Collaborating/Partner Organisation(s)

International Music Council

Music Council of Australia

Lund University

Administering Organisation Griffith University

Project Summary

The project will contribute to a vibrant and diverse musical life in Australia, and by extension the sense of wellbeing of its population. Further, it has the potential to substantially contribute to Australia's reputation as an innovative, forward looking nation by taking the lead in the emerging sub-discipline of applied ethnomusicology. Finally, from the perspective of the National Research Priorities, the project will contribute to fostering understanding between cultures in Australia and the region by increasing insight into the working of other cultures, focusing on the Asia-Pacific.

LP0989151 Prof AJ Wilkinson; Prof KA Brown; Prof KJ Burgess; Dr KJ Townsend

Approved Project Title **Managing Productive and Collaborative Relations in Australian Workplaces**

2009 : \$ 105,000

2010 : \$ 105,000

2011 : \$ 118,000

Primary RFCD 3502 BUSINESS AND MANAGEMENT

APA(I) Award(s): 1

APDI Dr KJ Townsend

Collaborating/Partner Organisation(s)

Department of Employment and Industrial Relations

Administering Organisation Griffith University

Project Summary

Concerns over workplace productivity are high on the agenda of policymakers. Evidence suggests that collaboration in the workplace and high involvement approaches have a productivity premium of up to 20 per cent over those without the commitment to collaborative approaches. However, collective relations do not necessarily mean union relations nor necessarily collaborative relations. This research will benefit Australia's social and economic fabric through understanding alternative means by which collaborative workplace relations lead to productivity gains. This is consistent with the current policy approach of government in promoting productive and harmonious workplace level industrial relations.