

Summary of Linkage Projects Applications for Funding to Commence in 2006

Western Australia

The University of Western Australia

LP0667494 Prof DG Blair; Dr M Boer

Approved Project Title International partnership in robotic astronomy and gravitational wave data analysis using a supercomputer

2006 : \$180,000

2007 : \$120,000

2008 : \$120,000

2009 : \$100,000

2010 : \$100,000

Primary RFCD 2401 ASTRONOMICAL SCIENCES

APA(l) Award(s): 1

Partner Organisation(s)

Claire Energy Pty. Ltd.

WA Government Department of Education and Training

Administering Institution The University of Western Australia

Project Summary

The project is aimed at providing student participation in frontier research using robotic astronomy and novel data analysis methods. It will focus on the study of the most violent explosions in the Universe - cosmological gamma ray bursts. These cataclysmic events possibly herald the formation of the most exotic objects in the Universe - black holes. It provides an exciting opportunity for students to be trained in robotic astronomy, supercomputing, image analysis and signal processing.

LP0668048 Dr TD Colmer; Dr EG Barrett-Lennard

Approved Project Title Understanding salt and water dynamics to enhance the quality of turfgrasses irrigated with saline water in a Mediterranean environment: an evaluation of four species

2006 : \$85,000

2007 : \$55,500

2008 : \$24,650

Primary RFCD 2704 BOTANY

APA(l) Award(s): 1

Partner Organisation(s)

Shire of Wagin

Department of Agriculture, Western Australia

Administering Institution The University of Western Australia

Project Summary

This project will elucidate quantitative relationships between growth and the levels of root-zone salts and water. The results will enable development of best practices for use of salt-tolerant turfgrass species, to (i) improve aesthetics of many rural and coastal towns faced with salinity, and (ii) enable use of saline groundwater, and thus conserve precious potable water, reducing costs of water for irrigation. The project is also of relevance to saline agricultural areas, as the species investigated could also have applications in saltland pastures. The outcomes will contribute to National priorities dealing with salinity management and protection of water resources.

Summary of Linkage Projects Applications for Funding to Commence in 2006

LP0667805 A/Prof WA Cowling; Dr MN Nelson

Approved Project Title **Expanding the gene pool of canola (*Brassica napus*) by introgressing valuable genes from related species**

2006 : \$85,000

2007 : \$78,625

2008 : \$71,625

Primary RFCD 3002 CROP AND PASTURE PRODUCTION

APA(l) Award(s): 1

Partner Organisation(s)

Council of Grain Grower Organisations Limited

Norddeutsche Pflanzenzucht Hans-Georg Lembke KG

Administering Institution The University of Western Australia

Project Summary

Canola is a high value export crop from Australia, and an important rotational crop which improves sustainability of agriculture through a disease and weed break for cereal crops. While breeders have improved quality, disease resistance and adaptation of canola to Australian conditions over the past 30 years, this has reduced genetic variation to dangerously low levels. Wide crossing with drought tolerant *Brassica carinata* (Ethiopian mustard) will help to alleviate this problem. New uses of biotechnology, combined with molecular genetics, will help to overcome species barriers to introduce useful new genes into canola for Australian canola breeders.

LP0668271 Dr CW Soo; Prof JL Cordery; Prof DF Midgley

Approved Project Title **Learning Mechanisms and the Development of Dynamic Capabilities within Firms**

2006 : \$30,361

2007 : \$30,361

2008 : \$30,361

Primary RFCD 3502 BUSINESS AND MANAGEMENT

APA(l) Award(s): 1

Partner Organisation(s)

Alcoa World Alumina Australia

Administering Institution The University of Western Australia

Project Summary

The project has the following national/community benefits: (1) a more comprehensive study of the specific and unique features of the structure and innovative process operating within a major Australian producer of commodities, (2) a greater understanding of how knowledge can be created and captured in the form of firm-level dynamic capabilities, contributing towards the creation of an effective knowledge and innovation economy, and (3) assisting regional communities by providing specific recommendations for generating learning mechanisms and more importantly, capturing value from learning in terms of process improvement and innovation.

LP0668380 Dr M Tibbett; Prof JW Cairney

Approved Project Title **Novel strategy for optimising fertilizer input coupled with organic residue management for sustainable reconstruction of jarrah forest ecosystem**

2006 : \$70,461

2007 : \$75,001

2008 : \$80,372

Primary RFCD 2703 MICROBIOLOGY

Partner Organisation(s)

Worsley Alumina Pty Ltd

Administering Institution The University of Western Australia

Project Summary

This project is aimed at judicious management of the rehabilitation process following surface mining by reducing initial fertilizer input along with using organic residue accumulated following pre-mine clearing of vegetation. This approach has the potential for 'speeding-up' the ecosystem development process by initiating early microbial development in rehabilitation practice and reducing the deleterious effect of heavy fertilization. Apart from these ecological advantages, reducing fertilizer application lowers minesite rehabilitation cost incurred by mining companies. This project will be the first attempt to use organic residue and streamlining the use of mineral fertilizers in mine rehabilitation practice.