

# Summary of Linkage Projects Applications for Funding to Commence in 2006

## New South Wales

### University of Wollongong

LP0669368 Dr SJ Bennett; Dr L Lockyer; Dr SF Agostinho; Prof BM Harper; Prof Dr EJ Koper

**Approved Project Title** Improving university teaching: Creating strategies and tools to support the design process

2006 : \$25,000

2007 : \$45,000

2008 : \$45,000

2009 : \$25,000

**Primary RFCD** 3301 EDUCATION STUDIES

APA(I) Award(s): 1

**Partner Organisation(s)**

Janison Solutions Pty Ltd

**Administering Institution** University of Wollongong

**Project Summary**

This project will create strategies and tools to help university teachers design effective online learning experiences. Excellence in online education is important to Australia, socially and economically. Social benefits come from greater participation and graduates better equipped to contribute to their communities. Economic benefits come from graduates with skills and knowledge to be flexible, adaptable and productive in a dynamic workplace. As high quality online education providers, Australian universities will be more competitive in the international education market. This project will raise the profile of Australian research and lead to new commercial ventures through the development of innovative technologies for online learning.

LP0669458 Dr P Caputi; A/Prof R Jayasuriya

**Approved Project Title** Post adoptive behavior in IT enabled work systems: Using multi-method research to study implementation of enterprise systems in a large organization.

2006 : \$12,325

2007 : \$24,650

2008 : \$24,650

2009 : \$12,325

**Primary RFCD** 3502 BUSINESS AND MANAGEMENT

APA(I) Award(s): 1

**Partner Organisation(s)**

Bluescope Steel Ltd

**Administering Institution** University of Wollongong

**Project Summary**

Massive investments are made by organizations to implement enterprise wide information systems (enterprise systems) but many have failed or lack expected benefits. Current research on user acceptance is limited as they do not consider post adoptive behaviour, when the main gains are to be made. Using mixed methods, a series of studies in four settings of a multi national organization will be conducted. A new integrated model for post adoptive behaviour will be developed and tested to inform industry and the research community. The findings will provide guidance to effective training and change management in enterprise systems implementation.

## Summary of Linkage Projects Applications for Funding to Commence in 2006

**LP0669613** Dr TR Coltman; Prof TA Spedding; Dr JL Gattorna; Prof TM Devinney

**Approved Project Title** **A Simulation-Based Approach to Understanding Alternative Supply Chain Configurations**

**2006 :** \$28,000

**2007 :** \$53,000

**2008 :** \$50,000

**2009 :** \$25,000

**Primary RFCD** 3502 BUSINESS AND MANAGEMENT

APA(I) Award(s): 1

**Partner Organisation(s)**

BlueScope Steel

**Administering Institution** University of Wollongong

**Project Summary**

The research developed in this project has value to the broader Australian community because it will lead to the development of a decision support system for configuring more strategic, cost effective and efficient supply chains. The modelling techniques developed in the project together with the crucial training and experience in large scale experimental and survey techniques will help to establish a high quality centre for supply chain research. The decision support system and other techniques utilised in the project have potential for commercialisation for the benefit of Australian commerce.

**LP0669602** Prof RJ Dippenaar; Dr Z Chen; Dr DJ Nolan; Mr JG Williams; Dr FJ Barbaro; Mr CR Killmore

**Approved Project Title** **New Generation Pipeline and Q&T Plate Steels**

**2006 :** \$94,412

**2007 :** \$200,611

**2008 :** \$148,529

**2009 :** \$147,681

**2010 :** \$205,351

**2011 :** \$100,000

**Primary RFCD** 2913 METALLURGY

APA(I) Award(s): 2

**Partner Organisation(s)**

BlueScope Steel

**Administering Institution** University of Wollongong

**Project Summary**

If successful, the progressive reformulation of the alloy design of a new family of steels would enhance their properties, greatly reduce the complexity of manufacture, ensure more efficient steelmaking production practices and enable the full capacity of the domestic pipe mills and plate manufacturing facilities to be realised. This innovative and new approach opens up opportunities for market growth and export potential in areas of fundamental importance to Australia's infrastructure and mining industries and defence capability. Implementation of this newly developed technology would, for the first time, create export market opportunities for Australian pipe manufacturers.

## Summary of Linkage Projects Applications for Funding to Commence in 2006

**LP0669456** Prof SX Dou; Dr D Shi; Dr MJ Qin; Dr T Beales; Mr CJ Hawley

**Approved Project Title** **Development of high performance second generation superconductors**

**2006 :** \$115,000

**2007 :** \$217,500

**2008 :** \$192,936

**2009 :** \$90,436

**Primary RFCD** 2914 MATERIALS ENGINEERING

APA(I) Award(s): 1

APDI Dr D Shi

**Partner Organisation(s)**

AUSTRALIAN SUPERCONDUCTORS

**Administering Institution** University of Wollongong

**Project Summary**

Robust, high performance high temperature superconductor (HTS) wire underpins a worldwide opportunity to revolutionize the electric power grid, transportation, electronics and many other industries with a new generation of high efficiency, compact, and environmentally friendly electrical equipment. This program combines our expertise in superconductor thin-film fabrication and characterization and expertise of a local industrial partner in the development of superconducting wires. The success of the proposed project will bring benefit to local industry and employment, and significantly enhance the international competitiveness in HTS of Australian industry.

**LP0668835** Prof BN Indraratna; Dr MA Ismail; Mr R Armstrong; Mr VC Wijeyakulasuriya

**Approved Project Title** **Stabilisation of erodible and dispersive soils with natural wood processing by-products**

**2006 :** \$34,472

**2007 :** \$70,209

**2008 :** \$72,741

**2009 :** \$37,003

**Primary RFCD** 2908 CIVIL ENGINEERING

**Partner Organisation(s)**

CHEMSTAB Consulting Pty Ltd

Queensland Department of Main Roads

**Administering Institution** University of Wollongong

**Project Summary**

Lignosulfonate is a by-product of paper and wood processing industry, which is an environmentally friendly organic compound with an immense potential for stabilising erodible and dispersive soils when mixed in small quantities. This project will deliver practical design guidelines and specifications for sustainable performance of road and rail embankments that are treated with lignosulfonates. Utilisation of lignosulfonates in soil stabilisation is not only cost-effective, but also has the benefit of eliminating a waste disposal problem. The proposed project will improve industrial competitiveness and Australia's export earnings through increased commercialisation and technology transfer in the region.

## Summary of Linkage Projects Applications for Funding to Commence in 2006

**LP0668876** Prof GG Wallace; Dr PC Innis; Prof HJ Griesser; Dr PJ Murphy; Dr SA Edwards

**Approved Project Title** **Development of Novel Nanostructured Electro-optical Systems**

**2006 :** \$140,000

**2007 :** \$282,500

**2008 :** \$297,500

**2009 :** \$155,000

**Primary RFCD** 2501 PHYSICAL CHEMISTRY (INCL. STRUCTURAL)

APA(I) Award(s): 2

**Partner Organisation(s)**

Schefenacker Vision Systems

**Administering Institution** University of Wollongong

**Project Summary**

The development of flexible and conformal electro-optical systems will strengthen Australia's position in the automotive industry establishing a value adding technology. The auto-dimming mirror industry is worth in excess of US\$500 million per annum, with predictions of industry sales of US\$2 billion. This project will tap existing Australian manufacturing capabilities and utilise the intellectual capacity of internationally recognised scientists from UoW and UniSA. The science behind this proposed development will have significance well beyond its initial scope with applications in areas such as ophthalmic lenses, architectural glazing and electronic textiles providing further Australian opportunities in these rapidly developing areas.