Victoria

Deakin University

LP0776979 A/Prof LI Hancock

Approved Project Title **Community Engagement for Localised Greenhouse Reduction: a local government demand-management model for business and household water, energy and waste reduction**

2007 : $ 22,054
2008 : $ 42,230
2009 : $ 20,176
Primary RFCD 3602 POLICY AND ADMINISTRATION

Collaborating/Partner Organisation(s)

Hobsons Bay City Council
Global Greenplan Foundation
Administering Organisation Deakin University

Project Summary

New integrated community strategies are needed to deal with the imperative of reducing Australia's carbon footprint. With an explicit focus on enhancing community engagement for localised greenhouse reduction, this project will generate important analysis and policy prescriptions for demand reduction strategies. The development of enduring sustainable environment attitudinal and behavioural change is central to the National Strategy for Ecologically Sustainable Development, which sees a clear role for governments, business and individuals in progressing ecologically sustainable development. The results will contribute to developing new place-based integrated eco-sustainability models for implementation by local/state governments.

LP0776913 Prof PD Hodgson; Dr BF Rolfe; Dr W Yan; Dr GL Kelly

Approved Project Title **Reducing tool wear through novel surface treatments and improved lubrication**

2007 : $ 62,500
2008 : $ 145,000
2009 : $ 140,000
2010 : $ 57,500
Primary RFCD 2913 METALLURGY
APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

BP Australia Ltd.
Ford Motor Company of Australia Ltd.
HARD Technologies Pty. Ltd.
Tooling Australia
Administering Organisation Deakin University

Project Summary

High strength steels can be used to make vehicles lighter and safer but forming them into parts requires large forces. This can lead to problems with tool wear and poor surface finish. This project will lead to improved understanding of what makes a lubricant effective and how to design a tool surface to reduce wear. This new knowledge will lead to improved tool designs and products. The competitiveness of the Australian automotive manufacturing industry will be improved and there will be benefits for the local tooling industry, especially in the competition for overseas markets.

LP0776579 Prof Dr CA Langston; Dr GJ Treloar; Dr C Liu; Dr DJ Beynon; Dr UM de Jong

Approved Project Title **Strategic Assessment of Building Adaptive Reuse Opportunities**

2007 :	$ 35,000
2008 :	$ 70,000
2009 :	$ 70,000
2010 :	$ 35,000
Primary RFCD	3199 OTHER ARCHITECTURE, URBAN ENVIRONMENT AND BUILDING

Collaborating/Partner Organisation(s)

Uniting Church in Australia
Williams Boag Architects

Administering Organisation Deakin University

Project Summary

This research will review a large database of existing buildings, many of which have exceeded their useful life. An innovative model will be developed to enable Australia's building and property industries to identify the most viable opportunities for building adaptive reuse. The model will integrate financial, environmental and social sustainability, enabling community stakeholders to make informed decisions with widespread benefits. The research is aligned with the national priority area: An Environmentally Sustainable Australia: Transforming Existing Industries. The expertise developed in this project will be regionally and internationally applicable, providing momentum for the growing adaptive design and conservation market.

LP0776751 Dr T Lin; Dr Y Zhao; Prof X Wang; A/Prof MA Kirkland

Approved Project Title **Three-Dimensional Polymer Fibre Scaffolds with Functional Nano-structured Surface**

2007 :	$ 57,500
2008 :	$ 115,000
2009 :	$ 115,000
2010 :	$ 57,500
Primary RFCD	2915 BIOMEDICAL ENGINEERING

Collaborating/Partner Organisation(s)

Cygenics, Ltd

Administering Organisation Deakin University

Project Summary

The Partner Organisation to this research, CyGenics Ltd, is a world leader in cell biotechnology. A key challenge faced by the CyGenics and other biotech companies is the provision of tissue scaffolding materials that have the right three-dimensional macroscopic structure plus a suitable nano-structured surface micro-environment, similar to the natural extracellular matrix. This joint project combines expertise in polymer fibres, surface engineering and cell culture to tackle the key challenge. The outcome will help position the local polymer fibre and cell culture industries at the forefront of tissue scaffolding materials research and development.

LP0776826 Prof S Nahavandi; Dr D Creighton

Approved Project Title **Enabling secure and competitive air cargo systems**

2007 : $ 43,155
2008 : $ 84,292
2009 : $ 73,255
2010 : $ 32,117

Primary RFCD 2802 ARTIFICIAL INTELLIGENCE AND SIGNAL AND IMAGE PROCESSING

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Deneb Australasia Pty Ltd

Administering Organisation Deakin University

Project Summary

This research will make a valuable contribution towards raising security levels in Australia. Methodologies and tools that enable rapid modelling, analysis and ongoing decision making support will enable the Australian air cargo industry to efficiently implement emerging screening technologies, whilst remaining competitive.
Improved efficiency in air cargo facilities and distribution hubs will help maintain and improve productivity and reduce time to market, despite increased security screening and rising fuel prices placing greater cost overheads on logistics networks.
This research will have international application and create valuable high technology export for Australia.