

Summary of Successful Linkage - Projects Proposals for Funding to Commence in 2010 by State and Organisation

New South Wales

University of Technology, Sydney

LP100200774 Prof Longbing Cao, A/Prof Xingquan Zhu, Prof Chengqi Zhang, Mr Hans M Bohlscheid, Dr Huaifeng Zhang, Mr Brett D Clark, Dr Yanchang Zhao, Mr Peter G Newbiggin

Approved Project Title **Detecting significant changes in organisation-customer interactions leading to non-compliance**

2010	\$50,000.00
2011	\$100,000.00
2012	\$100,000.00
2013	\$50,000.00

2014

2015

Primary FoR 0801 ARTIFICIAL INTELLIGENCE AND IMAGE PROCESSING

APAI_IT 1

Partner/Collaborating Organisation(s)

Centrelink

Administering Organisation University of Technology, Sydney

Project Summary

The instant detection of risky customer and/or group dynamics and business policy and/or process changes dispersed in normal interactions can avoid immense losses and inconsistent policies for Government and industries, such as preventing Centrelink customer debt. This project will deliver novel analytical techniques and smart information use to effectively detect the above-mentioned changes leading to non-compliance. It will enhance service quality, compliance, payment accuracy and policy design for the Australian Government and industries such as Centrelink, the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA), banking and insurance. The resulting systems, the researchers trained and resulting publications will significantly enhance Australia's leading role in tackling change-driven non-compliance.

LP100200254 Prof Philip A Doble, Dr Dominic J Hare, A/Prof David I Finkelstein, Prof Ashley I Bush, Dr Paul A Adlard, A/Prof Robert A Cherny, Mr Rodney Minett

Approved Project Title **Single cell imaging of trace elements by laser ablation - inductively coupled plasma - mass spectrometry**

2010	\$67,500.00
2011	\$126,500.00
2012	\$104,000.00
2013	\$45,000.00

2014

2015

Primary FoR 0601 BIOCHEMISTRY AND CELL BIOLOGY

APDI Dr Dominic J Hare

Partner/Collaborating Organisation(s)

Agilent Technologies, Kenelec Scientific

Administering Organisation University of Technology, Sydney

Project Summary

The precise mechanism of how many diseases function on the cellular level is not well understood. Trace elements are important to normal cellular function and have the potential to cause significant damage if delicate levels are disturbed. This project will introduce a new, cost-effective alternative to the synchrotron for mapping of trace elements in single cells. This breakthrough science will transform a common analytical instrument into a powerful new tool for probing the cellular mechanisms of chronic illness. This frontier technology will help determine the role of trace metals in the development of neurodegenerative disease.

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LP100200842 Dr Saroj Lal, Mr David Burton, Dr Eugene Zilberg, Prof Dr Thomas Penzel
Approved Project Title **Improving road safety: advanced hybrid vehicle-based technology for monitoring driver drowsiness**

2010	\$40,000.00
2011	\$80,000.00
2012	\$80,000.00
2013	\$40,000.00
2014	
2015	

Primary FoR 1099 OTHER TECHNOLOGY

Partner/Collaborating Organisation(s)

Compumedics Ltd

Administering Organisation University of Technology, Sydney

Project Summary

Innovative technology geared towards reducing road accidents and fatalities (for improving public health) will constitute major socio-economic benefit to Australia. The Australian Transport Safety Bureau notes fatigue as a major cause of road accidents (2006). The World Health Organisation dedicated World Health Day 2004 to road safety and emphasized the importance of combating fatigue ('Road Safety is no Accident'). This research will develop an innovative driver drowsiness detecting technology. With drowsiness attributable to substantial road fatalities, this technology aims to reduce this emotional and socio-economic burden on the community, contributing to national and community benefit by providing a safer road environment.

LP100200750 A/Prof Dikai Liu, Prof Kenneth J Waldron, Prof Gamini Dissanayake
Approved Project Title **Biologically inspired robotic system for steel bridge condition assessment**

2010	\$72,500.00
2011	\$142,500.00
2012	\$137,500.00
2013	\$67,500.00
2014	
2015	

Primary FoR 0910 MANUFACTURING ENGINEERING

APAI 1

Partner/Collaborating Organisation(s)

Roads and Traffic Authority of New South Wales

Administering Organisation University of Technology, Sydney

Project Summary

Australia has many thousands of steel bridges which form a key infrastructure supporting urban and rural communities. Periodic inspection is a vital undertaking that minimises risk of bridge failures and associated community impact. This project will develop a robotic inspection system capable of crawling over the structure, inspecting all areas, acquiring essential information and appropriately presenting these to a human operator to facilitate effective condition assessment. The project's outcomes will lay the foundation for the world-wide use of bio-inspired robots in civil infrastructure condition assessment, significantly increasing worker' safety and greatly reducing the costs and improving the efficiency of the inspection process.

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LP100200435	Prof Nicky Solomon, Prof Alison Lee, A/Prof Toni J Robertson, Dr Roslyn Sorensen, Prof Patrick Carmichael, Prof Jill Thistlethwaite, A/Prof Janet Anderson	
Approved Project Title	Remaking practices: learning to meet the challenge of practice change in primary health care	
2010		\$30,000.00
2011		\$60,000.00
2012		\$60,000.00
2013		\$30,000.00
2014		
2015		
Primary FoR	1399	OTHER EDUCATION

APAI 1

Partner/Collaborating Organisation(s)

NSW Health

Administering Organisation University of Technology, Sydney

Project Summary

The improvement of primary health care delivery is an urgent national priority. This research will address the current lack of understanding of the new kinds of professional practices that are required to reshape primary health care in Australia. By focusing on the active role of learning and technology in the new practices, this research will provide theoretical and practical resources that will contribute to the achievement of professional practices that are multidisciplinary, integrated and patient-responsive. The outcomes of this research will benefit health service providers, health practitioners, patients and communities as well as policy makers engaged in the redesign of healthcare service delivery and health systems.