

# Summary of Linkage Projects Proposals for Funding to Commence in 2007

## South Australia

### University of South Australia

**LP0776588** Dr MC Barnes; Dr V Jiranek; Dr PR Grbin; Mr AS Yap

**Approved Project Title** **Evaluation of High-Power Ultrasound as an Innovative Tool for Sanitation, Colour/Flavour Extraction and Fermentation Enhancement in Wine Making**

**2007 :** \$ 80,000

**2008 :** \$ 165,000

**2009 :** \$ 175,000

**2010 :** \$ 90,000

**Primary RFCD** 2901 INDUSTRIAL BIOTECHNOLOGY AND FOOD SCIENCES

APA(I) Award(s): 3

#### **Collaborating/Partner Organisation(s)**

CAVITUS PTY LTD

**Administering Organisation** University of South Australia

#### **Project Summary**

The multibillion-dollar wine industry forms a significant part of the Australian economy especially in regional areas. The application of high power ultrasound (HPU) to the cleaning and disinfection of wine barrels as well as for the enhancement of wine through improved fermentation and extraction of flavours and colours from grapes will have significant benefits to this industry. It is essential that Australia also capitalise on the benefits that this technology can provide in improved processing and products, lower costs, reduction in environmental pollution, water re-use and replacement of "dirty" energy. In this way the impact on this industry will help cement Australia's position in the world wine market long into the future.

**LP0776625** Prof RG Horn; Prof SJ Miklavcic; Mr AB Ozerov

**Approved Project Title** **Evaluating modern printing inks: the behaviour of charged particles in concentrated nonaqueous colloidal dispersions**

**2007 :** \$ 27,500

**2008 :** \$ 55,000

**2009 :** \$ 57,500

**2010 :** \$ 30,000

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

#### **Collaborating/Partner Organisation(s)**

Research Laboratories of Australia

**Administering Organisation** University of South Australia

#### **Project Summary**

The Partner Organisation in this proposal, Research Laboratories of Australia (RLA) is a small Adelaide-based company which is at the forefront of modern colour printing technology. RLA provides liquid toners to several major international manufacturers of colour printers for use in liquid immersion development processes. This proposal will develop an instrument for characterising the properties of liquid inks, enabling continual R&D improvement of RLA's products. Furthermore, the instrument can be commercialised and marketed worldwide to companies dealing with concentrated colloidal dispersions in a wide range of industries including foods, pharmaceuticals, cosmetics and surface coatings.

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**LP0776922** Prof PR Howe; Prof R Young; Dr N Sinn

**Approved Project Title** **Cognitive and behavioural benefits of omega-3 fatty acid supplementation across the lifespan**

**2007 :** \$ 38,524

**2008 :** \$ 77,049

**2009 :** \$ 77,049

**2010 :** \$ 38,524

**Primary RFCD** 3212 PUBLIC HEALTH AND HEALTH SERVICES

APDI Dr N Sinn

**Collaborating/Partner Organisation(s)**

Novasel Australia Pty Ltd

**Administering Organisation** University of South Australia

### Project Summary

The Australian Bureau of Statistics recently estimated that 7-19% of children have learning and behaviour problems associated with child ADHD. Concurrently, rates of dementia are rapidly increasing worldwide, currently costing the Australian government \$6.6 billion pa, and it has been predicted that rates of dementia could double every 20 years. If omega-3 PUFA research can show benefits in cognition and behaviour across the lifespan, this has potential benefit for fish oil products and their ability to enhance mental health and cognitive outcomes, thereby helping to lower the substantial social and health care costs associated with poor academic performance, mental illness and growing rates of dementia.

**LP0776732** Prof BA Pocock

**Approved Project Title** **Work/Life Balance, Well-Being and Health: Theory, Practice and Policy**

**2007 :** \$ 58,000

**2008 :** \$ 118,000

**2009 :** \$ 130,000

**2010 :** \$ 70,000

**Primary RFCD** 3701 SOCIOLOGY

APA(I) Award(s): 1

**Collaborating/Partner Organisation(s)**

State Health Advisory Committee on Work Life: Creating Family Friendly Workplaces

SafeWork SA

**Administering Organisation** University of South Australia

### Project Summary

This project links to the national research priority of promoting and maintaining good health in two ways. It establishes a new annual national measure of work/life balance, a critical element of good health and well-being, assisting understanding about work/life conflict and informing workplace and government policy responses to it, strengthening Australia's social and economic fabric. Deep study of work/life issues in the health sector will also inform recruitment, retention and well-being in the health workforce, with flow-on to the health system more broadly. The project includes analysis of 'pre-retirement' work/life issues, also linking to the 'ageing well, ageing productively' priority.

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**LP0776969** Prof WY Saman; Dr F Bruno; Dr M Belusko; Mr KR Anderson; Dr DW Yarbrough  
**Approved Project Title** **Advancing the Thermal Insulation Performance of Australian Roofing Systems**  
**2007 :** \$ 17,500  
**2008 :** \$ 35,000  
**2009 :** \$ 17,500  
**Primary RFCD** 2905 MECHANICAL AND INDUSTRIAL ENGINEERING

### Collaborating/Partner Organisation(s)

Air-Cell Innovations Pty Ltd  
R & D Services, Inc

**Administering Organisation** University of South Australia

### Project Summary

To reduce the environmental impact of houses, state governments have mandated performance requirements on the energy efficiency of buildings. This research will develop advanced design techniques for the application of insulation in buildings, improving their performance. This will increase the efficiency of new buildings reducing Australia's greenhouse gas emissions. Furthermore, the peak power demand from residential buildings will reduce, decreasing the need to upgrade our electrical infrastructure. The research will enable more cost effective insulation solutions to be developed in the building industry and increase employment in the insulation industry.

**LP0776962** Dr J Slay; Mr JJ Beckett; Dr MA Raymond; Mr P Reedy; Mr BD Blundell  
**Approved Project Title** **Validation and Verification of Electronic Evidence: Developing a Testing Regime for Digital Forensic Software Reliability.**  
**2007 :** \$ 33,000  
**2008 :** \$ 66,000  
**2009 :** \$ 33,000  
**Primary RFCD** 3904 LAW ENFORCEMENT

### Collaborating/Partner Organisation(s)

National Institute of Forensic Science  
NSW Police State Electronic Evidence Branch  
Australian Federal Police  
South Australian Police

**Administering Organisation** University of South Australia

### Project Summary

Law Enforcement is analysing an exponentially-increasing quantity of Electronic Evidence - a 100,000 fold increase was experienced by the NSW police in the last decade. This is clear indication that computer related evidence is now an essential component of traditional crime investigation as well as computer crime. We intend to streamline the investigative process. This can only occur with the development of a validation framework from which we can build a testing regime to establish reliability of forensic tools and therefore the forensic investigative processes.

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**LP0776939** Prof AH Winefield; A/Prof MF Dollard; A/Prof C Provis; Mr QC Black; Mr D Farrell

**Approved Project Title** **Developing and testing a best practice model of enterprise bargaining in the retail sector**

**2007 :** \$ 34,179

**2008 :** \$ 70,256

**2009 :** \$ 73,056

**2010 :** \$ 36,980

**Primary RFCD** 3502 BUSINESS AND MANAGEMENT

APA(I) Award(s): 1

**Collaborating/Partner Organisation(s)**

Shop, Distributive and Allied Employees Association

**Administering Organisation** University of South Australia

**Project Summary**

Recently, the Australian labour market has seen a decrease in the manufacturing sector and an increase in the retail sector. The SDA with over 230,000 members is the largest trade and industrial union in Australia. It negotiates EB Agreements on behalf of employees. This research will assess improved job satisfaction and job conditions - a key EB goal, which will have tangible benefits in reducing turnover of retail sector employees, recognised as a major problem for employers. This research will enhance effectiveness for unions and employers in the implementation of agreements commensurate with the needs of employees, the findings of which will have broad applicability across Australian industry