

Summary of Linkage Projects Proposals for Funding to Commence in 2009

Victoria

The University of Melbourne

LP0991048 A/Prof M Ashokkumar; A/Prof SE Kentish; Dr B Zisu

Approved Project Title **Ultrasonics as a New Platform Technology in Dairy Processing**

2009 : \$ 67,000

2010 : \$ 126,500

2011 : \$ 115,500

2012 : \$ 56,000

Primary RFCD 2901 INDUSTRIAL BIOTECHNOLOGY AND FOOD SCIENCES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Dairy Innovation Australia Ltd

Administering Organisation The University of Melbourne

Project Summary

We intend to develop the use of ultrasound as an innovative platform technology within the Australian dairy industry. The outcomes will place the industry in a lead position internationally through the development of a range of novel, patentable, heat stable dairy ingredients that can command a premium price in a global market. This project will also lead to increased energy efficiency, reduced carbon footprints and increased profitability for Australian dairy manufacturing through improved productivity of membrane operations, evaporators and spray driers. In turn, this work will help to secure the future of the wider Australian dairy industry and the rural townships that depend upon this industry.

LP0990671 Prof K Bennell; Mr T Wrigley; Dr R Hinman

Approved Project Title **Influence of an innovative shoe design on lower limb joint loading during walking**

2009 : \$ 35,500

2010 : \$ 71,000

2011 : \$ 35,500

Primary RFCD 3214 HUMAN MOVEMENT AND SPORTS SCIENCE

Collaborating/Partner Organisation(s)

ASICS Oceania Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

This project will provide new knowledge about the effects of shoe design features on lower limb loading and the influence of obesity and knee condition on the shoe-mediated biomechanical effects. This will be of relevance to researchers and clinicians. It is also likely to contribute to a marketable commercial product, a shoe designed to reduce knee loading. This shoe has the potential to contribute to reducing the societal and personal burden of knee osteoarthritis, one of the most prevalent and costly chronic conditions in the developed world.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990420 Prof LE Brown; Dr GT Rawlin

Approved Project Title **Evaluation of the potential of colostrum-derived anti-influenza antibody for the treatment and prevention of influenza**

2009 : \$ 58,500

2010 : \$ 111,000

2011 : \$ 105,000

2012 : \$ 52,500

Primary RFCD 2703 MICROBIOLOGY

Collaborating/Partner Organisation(s)

Anadis Ltd

Administering Organisation The University of Melbourne

Project Summary

The project addresses a common disease problem, influenza, with a novel application of antibody technology. The technology may safely provide protection and cost effective treatment for those members of the community who are least protected by current approaches. The product can be cost-effective and readily available to enable the public to self medicate in high risk situations, or to be used as a public health tool in situations to control outbreaks in those most susceptible to serious disease. The production system that enabled the creation of the technology is the advanced Australian dairy industry. Farmers with herds participating will receive a significant income benefit from, what was before, largely a waste product.

LP0991153 A/Prof CA Elder; Prof TF McNamara; Prof GJ McColl; Prof E Manias; A/Prof G Webb; Dr R Woodward-Kron

Approved Project Title **Towards improved healthcare communication: development and validation of language proficiency standards for non-native English speaking health professionals**

2009 : \$ 20,803

2010 : \$ 40,858

2011 : \$ 44,418

2012 : \$ 24,363

Primary RFCD 3301 EDUCATION STUDIES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

The OET Centre

Administering Organisation The University of Melbourne

Project Summary

The project will directly benefit the provision of healthcare in the Australian community. The clinical communication skills of the increasing numbers of non-native English speaking health professionals (over 7,000 of whom have arrived in this country since 2000) are critical to the quality of patient care. The project will result in a) better understanding of what constitutes effective workplace communication in 3 health professions (Medicine, Nursing and Physiotherapy) and b) more relevant and rigorous minimum English communication standards for migrant health professionals within the Occupational English Test (OET), administered on behalf of government and professional registration bodies by our industry partner, the OET Centre.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990385 Dr R Ford; A/Prof PW Taylor; Dr C Linde; Mr K Lindbeck

Approved Project Title **Protecting the Australian chickpea industry through knowledge of the current Ascochyta rabiei fungal population and risk to resistance breeding strategies.**

2009 : \$ 15,000

2010 : \$ 30,000

2011 : \$ 30,000

2012 : \$ 15,000

Primary RFCD 2702 GENETICS

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

NSW Department of Primary Industries

Administering Organisation The University of Melbourne

Project Summary

Australian chickpea is highly vulnerable to epidemics of Ascochyta blight, which may cause total crop failure. This project will help to maintain Australia's position as a major global chickpea producer through maximising the life span of current resistance genes to *A. rabiei*. and determining the applicability of other potential resistance sources. The knowledge that will be generated regarding the pathogen's potential to overcome host resistance is imperative for developing future disease management strategies, especially since more aggressive isolates exist outside Australia. The project findings will feed directly into the National Australian Chickpea Breeding Program.

LP0990151 Dr JL Gergis; Prof DJ Karoly; Prof N Nicholls; A/Prof DS Garden; Prof CS Turney; Dr AM Lorrey; Dr K Braganza; Dr RJ Allan; Miss G Skelly; Ms RJ Moran; Dr K Tan; Mr RA Neville; Dr NR Lomb

Approved Project Title **Reconstructing pre-20th century rainfall, temperature and pressure for south-eastern Australia using palaeoclimate, documentary and early weather station data.**

2009 : \$ 65,000

2010 : \$ 117,500

2011 : \$ 105,000

2012 : \$ 52,500

Primary RFCD 2606 ATMOSPHERIC SCIENCES

APA(I) Award(s): 1

APDI Dr JL Gergis

Collaborating/Partner Organisation(s)

Australian Bureau of Meteorology

Met Office Hadley Centre

Murray-Darling Basin Commission

Department of Sustainability and Environment

Melbourne Water

National & State Libraries Australasia

National Library of Australia

State Library of Victoria

State Library of New South Wales

Powerhouse Museum

Administering Organisation The University of Melbourne

Project Summary

South-eastern Australia is in the grip of a severe water crisis due to the worst drought in recorded history and increasing temperatures. This landmark project brings together a team of Australia's leading climate scientists, water managers and historians with the common goal of reconstructing south-eastern Australia's climate history. The greatly extended record of annual rainfall and temperature variability will allow better planning for water storage and use, and improved testing of climate model simulations. Improving our understanding of the historical impacts of climate extremes on society will assist with planning for life in a hotter and drier future.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0991919 Prof PA Gleeson; Prof JL Stow

Approved Project Title **Inhibition of pro-inflammatory cytokine secretion- A new route to therapeutics of chronic inflammatory disease**

2009 : \$ 61,000

2010 : \$ 114,500

2011 : \$ 107,000

2012 : \$ 53,500

Primary RFCD 3202 IMMUNOLOGY

Collaborating/Partner Organisation(s)

CSL Ltd

Administering Organisation The University of Melbourne

Project Summary

Chronic inflammatory diseases, including rheumatoid arthritis and inflammatory bowel disease, affect millions of people leading to considerable suffering, economic loss and premature death. Anti-TNF treatments have recently shown success in the treatment of rheumatoid arthritis, inflammatory bowel disease and other conditions, however, a substantial number of patients (~50%) do not respond to the current TNF treatments. Improved anti-TNF strategies would provide enhanced health outcomes and welcome relief to many Australians. In addition, the economic benefit of the TNF market is very substantial. Therefore the potential impact of this research is very high both for health care and economical potential.

LP0991123 Prof PE Griffin; A/Prof E Care; A/Prof ML Wu; Mr WJ Craig; Ms LE Clark; Mr JA Nelson; Mr P Sedunary; Ms L Murray; Ms R McLoughlin

Approved Project Title **The influence of evidence-based decisions by collaborative teacher teams on student achievement**

2009 : \$ 101,736

2010 : \$ 208,073

2011 : \$ 209,746

2012 : \$ 220,909

2013 : \$ 117,500

Primary RFCD 3301 EDUCATION STUDIES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Department of Education and Early Childhood Development

Catholic Education Office Archdiocese of Melbourne

Administering Organisation The University of Melbourne

Project Summary

National testing and concerns about literacy and numeracy skills as enabling competencies for learning have had a central focus for decades. Recent studies by Griffin and Care have established large gains in student reading comprehension in an uncontrolled study of years 3 to 6 in primary schools. This study seeks to determine if the process can be manipulated, scaled up and applied in a sustainable manner across a larger number of year levels, systems of education, and subject areas.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990833 Dr JM Horan; A/Prof J Goodman-Delahunty; Prof M Israel; Prof I Freckelton

Approved Project Title **Australian Jurors' Perspectives on Expert Evidence**

2009 : \$ 23,000

2010 : \$ 71,000

2011 : \$ 48,000

Primary RFCD 3904 LAW ENFORCEMENT

Collaborating/Partner Organisation(s)

Australasian Institute of Judicial Administration (AIJA)

Australia New Zealand Policing Advisory Agency

Self-Employed Barrister, Victorian Bar

Administering Organisation The University of Melbourne

Project Summary

This inter-state, industry and research collaborative project will shed light on how courts, lawyers and experts can best work together to assist juries in their decision-making task. With the cost of a criminal jury trial running well in excess of \$20,000 per day, policy-makers are keen to find ways of improving the efficiency of criminal trials. Improving the performance of the jury system will benefit the Australian community by enhancing the quality and reducing the cost of the criminal justice system. By intimately involving the judges and forensic scientists in this project we maximise the potential for the results of our research to be adopted by those in a position to improve the jury system.

LP0990298 A/Prof JB Howe; A/Prof S Cooney

Approved Project Title **New Initiatives in Enforcing Employment Standards: Assessing the Effectiveness of Federal Government Compliance Strategies**

2009 : \$ 30,000

2010 : \$ 60,000

2011 : \$ 60,000

2012 : \$ 30,000

Primary RFCD 3901 LAW

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Workplace Ombudsman

Administering Organisation The University of Melbourne

Project Summary

The well-being of more than eight million Australian employees is underpinned by statutory workplace entitlements. For the large majority of those employees, these are set by federal legislation. The statutory entitlements are meaningful only in so far as they are complied with, and improving the effectiveness of the federal enforcement agency, the Workplace Ombudsman, is therefore of crucial public importance. This project provides the first comprehensive scholarly empirical evaluation of the Workplace Ombudsman. Its findings will identify multiple ways in which enforcement practices can be improved, not only for the Workplace Ombudsman, but also for comparable compliance agencies domestically and overseas.

LP0991498 Prof SJ Kent; Dr I Stratov

Approved Project Title **Development of purified antibodies that kill virus infected cells**

2009 : \$ 26,000

2010 : \$ 52,000

2011 : \$ 52,000

2012 : \$ 26,000

Primary RFCD 3202 IMMUNOLOGY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Karpathia Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

This proposal will develop panels of purified and monoclonal antibodies that kill virus infected cells. These antibodies may show efficacy in preventing HIV infection. This is new technology that could subsequently be harnessed to protect or limit the devastating effects of chronic viruses such as HIV.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990229 Dr R Kokanovic; Prof SB Ziebland; Prof JM Gunn; Dr NJ Highet

Approved Project Title **Personal experiences of depression and recovery; an Internet resource for the public and policy makers**

2009 : \$ 29,684
2010 : \$ 59,600
2011 : \$ 29,916

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

beyondblue:national depression initiative

Administering Organisation The University of Melbourne

Project Summary

The economic, health, a social and personal cost to the Australian community of depression constitutes a public health concern of undoubted significance. Debates in both policy and public arenas are hampered by a lack of comprehensive reliable evidence about factors underlying depression and more importantly recovery from depression. The data gathered from this project will establish an evidence base and a platform for incorporating lay perspectives on depression and recovery into the currently existing discourses on depression into web based resources providing information to people searching information about depression, its treatments and recovery pathways.

LP0990125 Prof ML Langton; A/Prof MF Tehan; Ms ML Stewart; Dr LC Godden; Prof CS O'Faircheallaigh; Dr J Taylor; Dr LM Strelein

Approved Project Title **Poverty in the Midst of Plenty: Economic Empowerment, Wealth Creation and Institutional Reform for Sustainable Indigenous and Local Communities**

2009 : \$ 80,000
2010 : \$ 155,000
2011 : \$ 160,000
2012 : \$ 85,000

Primary RFCD 3799 OTHER STUDIES IN HUMAN SOCIETY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Office of Indigenous Policy Coordination, Department of Families, Housing, Community Services and In Woodside Energy Ltd

Rio Tinto Ltd

Santos Ltd

Marnda Mia Central Negotiating Committee Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

The project researches government, private sector and indigenous initiatives enhancing indigenous economic development and well-being outcomes. It provides culturally relevant data to analyse the flow of benefits (incl. employment) from the resources sector to indigenous peoples; links between government policy/services for indigenous well-being; and investigates legal forms (land title, securities, taxation law/incentives) for indigenous economic empowerment. The project strengthens the socio-economic fabric of indigenous communities benefiting the nation, indigenous peoples in commercial engagements, corporations seeking a 'licence to operate' and government agencies responsible for indigenous economic/social development.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990564 Prof E Malcolm; Dr D MacKinnon; Dr N Veis

Approved Project Title **Reading the Objects: Developing Online Personal Stories from Australia's 'Museums of Madness', 1870-1980**

2009 : \$ 24,000

2010 : \$ 39,000

2011 : \$ 50,500

2012 : \$ 35,500

Primary RFCD 4301 HISTORICAL STUDIES

Collaborating/Partner Organisation(s)

Museum Victoria

Administering Organisation The University of Melbourne

Project Summary

Museum Victoria's Psychiatric Services Collection contains over 1,600 objects from mental hospitals that operated in the state between 1870 and 1980. It is one of the largest collections of its type in the world. As the relative merits of psychiatric institutionalization and community care remain controversial, making digitized images of all these objects available online, accompanied by expert historical commentaries, will not only throw light on the daily lives of patients and staff and the care offered in institutions now largely vanished, but it will also help promote a better informed public debate about this vital area of mental health policy.

LP0990334 Prof E Manias; Dr MF Gerdtz; Prof MJ Dooley; Dr AF Williams

Approved Project Title **Examining the complexity of communication processes across transition points from the emergency department to improve medication safety**

2009 : \$ 12,500

2010 : \$ 22,500

2011 : \$ 20,000

2012 : \$ 10,000

Primary RFCD 3211 NURSING

Collaborating/Partner Organisation(s)

Alfred Health

Administering Organisation The University of Melbourne

Project Summary

Problems in communication contribute significantly to adverse events that lead to serious harm for Australian consumers. Recent data show medication errors account for over 25% of all adverse events, while over 50% of consumers who move across transition points have medication errors relating to their treatment regimen. Financial costs from adverse events are estimated at around \$A2billion/year, which are likely to increase with further complexities involving consumer care. This study will result in new knowledge about communication processes to inform the development of reporting methods and strategies, which positively influence the practices of health professionals in managing medications as consumers move across different environments.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990264 Em/Prof MM Manion; Prof BJ Muir; Mr S Carmody; Dr TN Burrows

Approved Project Title **Medieval and Renaissance Manuscripts in Australia: researching and relating Australia's manuscript holdings to new technologies and new readers**

2009 : \$ 35,000

2010 : \$ 72,500

2011 : \$ 70,000

2012 : \$ 32,500

Primary RFCD 4301 HISTORICAL STUDIES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

State Library of Victoria

Administering Organisation The University of Melbourne

Project Summary

Building on the productive partnership forged with the State Library of Victoria in the presentation of a recent large-scale manuscript exhibition, this project will research the Medieval and Renaissance manuscripts in Australia with reference to the interests of scholars and the general public. National and community benefits include access online to this precious heritage material and its global connections, and communication of research findings in publications and events designed for a variety of readers and audiences. The project will foster collaboration between curators, librarians and academic scholars and ensure Australia's timely participation in important international initiatives in this field

LP0991146 Ms CL Newton; Prof T Kvan; Dr D Hes; Dr K Fisher; Dr MJ Grose; Dr S Wilks

Approved Project Title **Future Proofing Schools: using smart green integrated design approaches to prefabricated learning environments**

2009 : \$ 100,000

2010 : \$ 175,000

2011 : \$ 135,000

2012 : \$ 60,000

Primary RFCD 3101 ARCHITECTURE AND URBAN ENVIRONMENT

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Department of Education and Early Childhood Development (Victoria)

Department of Education and Training (WA)

NSW Department of Education and Training

CEFPI (Victorian Chapter)

Rubida Research

Hayball Architects

Mary Featherston Design

Office of the Victorian Government Architect Department of Premier and Cabinet

Department of Employment, Education and Training (Northern Territory)

TeeCH Project

Department of Education, Training and the Arts (Queensland)

Catholic Education Office Melbourne

Administering Organisation The University of Melbourne

Project Summary

This project draws on multi-disciplinary approaches to set the groundwork of major transformations of prefabricated classrooms, with the use of advanced materials, smart information systems embedded in the classrooms, better placement on sites, and use of more efficient construction techniques, allowing a transformation of this Australian industry. Our research will promote an innovation culture and economy within the school and for future generations, and will have flow-on effects into promoting a healthy start to life in which smart, green, and educational imperatives are aligned. This will assist in strengthening Australia's social and economic fabric.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990130 Prof HJ Paarsch; Prof J Rust; Mr GC Stoneham; Mr M Eigenraam; Dr V Nemes

Approved Project Title **Auctions of Standing Trees**

2009 : \$ 27,950
2010 : \$ 41,020
2011 : \$ 26,140
2012 : \$ 26,140
2013 : \$ 23,070
2014 : \$ 10,000

Primary RFCD 3402 APPLIED ECONOMICS

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Victorian Department of Sustainability and Environment

Administering Organisation The University of Melbourne

Project Summary

This project is critical to the ecological well-being of Australia. Standing trees are extremely important in Australia because they prevent soil erosion and stabilize water tables; their location influences fire risks. Much timber is sold at auction. While it is possible and desirable to learn how other nations use auctions to sell standing trees, information from those locales needs to be used with care when adapting it to the Australian experience. The project will use state-of-the art theory and methods to implement novel public policy. It will also develop expertise necessary to implement modern economic methods in environmental policy settings.

LP0990369 Prof MG Pandy; Prof R Kotagiri; Dr PV Lee; Dr KM Crossley; Dr KE Webster; A/Prof JA Feller; Mr RN de Steiger

Approved Project Title **Patient-specific computational tools for evaluating functional performance of total knee replacements in vivo**

2009 : \$ 85,000
2010 : \$ 150,000
2011 : \$ 115,000
2012 : \$ 50,000

Primary RFCD 2301 MATHEMATICS

APA(I) Award(s): 3

Collaborating/Partner Organisation(s)

Smith & Nephew Surgical Pty Ltd

BrainLAB Australia Pty Ltd

Administering Organisation The University of Melbourne

Project Summary

Knee replacement surgery is the established treatment for end-stage osteoarthritis. This proposal addresses one of the most fundamental questions related to knee replacement surgery: Why do total knee replacements fail? High-fidelity, patient-specific computer simulations of walking can help to answer this question and, in so doing, can improve the functional performance and longevity of current knee implant designs. Realistic computer simulations of human movement also can play a pivotal role in healthcare through patient rehabilitation; in sports, through the development of personalized training programs for elite athletes; and in entertainment, through the creation of video games and animated films.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990161 Dr KM Parris; Dr MA McCarthy; Dr AJ Hamer; Dr JE Melville

Approved Project Title **Optimal management of threatened amphibian metapopulations in urbanising landscapes**

2009 : \$ 70,000

2010 : \$ 130,000

2011 : \$ 100,000

2012 : \$ 40,000

Primary RFCD 3008 ENVIRONMENTAL SCIENCES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Parks Victoria

Australian Research Centre for Urban Ecology

Melbourne Water

Trust for Nature

Department of Sustainability and Environment

Museum Victoria

Administering Organisation The University of Melbourne

Project Summary

This project will enable the identification of optimal management strategies for many species threatened by the loss and fragmentation of their habitat, both in Australia and internationally. Our research will contribute to the recovery of the endangered Growling Grass Frog, and drive the conservation of wetland biodiversity on the fringe of Australia's fastest growing city. Both the methods and specific recommendations for management that we develop will contribute to the goal of an environmentally-sustainable Australia. This project will expand Australia's capacity to solve conservation problems, and will promote biological diversity in urban environments, to the benefit of their human inhabitants.

LP0991550 Dr JL Provis; Dr P Duxson

Approved Project Title **Tailoring geopolymer concretes for sustainable development**

2009 : \$ 100,000

2010 : \$ 200,000

2011 : \$ 200,000

2012 : \$ 100,000

Primary RFCD 2914 MATERIALS ENGINEERING

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Zeobond Research Pty. Ltd.

Administering Organisation The University of Melbourne

Project Summary

This project will benefit Australia by enhancing the wider uptake of environmentally friendly geopolymer concretes. These materials are now commercially available in Australia, and provide the opportunity to obtain value from multiple millions of tonnes of industrial wastes (coal fly ash and metallurgical slags). An Australian company, Zeobond, is currently the world's leading commercial producer of geopolymers, and is collaborating in this project to develop a scientific understanding of how best to formulate durable geopolymer concretes. Geopolymer concrete will provide the opportunity to reduce Australia's CO2 emissions by over a million tonnes per year when implemented on a commercial scale.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0990571 A/Prof A Rajabifard; Prof IP Williamson

Approved Project Title **A National infrastructure to manage land information**

2009 : \$ 45,000

2010 : \$ 90,000

2011 : \$ 90,000

2012 : \$ 45,000

Primary RFCD 3901 LAW

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Landgate

Land Victoria

Department of Lands NSW

PSMA Australia Ltd

Administering Organisation The University of Melbourne

Project Summary

Australia is one of about 30 countries in the world capable of managing land transactions in reliable land registers. The administrative framework however is 150 years old, built according to a 19th century statutory model appropriate to a less complicated and slower land market. Now land information, and particularly the digital land parcel map, is Australia's most valuable but underutilised asset. The project will translate popular spatial technologies into national business tools to better manage land information for the government, community and private sectors.

LP0990182 Prof AV Sanson; Dr H Hiscock; Dr JK Bayer; A/Prof MA Wake; Dr O Ukoumunne; Ms LC Gold; Prof DS Shaw

Approved Project Title **Preventing mental health problems in children: a population-based cluster controlled trial**

2009 : \$ 41,595

2010 : \$ 85,219

2011 : \$ 81,440

2012 : \$ 55,305

2013 : \$ 34,979

2014 : \$ 17,489

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Department of Education and Early Childhood Development

Department of Human Services - Mental Health

Department of Human Services - Community Health

Municipal Associations of Victoria

Administering Organisation The University of Melbourne

Project Summary

The National Mental Health Survey (2000) found 1 in 7 children have externalising (aggression) and internalising (anxiety, depression) problems. Early mental health problems beget later problems with high costs to society, including clinical, remedial education and criminal justice services. Hence, early prevention is vital for national well-being and productivity. The few preventive early childhood programs to date are limited in effectiveness and not truly population-based. The proposed parenting / family support trial aims to overcome these obstacles, by comparing and costing two approaches that can be implemented within whole communities. The trial will help clarify optimal primary care to prevent mental health problems early in life.

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LP0990200 Prof CP Tayler; Prof K Thorpe; Prof PE Griffin; Prof RJ Adams; Prof I Siraj-Blatchford; Prof EB Waters; Dr GH Cleveland; Dr K Ishimine; Dr TD Gilley; Prof AV Sanson; Prof F Oberklaid; Ms L Luxford; Dr J Dungan

Approved Project Title **Assessing the effectiveness of early childhood education and care (ECEC) programs in Australian communities**

2009 : \$ 276,433
2010 : \$ 526,433
2011 : \$ 565,000
2012 : \$ 445,099
2013 : \$ 263,489
2014 : \$ 133,389

Primary RFCD 3301 EDUCATION STUDIES

APA(I) Award(s): 3

APDI Dr K Ishimine

Collaborating/Partner Organisation(s)

Department of Education and Early Childhood Development
 Office for Early Childhood Education and Care, Department of Education, Training and the Arts

Administering Organisation The University of Melbourne

Project Summary

The focus of this study is optimising early learning and social experiences and establishing positive life trajectories for Australia's children. This addresses the National Research Priority, A healthy start to life, and aligns with the National Productivity Agenda. The study provides evidence about the effectiveness of ECEC programs in diverse Australian communities and examines the contribution of different ECEC provision to children's attainments at school entry through to the first national testing at age 8. Measured outcomes address the COAG productivity agenda to include health, social inclusion and education. Findings will inform theory internationally and policy, investment and ECEC practices in Australia

LP0991098 A/Prof SP Vahey; Dr F Ravazzolo; Dr A Garratt; Dr J Mitchell

Approved Project Title **Helping Central Banks Measure Unobserved Variables Using Real-time Forecasts**

2009 : \$ 47,532
2010 : \$ 88,065
2011 : \$ 40,532

Primary RFCD 3404 ECONOMETRICS

Collaborating/Partner Organisation(s)

Norges Bank
 Reserve Bank of New Zealand
 Reserve Bank of Australia

Administering Organisation The University of Melbourne

Project Summary

The project addresses structural measurement problems confronted routinely by central bankers. The techniques developed, and the estimates provided, will aid directly the Partner Organisations (the Reserve Bank of Australia, the Reserve Bank of New Zealand and Norges Bank) and other central banks in formulating monetary policy. The analysis will allow interest rates in Australia and elsewhere to be set with greater precision. The techniques developed in this project will facilitate the understanding and communication of monetary policy within the central banks concerned, and enhance communication of monetary policy strategy to the public.

Summary of Linkage Projects Proposals for Funding to Commence in 2009

LP0991280 A/Prof AW Western; Mr TJ Peterson; Dr AJ Frost; Mr X Cheng; Mr CV McAuley

Approved Project Title **A new paradigm for catchment management: detection, forecasting and management of water catchments with multiple steady states**

2009 : \$ 58,500

2010 : \$ 124,500

2011 : \$ 128,500

2012 : \$ 62,500

Primary RFCD 2605 HYDROLOGY

APDI Mr TJ Peterson

Collaborating/Partner Organisation(s)

The Bureau of Meteorology

Department of Primary Industry

Department of Sustainability and Environment

Administering Organisation The University of Melbourne

Project Summary

Understanding the response and recovery of Australia's water catchments to climatic change and variability is become increasingly urgent. Our catchments are vulnerable because there is a fundamental gap in our understanding of how they recover from high or low rainfall periods. This project will: a) advance water management concepts; b) build tools to understand how and when catchments might switch to new states when hit by a disturbance; and c) identify how best to build the buffering capacity to reduce the chance of a switch occurring. The project will make Australia's groundwater and streamflow resources more secure and make Australian researchers and water resource managers world leaders in the emerging science of catchment resilience.

LP0990704 Dr NS Williams; Dr SK Arndt; Dr KJ Williams; Dr NP Dunett

Approved Project Title **Green roofs - improving urban environments in a changing climate**

2009 : \$ 80,000

2010 : \$ 165,000

2011 : \$ 110,000

2012 : \$ 25,000

Primary RFCD 3003 HORTICULTURE

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Melbourne Water

Department of Sustainability and Environment

City of Melbourne

Committee for Melbourne

Administering Organisation The University of Melbourne

Project Summary

Green roofs are an emerging climate change adaptation technology that is widespread in Europe and North America, but rare and untested in Australia. Our research will significantly progress the Australian green roof industry by overcoming barriers to their implementation. This will lead to multiple environmental, economic and health benefits at a variety of scales. Benefits for individual buildings include greater energy efficiency, increased roof life and the attenuation of noise. Environmental benefits include biodiversity habitat, reduced volume and improved quality of stormwater flows and cooling of the urban environment. This will further reduce energy use and greenhouse emissions, while reducing human health risks during heat waves.

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LP0990359 Dr BA Wintle; Dr LF Lumsden; Dr R van der Ree

Approved Project Title **Creating fauna-friendly cities and towns - The ecology and conservation of insectivorous bats in Melbourne**

2009 : \$ 65,000

2010 : \$ 125,000

2011 : \$ 120,000

2012 : \$ 60,000

Primary RFCD 2707 ECOLOGY AND EVOLUTION

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Arthur Rylah Institute, Department of Sustainability and Environment

Australian Research Centre for Urban Ecology

Parks Victoria

EarthWatch Institute (Australia)

Monash City Council

Melbourne City Council

Bayside City Council

Cardinia Shire Council

Australian Geographic Society

Administering Organisation The University of Melbourne

Project Summary

Urbanisation is a principal threat to the conservation of biodiversity worldwide. Information on the response of plants and animals to an increasingly urbanized world is essential to prevent the loss of natural assets, ensure environmental sustainability and promote human health and well-being. This research will combine extensive field surveys with state-of-the art modeling to identify their ecological requirements. Importantly, the research will engage with local councils, park managers and community organizations to educate the wider community and ensure research outcomes are adopted. The study design will ensure that the findings are applicable to other urban areas across Australia and around the world.