

Summary of Linkage Projects Proposals for Funding to Commence in 2008

Queensland

Queensland University of Technology

LP0882338 A/Prof DJ Anderson; Prof P Yates; Dr J Jones; Dr NM Byrne; Dr JA Barr

Approved Project Title **Developing a novel method for delivering a behavioral intervention for decreasing morbidity in women with a chronic disease: a randomized controlled trial.**

2008 : \$ 61,961

2009 : \$ 61,740

Primary RFCD 3801 PSYCHOLOGY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Northside Health Service District

Administering Organisation Queensland University of Technology

Project Summary

Currently there are 209.8 deaths from heart, stroke and vascular diseases per 100 000 of the Australian female population each year, with the rates being considerably high in the elderly female population. Despite the potential benefits of behavioural strategies to prevent morbidity in women with chronic disease, studies to date have not targeted women who already have a chronic disease in a clinical setting. This research study will address this, helping postmenopausal women who have chronic disease change negative health behaviours and increase physical activity and self efficacy, improve quality of life and decrease blood pressure, obesity and tobacco use.

LP0882087 Dr MA Campbell; Prof SM Kift; Prof D Butler; Prof PT Slee; Dr BA Spears; Mr AE Knott; Ms FM McNamara; Mr DC Ford

Approved Project Title **Cyber bullying: An evidence-based approach to the application and reform of law, policy and practice in schools.**

2008 : \$ 95,000

2009 : \$ 45,000

2010 : \$ 45,000

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

Macrossans Lawyers

Queensland Independent Education Union

Queensland Teachers' Union

Brisbane Girls Grammar School

Brisbane Catholic Education

Queensland Chapter of Australian and New Zealand Law Association

Emil Ford & Co - Lawyers

Administering Organisation Queensland University of Technology

Project Summary

In better understanding the issue of cyber bullying and emerging jurisprudence, this study will guide schools on policies and practices that will assist and protect victims, educate all students and families towards electronic discourse and help schools avoid liability and keep them out of court. Outcomes could also inform teacher education programs and professional development programs at the university level for educators. These understandings will inform the development of intervention and prevention strategies and potential reform of the existing laws and policies. The study will support the development of safe, ethical educational environments, both physical and virtual, where all students are free to learn.

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LP0882292 A/Prof JD Davey; Dr JE Freeman

Approved Project Title **Developing Contemporary Driving Risk Assessment Tools to Improve Fleet Safety**

2008 : \$ 78,648

2009 : \$ 79,648

2010 : \$ 78,648

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APDI Dr JE Freeman

Collaborating/Partner Organisation(s)

Q Fleet

Administering Organisation Queensland University of Technology

Project Summary

The development of effective driving risk management tools will provide valuable insight into methods to reduce a significant community and national problem, as work-related road crashes cost Australia \$15 billion a year. Importantly, the project has the potential to benefit both urban and rural areas of Queensland and Australia, as road crashes are a national problem. The research study also has the potential to create business cost savings from reductions in productivity loss and medical expenses, as well as flow through to the general population in terms of better (a) fleet management, and (b) driver attitudes and behaviour.

LP0882432 A/Prof JD Davey; Prof M McGregor-Lowndes; Ms SA Newnam

Approved Project Title **Fleet safety in the nonprofit sector**

2008 : \$ 78,648

2009 : \$ 78,648

2010 : \$ 78,648

Primary RFCD 3504 TRANSPORTATION

APDI Ms SA Newnam

Collaborating/Partner Organisation(s)

Uniting Church

Administering Organisation Queensland University of Technology

Project Summary

This project offers three unique opportunities. First, this research will improve the safety of work-related drivers within the nonprofit sector by implementing a multilevel fleet safety program addressing the key aspects that influence driving behaviour. Second, this research will address the safety of those volunteering their services through nonprofit agencies by developing regulatory frameworks to protect them from personal civil liability. Third, through achieving successful safety outcomes, this research will reduce the unnecessary costs associated with work-related crashes in a sector least able to afford such services.

LP0882891 Dr WO Doherty; Dr H Yu; Dr CM Fellows; Mr GM Pope

Approved Project Title **Effect of cane sugar juice composition on scaling rate and scale composition in sugar mills**

2008 : \$ 30,000

2009 : \$ 30,000

2010 : \$ 30,000

Primary RFCD 2501 PHYSICAL CHEMISTRY (INCL. STRUCTURAL)

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Sugar Research Limited

Administering Organisation Queensland University of Technology

Project Summary

The Australia sugar industry produces 1100 GWh of renewable electricity annually, abating ~1.1 M tonnes of CO₂-equivalent of greenhouse gases. This can be increased if the juice evaporation performance, which largely determines the energy efficiency of the sugar factory, can be improved through reduced fouling of evaporators. This project will investigate the effect of juice composition on fouling of sugar factory evaporators so that a model to predict scale type and scale propensity can be developed. This will enable the development of better scale control strategies, resulting in reduced energy usage and reduced usage of the hazardous and polluting chemicals required to remove scale.

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LP0882650 Prof GJ FitzGerald; Dr PJ Aitken; Dr K McKenzie; Prof E Kozan; Ms VC Tippett; Mr DA Eeles; Mrs A Miller; Mr JP Higgins

Approved Project Title **Emergency Health Services: Demand and service delivery models**

2008 : \$ 125,043

2009 : \$ 118,617

2010 : \$ 163,898

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Qld Ambulance Service

Administering Organisation Queensland University of Technology

Project Summary

Congestion of emergency health services is causing considerable community concern regarding Australia's capacity to manage daily health emergencies and to respond to major incidents and disasters. The service models developed in this project will provide the basis for policy and service initiatives which will address the growing demand for emergency health services more efficiently and effectively and thus meet community expectations. Improved services will result in improved community health and wellbeing. This project will also develop the research capacity of Australia through training of key individuals who will lead future research and development of emergency health services in Australia.

LP0882637 A/Prof A Goonetilleke; Dr GA Ayoko; Dr T Yigitcanlar; Adj/Prof EC Thomas; Ms KI Macintosh

Approved Project Title **Adaptation of Water Sensitive Urban Design (WSUD) to Climate Change, Changing Transport Patterns and Urban Form**

2008 : \$ 90,000

2009 : \$ 90,000

2010 : \$ 90,000

Primary RFCD 2911 ENVIRONMENTAL ENGINEERING

Collaborating/Partner Organisation(s)

Gold Coast City Council

Queensland Transport

Administering Organisation Queensland University of Technology

Project Summary

This research will (a) provide guidance on future adaptations of stormwater quality infrastructure, (b) provide better scientific understanding of pollutant movements in urban systems and (c) provide methodology to 'future proof' infrastructure design against the pressures of climate change and urban population growth. Project outputs will (a) enable water-sensitive urban designs to be applied reliably and (b) minimise the cost of re-building assets before the end of their design life due to climate change. The ultimate benefit is the reduction in water pollution from roadways leading to improved human and ecosystem well-being of urban communities.

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LP0882614 Dr DK Gramotnev; A/Prof PM Fredericks; Dr AV Rode; Dr V Otieno-Alego; Dr KP Kirkbride

Approved Project Title **A new nano-sensor technology for the detection and identification of residual vapours of explosives, drugs and chemicals in the air**

2008 : \$ 50,000
2009 : \$ 50,000
2010 : \$ 75,000
2011 : \$ 105,000

Primary RFCD 2404 OPTICAL PHYSICS

Collaborating/Partner Organisation(s)

Forensic Services, Australian Federal Police
National Institute of Forensic Science

Administering Organisation Queensland University of Technology

Project Summary

Fighting terrorism and crime is one of the most important and difficult tasks that requires substantial human and technological resources. This project will help to address this enormous problem by developing a new optical sensor technology for the detection and identification of traces of chemicals, explosives, drugs and biological agents. It will develop a laboratory prototype of this sensor that is expected to have superior sensitivity and operational capabilities. Thus it will noticeably contribute to practical law enforcement, air quality and environmental monitoring, counter-terrorism, air safety, border security and customs service. It will also lead to further development of nano-optics and nanotechnology in Australia.

LP0882458 Prof BC Haseman; Prof DE Stewart; Dr EA Parker; Dr A Hickling-Hudson

Approved Project Title **Sexual health promotion in Papua New Guinea: a community capacity-building approach using drama-based experiential learning methods.**

2008 : \$ 92,655
2009 : \$ 87,921
2010 : \$ 80,380

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

Adventist Development and Relief Agency (ADRA) Australia Ltd
Marie Stopes International Australia

Administering Organisation Queensland University of Technology

Project Summary

The Australian government is committed to developing a secure and prosperous Papua New Guinea. A major constraint to PNG's prosperity is the HIV/AIDS epidemic, fuelled by a generalised Sexually Transmitted Infection (STI) epidemic. This project will build the capacity of local PNG personnel to implement, evaluate, and further develop, effective interventions based on established experiential learning modalities. Learnings from this landmark study will also provide vital information for policy makers and funding bodies in Australia and other nations, to establish more effective strategies for improving the health and wellbeing of young people and preventing the spread of STIs and HIV/AIDS.

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LP0882274 Prof GN Hearn; Dr M Foth; Dr B Bajracharya; Prof KM Mallan

Approved Project Title **Remembering the Past, Imagining the Future: Embedding Narrative and New Media in Urban Planning**

2008 : \$ 105,000

2009 : \$ 100,000

2010 : \$ 95,000

Primary RFCD 4001 JOURNALISM, COMMUNICATION AND MEDIA

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

The Hornery Institute

Noosa Council

Noosa District State High School

Administering Organisation Queensland University of Technology

Project Summary

This project supports new media creativity and literacy in two Australian communities. It helps people participate in the urban planning process. It assists in improving a sense of belonging and fosters human talent and socio-cultural values favourable to creativity and innovation. By empowering people to bring about change within their local community, the project re-invigorates a more contemporary interpretation of community values in a knowledge society. Australia's capacity to interpret and engage with its urban environment is also enhanced by raising our awareness of the socio-cultural background, heritage and future aspirations of local community members.

LP0882093 Dr K McKenzie; Mrs S Walker; Prof MP Dunne; Dr JA Fraser

Approved Project Title **Improving the measurement and surveillance of child abuse in Queensland**

2008 : \$ 28,000

2009 : \$ 40,000

2010 : \$ 28,000

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

Department of Child Safety

Queensland Health

Abused Child Trust

Administering Organisation Queensland University of Technology

Project Summary

Estimates of the prevalence of child abuse suggest 10-20% of children are affected, with financial costs to the community around \$5 billion annually, and extensive health and social consequences. Despite these enormous costs, research into risk factors and prevalence of child abuse has been hampered by poorly validated statistics. The use of routine hospital data for the identification of child abuse cases offers an efficient nationally standardised data source to improve the precision of child protection departmental responses through routine monitoring and audits of linked health and child protection data. Improvement of data will inform identification, intervention and prevention strategies.

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LP0882544 Prof L Morawska; Dr ZD Ristovski; Dr GA Ayoko; Dr NS Holmes; Prof L Ferreira; Prof MR Moore; Mr DJ Grosse; Ms JA Rossner

Approved Project Title **Quantification of Traffic Generated Nano and Ultrafine Particle Dynamics and Toxicity in Transit Hubs and Transport Corridors**

2008 : \$ 108,000
2009 : \$ 160,000
2010 : \$ 130,000
2011 : \$ 87,000

Primary RFCD 2911 ENVIRONMENTAL ENGINEERING

APA(I) Award(s): 4

Collaborating/Partner Organisation(s)
Queensland Transport

Administering Organisation Queensland University of Technology

Project Summary

The socio-economic benefits to Australia will include (i) new knowledge for the multiparameter assessment of nano and ultrafine particles, pollutants in the centre of current scientific, medical and policy debates (ii) a breakthrough in the scientific understanding of traffic generated particles in the urban atmosphere (iii) determining the toxicological impact of these particles on biological systems. The ultimate economic benefit will be improved urban design to lower human exposure to ultrafine particles, thus reducing health care cost and productivity losses. The research will also place Australia at the forefront of international progress towards better methods for achieving environmental sustainability.

LP0882162 Prof DP Thambiratnam; A/Prof AC Tan; Dr TH Chan

Approved Project Title **Monitoring and Maintaining the Structural Health of Bridges Using Vibration Characteristics**

2008 : \$ 73,000
2009 : \$ 73,000
2010 : \$ 73,000

Primary RFCD 2909 ELECTRICAL AND ELECTRONIC ENGINEERING

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)
Brisbane City Council
Queensland Main Roads Department

Administering Organisation Queensland University of Technology

Project Summary

Bridges form an important part of our physical infrastructure system and in Queensland alone there are nearly 3000 bridges with an annual maintenance cost in excess of 20 million dollars and a replacement value in excess of 2 billion dollars. It is necessary to ensure that these bridges function safely and efficiently at all times. Bridge failure will cause disruption to normal lives and expensive repairs. Towards this end, this project will develop an innovative structural health monitoring system to monitor and maintain the structural health of our bridges. The project outcomes will have immediate applications in Australia and overseas with economic and social benefits to the community.