New South Wales

The University of Sydney

LP0884126 Prof R Booy; Dr J Leask; A/Prof TP Sloots; Dr SB Lambert

Approved Project Title **Social, Economic, and Health Benefits of Vaccinating Children in Day Care Centres against Influenza**

2008 : $ 99,310
2009 : $ 193,221
2010 : $ 197,823
2011 : $ 103,911
Primary RFCD 3701 SOCIOLOGY

Collaborating/Partner Organisation(s)

KU Children's Services
Sanofi Pasteur
Administering Organisation The University of Sydney

Project Summary

Young children are frequently hospitalised for influenza. Infected children are also highly likely to transmit to child and adult contacts resulting in additional hospitalisations, and medical visits constituting a major societal and economic burden. Other social impacts include parental and day care staff work absence, and grandparental illness. Using a highly scientific approach to vaccinating children against influenza in preschool settings, we will determine the social and economic benefits to families and industry: employers of parents, and importantly the growing child-care industry.

LP0883969 Prof H Chan; Prof NR Foster

Approved Project Title **The Scale-up and Evaluation of a Novel Dense Gas Technology Platform for the Production of Particles for Aerosol Drug Delivery.**

2008 : $ 35,000
2009 : $ 70,000
2010 : $ 70,000
2011 : $ 35,000
Primary RFCD 2915 BIOMEDICAL ENGINEERING

Collaborating/Partner Organisation(s)

NanoMaterials Technology
Administering Organisation The University of Sydney

Project Summary

This project provides a unique opportunity to develop an Australian-invented technology in particle engineering, enabling it to enter the international pharmaceutical market. This will enhance the growth of Australia's pharmaceutical research and development, and benefit the Australian pharmaceutical industry. The outcome will also contribute to improvements in the health and well--being of Australians. The research falls within the Designated National Research Priority of Frontier Technologies for Building and Transforming Australian Industries.

LP0883693 Dr RJ Diefenbach; Dr M Miranda Saksena; Prof AL Cunningham

Approved Project Title **Biological probes for understanding mammalian cellular transport mechanisms**

2008 : $ 39,068
2009 : $ 78,137
2010 : $ 78,137
2011 : $ 39,068

Primary RFCD 2701 BIOCHEMISTRY AND CELL BIOLOGY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Molecmo NanoBiotechnologies Inc.

Administering Organisation The University of Sydney

Project Summary

Cellular components are moved around within cells by molecular motors. This fundamental transport mechanism depends on a network of tracks. Blocks in this cellular transport can result in a number of mammalian diseases, particularly within nerve cells. This project will increase our understanding of the mechanisms of cellular transport and, in particular, how molecular motors engage their cargo. This is essential groundwork for the development of drugs that target this transport mechanism.

LP0883632 A/Prof I Kerridge; Dr CF Jordens; Mr KA Smith; Prof D Bennett; Dr P Patterson

Approved Project Title **Growing up with Cancer: A mixed method examination of how cancer influences the transition from adolescence to adulthood**

2008 : $ 64,775
2009 : $ 116,452
2010 : $ 98,185
2011 : $ 46,508

Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

CanTeen

Administering Organisation The University of Sydney

Project Summary

In the last decade, over 10,000 of Australia's adolescents and young adults were diagnosed with cancer. Over the last 30 years, improvements in survival for 15 - 30 year olds have been the lowest of all age groups.Despite this, few health care facilities have the specialised infrastructure needed for dedicated psychosocial support of adolescents.
In finding out from adolescents with cancer what is most important in their care, we aim to identify and develop a range of services dedicated not only to addressing some of their needs, but also to building upon aspects of the cancer experience thought by adolescents as having a positive impact on their lives.

LP0884127 Dr RI Pedlow; Prof AR Downing; Prof HL Kendig; Mr RE Garrett; Dr LT Walker

Approved Project Title **Access to mobile communications for older people with impairments**

2008 : $ 15,000
2009 : $ 30,000
2010 : $ 30,000
2011 : $ 15,000
Primary RFCD 3212 PUBLIC HEALTH AND HEALTH SERVICES

Collaborating/Partner Organisation(s)

Novita Children's Services Inc
Administering Organisation The University of Sydney

Project Summary

This research will determine the potential to use mobile communications to enable older people with impairments to remain active members of the community. it will test the capacity for mobiles to enable:
* older people with impairments to maintain social communication links and summon assistance; and
* caregivers to maintain contact with the older person during the day.
Providing these capabilities has the potential to improve the wellbeing and confidence of older people with impairments and their caregivers and to reduce negative outcomes due to falls or other medical problems by enabling older people to summon assistance easily.

LP0884156 Prof KJ Rasmussen

Approved Project Title **High-strength formwork systems**

2008 : $ 37,500
2009 : $ 75,000
2010 : $ 75,000
2011 : $ 37,500
Primary RFCD 2908 CIVIL ENGINEERING

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

Boral Formwork and Scaffolding Pty Ltd
Administering Organisation The University of Sydney

Project Summary

The project will lead to new formwork systems which are safer, stronger and quicker to erect. The systems will rely on scientific investigations to minimise the risk of structural collapse and associated cost to community. The systems are innovative and combine advanced technology to produce a superior product with strong export potential and capacity to raise the level of efficiency in the national market. The project will also develop advanced analysis and design methods for formwork systems which can be applied more generally to advance Australian engineers' position as world leaders in innovative structural design.

LP0883915 A/Prof RM Smith; Dr AE Hunt; Dr BM Vanwanseele; Dr DM O'Meara

Approved Project Title **Foot-down not ground-up: moving from splint to natural models for children's shoe design**

2008 : $ 44,000
2009 : $ 88,000
2010 : $ 88,000
2011 : $ 44,000

Primary RFCD 3214 HUMAN MOVEMENT AND SPORTS SCIENCE

Collaborating/Partner Organisation(s)

Bata Shoe Company of Australia

Administering Organisation The University of Sydney

Project Summary

We will provide much-needed knowledge of the impact of children's footwear on their musculoskeletal development, by conducting rigorous experimental comparisons of a standard school shoe, a custom-built 'midfoot flexing' shoe, bare feet, and a new school shoe design concept developed by university researchers to enhance rather than disrupt natural foot function. The innovation will make Bata Australia the first manufacturer to embrace evidence-based shoe design, and will be an opportunity for the Company to provide global leadership in the field. Our advances will inform health professionals, manufacturers and parents in the task of improving the musculoskeletal health of young Australians.

LP0883419 Dr MH Todd; Dr PL Olliaro

Approved Project Title **Praziquantel: a unique pharmaceutical challenge**

2008 : $ 52,500
2009 : $ 105,000
2010 : $ 105,000
2011 : $ 52,500

Primary RFCD 2503 ORGANIC CHEMISTRY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

World Health Organisation

Administering Organisation The University of Sydney

Project Summary

Generating effective and affordable drugs for the treatment of tropical diseases is a huge public health challenge. We will pioneer an open source approach to collaborative research in drug discovery. We aim to discover an inexpensive route to an important pharmaceutical so that it can be greatly improved and distributed to the affected populations for a realistic price. Success in this project will improve the lives of millions of sufferers of this disease, and demonstrate a new way of doing research on drugs for related diseases such as malaria.

LP0883981 Prof AH Vickers; Em/Prof PJ Worsley; Dr L Christidis; Dr PE Monaghan

Approved Project Title **Understanding Balinese paintings: collections, narrative, aesthetics and society**

2008 : $ 38,940
2009 : $ 78,330
2010 : $ 74,929
2011 : $ 35,539

Primary RFCD 4199 OTHER ARTS

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

The Australian Museum
The Batuan Collection

Administering Organisation The University of Sydney

Project Summary

This project will use digital tools, fieldwork and formal analysis to link a major collection of Balinese paintings held in Australia to collections elsewhere in the world, and to the current practices of Balinese artists. The project increases the capacity of Australia to analyse the cultures of Indonesia and to contribute to regional heritage preservation. The outcomes will provide a basis for future public exhibitions of paintings and web-based resources linking Australian public institutions and Balinese communities.

LP0883621 A/Prof LM Williams; Prof PR Schofield; Prof C Clark; Dr AH Kemp; Dr JM Gatt

Approved Project Title **Gene-brain pathways in emotional brain stability and instability**

2008 : $ 125,000
2009 : $ 235,000
2010 : $ 210,000
2011 : $ 100,000

Primary RFCD 3801 PSYCHOLOGY

APDI Dr JM Gatt

Collaborating/Partner Organisation(s)

Brain Resource Company

Administering Organisation The University of Sydney

Project Summary

Emotional instability is a defining trait of major mental illnesses. The ability to identify individuals susceptible to emotional instability will be important in limiting the burden of disease from these illnesses. Mental conditions cost the Australian economy approximately $14.9 bill p/a, and depression will be the second leading contributor to burden of disease by 2020. The project will provide the first evidence for the combination of gene-brain-behaviour markers which best capture emotional instability versus resilience. This evidence base will be crucial to developing new tools and strategies for early intervention, and ultimately prevention, for these conditions of mental health.

LP0884070 Prof AY Zomaya

Approved Project Title **Data and Job Scheduling in Large-Scale Distributed Systems**

2008 : $ 75,298
2009 : $ 151,385
2010 : $ 146,286
2011 : $ 70,200

Primary RFCD 2804 COMPUTATION THEORY AND MATHEMATICS

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Microsoft Pty Ltd

Administering Organisation The University of Sydney

Project Summary

Distributed computing systems are the platform of choice for many applications. In these systems, applications are submitted by a large number of users that compete for the shared heterogeneous resources (computers, storage communication links, etc.). Thus, a distributed system can be viewed as a collection of computing and communication resources shared by active users. Towards this end, a new generation of algorithms and software tools need to be developed for the efficient utilisation of these systems through an appropriate allocation of the available resources to competing applications and users. This project is a major step in this direction.