MEDICAL ADVANCES WITHOUT ANIMALS

THE MAWA TRUST

DEVELOPING ALTERNATIVES TO ANIMAL EXPERIMENTS

2012/2013 FELLOWSHIPS, GRANTS, SCHOLARSHIPS, & BURSARIES AWARDED BY MAWA

In addition to previous MAWA awards and MAWA's ongoing scholars and funded researchers who are continuing from previous years, the following applicants have received awards in 2012 and 2013. MAWA is currently assessing additional scholarship applications and research project proposals, and more awards will be announced later in 2013.

MAWA FELLOWSHIP HOSTED BY ANU

A/Prof Brett Lidbury as Senior MAWA Fellow and Associate Professor in Alternatives to Animal Research, The Australian National University (ANU), ACT.

Establishment of the Alternatives to Animal Research through Bioinformatics Group (AARB), Department of Genome Biology, The John Curtin School of Medical Research (JCSMR), and appointment as Visiting Professor, Computational Biophysics Group, The Research School of Biology, The Australian National University.

Dr Rong Chen as MAWA Fellow, Research School of Biological Sciences, The Australian National University (ANU), ACT.

The use of computational tools to replace animal testing for studying ion channels which are directly or indirectly responsible for causing autoimmune diseases, such as multiple sclerosis, arthritis, neuropathic pain, and chronic heart diseases, for the development of new and better agents for combating the diseases.

MAWA RESEARCH AND DEVELOPMENT GRANTS

Prof Boris Martinac and Prof Philip Gottlieb, Victor Chang Cardiac Research Institute and The University of NSW, and Biophysics Centre, State University of New York, USA

Development of an alternative approach to traditional studies of ion channels in animal tissues or animal models – a study to uncover the mechanisms of gating of Piezo mechanosensitive channels utilizing yeast models and human cells to develop new treatments for debilitating neurological and muscular disorders.

Prof Malcolm West, Dr Maria Nataatmadja, Dr Andrew Dettrick, Dr Homayoun Jalali and Ms Margaret Passmore, Department of Medicine and Anatomical Pathology, University of Queensland and Prince Charles Hospital, QLD.

MAWA RESEARCH & DEVELOPMENT GRANTS CONTINUED

Replacement of animal experiments using genetically modified animals with the use of cultured human cells to clarify the cause of aortic aneurysm and to aid in prevention and treatment.

Assoc Prof Ian Macreadie, School of Applied Sciences, RMIT University, VIC

The use of yeast cells to replace the use of animals in studying Alzheimer's Disease and the mechanisms to inhibit Alzheimer's Disease.

Dr Alan Munn, Dr Michael Landsberg and A/Prof Al Ben Hankamer, School of Medical Science, Griffith University & Institute for Molecular Bioscience, University of QLD.

Replacement of the use of animals and animal cell lines with yeast models in the development of novel anti-viral drugs to treat viruses such as HIV and Hepatitis B and C.

Prof Gerald Muench, Dr Lezanne Ooi and A/Prof Kuldip Siddhu, Pharmacology, School of Medicine, University of Western Sydney, Stem Cell Laboratory, Faculty of Medicine, University of NSW and Department of Pharmacology, University of Wollongong, NSW.

Development of non-animal cell systems using induced pluripotent stem cells from Alzheimer's patients to replace of the use of murine (mouse) neurons for drug discovery and the study of Alzheimer's disease.

Dr Crispin Dass, School of Biomedical and Health Sciences, Victoria University, VIC.

Establishment, validation and use of a new method of anti-cancer drug testing using endothelial cells to replace the use of animal tumour models, foetal calf serum and animal antibodies.

Dr Richard Bradbury, Dr Alan Champion and Dr David Reid, School of Medicine, The University of Tasmania and Iron Metabolism Laboratory, Queensland Institute of Medical Research, TAS.

Development of an amoeba co-culture assay alternative to mammalian models of bacterial virulence testing for infections such as Pseudomonas.

Dr Scott Smid and Dr Rachel Gibson, Discipline of Pharmacology, School of Medical Sciences, Faculty of Health Sciences, The University of Adelaide, SA.

Validation of a model of colon inflammation (colitis) using ex vivo human colonic mucosal explant tissue as a viable alternative to animal models of colitis.

Assoc Prof Brett Lidbury, Dr Alice Richardson and Prof Simon Easteal, The John Curtin School of Medical Research, The Australian National University and the Faculty of Information Sciences and Engineering, The University of Canberra, ACT.

Development of a systems framework employing bioinformatics, human data, human volunteers, and genetic analyses, to replace traditional animal model preferences for fundamental biomedical research.

MAWA DOCTORAL RESEARCH SCHOLARSHIPS

Ms Heike Mack, School of Medical Science, Griffith University and the Griffith Health Institute, QLD.

Use of yeast as an experimental model organism to replace the use of animals and animal cell lines to explore the molecular basis of human Wiskott-Aldrich Syndrome, an immunodeficiency syndrome, to improve our understanding, diagnosis and treatment of cancer.

Mr Brett Mitchell, School of Nursing and Nutrition, James Cook University, QLD and The Australian Catholic University, ACT.

Replacement of animal experiments utilising hamsters with existing human data to examine mortality of Clostridium difficile infection (CDI).

Mr John Ng, Lowy Cancer Research Centre, Faculty of Medicine, University of NSW.

Development of a novel method for the enrichment and analysis of nitro-tyrosine and chlorotyrosines, in application to elucidate the pathogenesis of early stage disease in lung cancer to replace the use of an animal model.

Ms Meika Foster, School of Molecular Bioscience, The University of Sydney, NSW.

Establishment of an alternative approach to Zinc status and effects in cardiovascular disease and diabetes mellitus in humans to replace deficiency studies in animals.

MAWA QUINN HONOURS SCHOLARSHIPS

Mr Mersad Delic and Mr Deneil Manafi, School of Medical Science, Griffith University, QLD

The use of yeast models and yeast genetics to replace the use of animal models to advance knowledge relevant to understanding the basis of human disease.

Ms Baz Safdari, Department of Pharmacology, School of Medical Sciences, University of Adelaide, SA.

Use of human bowel tissue as an alternative to animal models for investigating pathways of altered gastrointestinal motility following inflammation.

Mr John Fox, Department of Biomedical Engineering, Queensland University of Technology, QLD.

Simulation of native circulatory feedback responses in a mechanical representation of the cardiovascular system to replace the use of animals in testing cardiovascular devices.

MAWA INTERNATIONAL TRAVEL GRANTS

Ms Deepthi Menon, Molecular Genetics Laboratory, Department of Translational Biosciences, The John Curtin School of Medical Research, The Australian National University, ACT

Travel to The University of Heidelberg, Germany for training in Targeted Genome Editing using Zinc Finger Nucleases. This technology will be brought back to Australia to replace the use of knockout and transgenic mice to study Alzheimer's and Parkinson's Disease.

MAWA INTERNATIONAL CONFERENCE BURSARIES

Dr Shaun Gregory, Institute of Health and Biomedical Innovation, Queensland University of Technology, QLD.

Refinement of test rigs for in-vitro evaluation of cardiovascular devices to replace animal trials which involve invasive animal experiments.

Mr Andre Peterson, Department of Electrical & Electronic Engineering, The University of Melbourne and The Department of Neurology, St. Vincent's Hospital, Melbourne, VIC.

Development of physiologically realistic mathematical models in neuroscience, and theoretical and mathematical physics as a replacement of animal models to investigate both normal and abnormal brain dynamics.

Mr Michael Stevens, School of Information Technology and Electrical Engineering, University of Queensland, QLD.

Development and testing of a control system for heart pumps in vitro so that additional animal trials are not necessary.

Dr Eric Han, Neuroscience Research Australia and Faculty of Medicine, The University of NSW.

Development of an alternative approach to the study of pathophysiology of focal human entrapment neuropathy to replace animal experiments requiring injury to produce nerve damage.

Ms Charlotte Keating, Monash Alfred Psychiatric Research Centre and Monash University, VIC.

Development of improved psychiatric therapies with the utilisation of internal jugular venous sampling in humans to replace animal experiments.

MAWA DOMESTIC CONFERENCE BURSARY

Mr Brett Mitchell, School of Nursing and Nutrition, James Cook University, QLD and The Australian Catholic University, ACT.

Replacement of animal experiments utilising hamsters with existing human data to examine mortality of Clostridium difficile infection (CDI).