

Annual Report

Medical research
to benefit the
community

2019



IMPACT
INSTITUTE FOR MENTAL AND PHYSICAL
HEALTH AND CLINICAL TRANSLATION



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Section 1

Forewords

The IMPACT Institute team should be congratulated on a year of excellence and the promise of further innovation in our community's healthcare field.

Frances Diver
Chief Executive Officer, Barwon Health



Our major milestone for 2019 was our creation and launch as Deakin University's newest institute: IMPACT, the Institute for Mental and Physical Health and Clinical Translation. As a merger of two Strategic Research Centres (SRC), the Centre for Molecular and Metabolic Research and the IMPACT SRC, the institute is distinctive in its transdisciplinary, collaborative, silo-free structure. This places it in a highly competitive position to tackle the complex non-communicable mental and physical disorders that are the major burden of disease in our country.

IMPACT academic researchers had an excellent year in terms of awards of external competitive grants and fellowships at a time when the competitive environment has never been more challenging. This attests to the effectiveness of our strategic pipelines to develop quality approaches to solving our most pressing health problems. These great outcomes will help resource our research enterprise and further underpin Deakin's growing stature and excellence, an achievement that the University recognises and values. An additional highlight for 2019 includes the Victoria Prize for Science and Innovation that was awarded to the Director of IMPACT.

IMPACT continues to make a major contribution to the continued rise in Deakin's global university rankings, based on their productivity, grant success and international standing. This also includes three IMPACT members who have been included in the 2019 Thomson Reuters annual listing of researchers most cited in academic journals globally, ranking in the top one per cent of researchers in their field world-wide, representing half of Deakin's Highly cited academics.

Alfred Deakin Professor Julie Owens
Deputy Vice Chancellor, Research, Deakin University



IMPACT Institute has cemented its status as a leader in health industry research and we are fortunate to have such an internationally recognised group in our own community.

Their hard work is a key element of the efforts to transform the global health sector's understanding of risk factors, chronic disease trends, and new remedies.

The awards and prizes handed to the team over the past 12 months are a testament to the significance of their research, which is transcending geographical boundaries and has the potential to improve the lives of people all over the world.

The IMPACT Institute team should be congratulated on a year of excellence and the promise of further innovation in our community's healthcare field.

Frances Diver
Chief Executive Officer, Barwon Health



We have had another great year at IMPACT with substantial achievement in research, particularly in the development of our understanding of lifestyle and mental health, as well as possible treatments and translation with the coming together of the two strategic research centres.

We are indeed very fortunate to have as our Directors, Professor Michael Berk and Professor Ken Walder, with their international standing, in a regional setting.

Trevor M Clark OAM
Chair, IMPACT Institute Advisory Board

Introduction

Professors Michael Berk
and Ken Walder

The highlight of 2019 was the creation and formal ratification of IMPACT, the Institute for Mental and Physical Health and Clinical Translation.

This institute was formed from the merger of the IMPACT SRC led by Professor Michael Berk and the Centre for Molecular and Medical Research (CMMR), led by Professor Ken Walder. The combined unit will develop and expand upon the existing pillars of research excellence. The new structure will capitalise on existing strengths within the Faculty of Health, and its existing research partners, to make a meaningful difference to the health and wellbeing of the community. This bench to bedside capacity will enhance the translation of basic discoveries in biomedicine into clinical medical practice and strengthen our capacity and reach.

Despite being an annus horribilis for grants generally, many IMPACT members were fortunate in these difficult circumstances. In particular, the work of many people were recognised by awards, including James Armitage, Eugene Athan, Michael Berk, Stephanie Cowdery, Kayla Corney and Lana Williams.

We would like to thank both Barwon Health and Deakin for their continued and generous support.



L-R: Alfred Deakin Professor Michael Berk, Director IMPACT Institute, Alfred Deakin Professor Julie Owens, Deputy Vice Chancellor Research, Professor Iain Martin, Vice Chancellor Deakin University, Professor Ken Walder, Director IMPACT Institute, Ms Frances Diver, CEO Barwon Health. (Photo credit: Donna Squire)

Part 1

Professor Leigh Ackland's team



The molecular biology of cancer and epigenetics in diabetes

Alfred Deakin Professor Leigh Ackland
Theme Leader

Alfred Deakin Professor Leigh Ackland is the leader of the Molecular Biosciences theme group within IMPACT Institute. As a cell biologist, her studies originally focussed on metal biology in humans in health and disease, and in toxic heavy metal effects including accumulation in plants, fungi, algae and bacteria. Her research interests have now broadened to include the molecular biology of cancer and epigenetics in diabetes. As CI, Prof Ackland currently holds an NHMRC Project grant APP1102018 to investigate novel markers in grade 3 neuroendocrine tumours, and an ARC Discovery grant DP180101465, to elucidate the role of microbes in marine corrosion. She obtained philanthropic funding to study the process of epithelial to mesenchymal transition in cancer.

For this, Prof Ackland has developed novel 3D cell culture models that mimic the process of cancer metastasis. One of these models has been commercialised.

A \$300,000 grant from the Bourne Foundation for a project entitled "Improved Detection of Neuroendocrine Cancers" to develop a "molecular fingerprint" that can be used for diagnosis and treatment of neuroendocrine cancers, was received in September 2019.

Prof Ackland has contributed to establishing partnerships with India and China resulting in exchanges of students and scientists, grant funding and joint conferences; she was involved in the TERI-Deakin partnership in which Indian students are jointly supervised by Australian and Indian supervisors.





Bacteriophage as potential novel antibiotics

Associate Professor
Peter Beech

Associate Professor Peter Beech is a cell biologist who has studied various protists such as Chlamydomonas and other phytoplankton, the social amoeba Dictyostelium and the plant pathogen, Phytophthora. He has published on, for example, flagellar dynamics and the division of the prokaryote-derived organelles, mitochondria and chloroplasts. Current research interests are with algal lipids, Phytophthora genomics and, in association with Reliance Life Sciences, the utility of bacteriophage as potential, novel antibiotics.



Multi-protein complexes involved in chromatin modification and in RNA processing

Dr Bernhard Dichtl

Autism Research

Dr Steve Cheung



Dr Steve Cheung is a neuroscientist and his research is focussed on the brain injury mechanisms and the identification of novel genes involved in acute and chronic neurodegeneration. Dr Cheung obtained his PhD in 1993 from the University of Melbourne. Dr Cheung established independent laboratories firstly in Singapore, then at Menzies Institute (UTas) and most recently at Deakin University. He continues to work on diverse aspects of cellular signalling mediating injury caused by oxidative stress, excitotoxicity and toxic protein aggregates using contemporary cellular and molecular strategies. He has continued to collaborate with Professor Philip Beart and Dr Wah Chin Boon (Florey Institute of Neuroscience and Mental Health) whose recent research has expanded into (i) unravelling the contributions of different forms of programmed cell death to

neuronal demise, (ii) aspects of astrocyte biology contributing to brain inflammation, and (iii) exploring gene discovery in the oxidative milieu of cerebral ischemic-reperfusion injury. Recently, a new company, Athena Medicines spun out of Deakin and Florey will explore the potential of promising new autism treatments - based on the innovative research of Drs Boon and Cheung (US patent/9,925,163 B2). Athena has secured up to \$4.2 million in venture capital funding from the Medical Research Commercialisation Fund (MRCF), managed by Brandon Capital Partners (Published by Deakin Research/Deakin Invenio in 2017).

Dr Bernhard Dichtl is a molecular geneticist with an interest in the function and assembly of protein machines involved in gene expression. In particular, his group is studying multi-protein complexes involved in chromatin modification and in RNA processing and employs both yeast and human cell culture systems. Current yeast projects focus on the role of a histone methyltransferase in mediating the implementation of the DNA replication checkpoint during replication stress. In addition, the lab applies next-generation sequencing approaches in collaborative efforts with the RNA Systems Biology group at Monash and the Peter MacCallum Cancer Centre to elucidate how

3' end formation factors facilitate alternative polyadenylation in breast cancer cells. Genetic interaction screening identified potential signalling networks and regulatory factors that are likely to contribute to the regulation of pre-mRNA 3' end formation and alternative polyadenylation. Overall, the work contributes to a better understanding of the mechanisms of gene expression and the regulation of mRNA properties, including stability and translation efficiency, in healthy and diseased cells.

Copper and its role in health and disease

Associate Professor Sharon La Fontaine



Sharon La Fontaine is an Associate Professor in Biomedical Science and Group Leader at Deakin University and an Honorary Senior Research Fellow, The Florey Institute of Neuroscience and Mental Health. Sharon's research is focused on the biology of the copper and its role in health and disease. Copper is an essential nutrient metal involved in a wide variety of physiological and pathological processes. It has become clear that copper regulatory pathways are corrupted in conditions such as neurodegenerative diseases (e.g. Alzheimer's disease) and cancer, leading to dysregulated levels and distribution of copper, but the molecular basis of the link between copper and disease is still unclear. Sharon's research centres on understanding the biological underpinnings of how cells and organisms maintain an adequate balance of copper, how disruptions to this process lead to disease, and how

we might exploit this knowledge for therapeutic purposes.

Current Research Interests:

1. Copper regulatory proteins at the interface of copper homeostasis and redox biology (in collaboration with Dr Zhiguang Xiao, The Florey Institute of Neuroscience and Mental Health; and A/Prof Megan Maher, La Trobe University).
2. The role of ApoE in copper regulation (in collaboration with Prof Ashley Bush and Dr Scott Ayton, The Florey Institute of Neuroscience and Mental Health).
3. Elucidating the molecular components of the copper-regulated trafficking pathways of ATP7A and ATP7B.
4. Investigating the toxicity and therapeutic potential of copper

nanomaterials (in collaboration with Dr Aaron Schultz, Deakin University).

5. ATP7A-related neuropathy (in collaboration with A/Prof Marina Kennerson, ANZAC Research Institute, NSW).



The environmental and molecular biology of allergens

Associate Professor
Cenk Suphioglu

Economic cost and burden of allergy is significant worldwide, which can be difficult to manage and can prove fatal. Associate Professor Cenk Suphioglu heads the NeuroAllergy Research Laboratory (NARL) and Deakin AIRwatch pollen and spore counting and forecasting facility, which comprises Honours and PhD research students, as well as post-doctoral fellows and early career research academics. The focus of A/Prof Suphioglu's research is the environmental and molecular biology of allergens and the allergic reaction, including ocular allergy, Epidemic Thunderstorm Asthma (ETSA) events and identification of novel inhibitors for allergy prevention and treatment.

A/Prof Suphioglu is a member of the Victorian Thunderstorm Asthma Pollen Surveillance (VicTAPS) network and AusPollen Aerobiology Standards Working Party of Australasian Society for Clinical Immunology and Allergy (ASCI), as Australia's national body and authority on aeroallergen sampling. A/Prof Suphioglu's group also research the importance of epigenetics and BACE1 in human neurodegeneration to develop novel intervention strategies for Alzheimer's disease. In addition to his research, A/Prof Suphioglu also teaches Level 2 Microbiology and Level 3 Medical Microbiology and Immunology, which are core units of Deakin's Bachelor of Biomedical Science program.

Part 2

Professor Michael Berk's team



Bipolar Disorder Research

Alfred Deakin Professor Michael Berk
Theme Leader

Mood disorders, in particular, depression and bipolar disorder, are a primary focus of IMPACT. We were successful in obtaining NHMRC funding to establish the Centre for Research Excellence for the Development of Innovative Therapies for Psychiatric Disorders; CREDIT. CREDIT is a clinical trial network that aims to support the development and translation of novel therapies for the most prevalent and disabling neuropsychiatric disorders. This will facilitate a new, highly innovative and coordinated approach to treatment discovery in mental health care, and will position Deakin and Barwon Health as the nexus

for a national clinical trials network. Our preclinical drug discovery program has detected a number of lead candidates for repurposing. Arising from this, we were successful in obtaining a Medical Research Futures Fund grant to study candesartan, an angiotensin II receptor blocker, for the treatment of bipolar depression. This forms part of a larger program of work looking at candesartan. We continue to work on other lead compounds as well as collaborations as diverse as internet therapy for bipolar disorder and nutraceutical approaches, highlighted elsewhere in this report.



Drug Safety

Associate Professor
Seetal Dodd



The drug safety research group investigates the risks and benefits of pharmacotherapies. Several research projects were conducted in 2019.

We are involved in ongoing trials and are leading clinical trials of N-Acetyl Cysteine (NAC) for smoking cessation and NAC in first episode psychosis.

A 5-year clinical trial to investigate NAC in first episode psychosis, in partnership with Orygen Youth Health, has commenced recruitment. The study is exploring efficacy of NAC for reducing psychotic symptoms and also collecting exciting data to investigate the neuroprotective properties of NAC. Neuroprotection, as a new approach to treatment in mental health, may ultimately lead to both better mental health outcomes and better drug safety outcomes.

A clinical trial of NAC for tobacco smoking cessation was completed in 2019. Our PhD student Lauren Arancini will use data from the trial for her PhD project. This project is conducted in collaboration with researchers at the Cancer Council Victoria and extends to investigating variables associated with smoking cessation in the Cancer Council's rich database.

An interest in nocebo and placebo research has continued in 2019 with research presented at the Society for Interdisciplinary Placebo Studies (SIPS) conference in Leiden, The Netherlands. Further nocebo and placebo research is planned.



CREDIT

Dr Krystina Mossop

The CREDIT CRE aims to capitalise on a highly innovative approach for the discovery of new therapeutics for mental disorders. The core vision of CREDIT - CRE for the Development of Innovative Therapies for Psychiatric Disorders - is to advance a national strategy and platform supporting the development and translation of novel therapies for the most prevalent and disabling neuropsychiatric disorders. This will facilitate a new, highly innovative and coordinated approach to treatment discovery in mental health care.



Precision Psychiatry

Associate Professor
Ajeet B Singh, MD

Associate Professor Ajeet Singh is an academic private psychiatrist with a strong interest in clinically translatable, scalable, psychiatric innovations to reduce the global burden of mental illnesses. His doctoral and postdoctoral work helped pioneer the implementation of blood-brain-barrier genetics into the optimal dosing of psychotropics. Ajeet led his private team to winning highly prestigious national and international medical start up-contests, with offices in Los Angeles and Houston now established.

Ajeet was head hunted by Stanford University to join their peak Pharmacogenetics Implementation Committee and the US based International Society of Psychiatric Genetics Taskforce on Genetic Tests in Psychiatry. As a full time clinician passionate about excellence in patient

care, he has pioneered a Transcranial Magnetic Stimulation (TMS) clinical unit at The Geelong Clinic, and has started to undertake quality assurance analysis on a decade of TMS outcome data. He continues to support other research through driving recruitment of psychiatric patients to induced stem cell biomarker research and novel nutraceutical augmentation therapies for refractory bipolar depression. Ajeet is deputy Chair of The Geelong Clinic Medical Advisory Committee. Ajeet remains involved in final year medical student teaching, and is regularly invited to give talks and contribute to invited editorials in high impact journals such as The American Journal of Psychiatry.



Part 3

A/Prof Olivia Dean's team



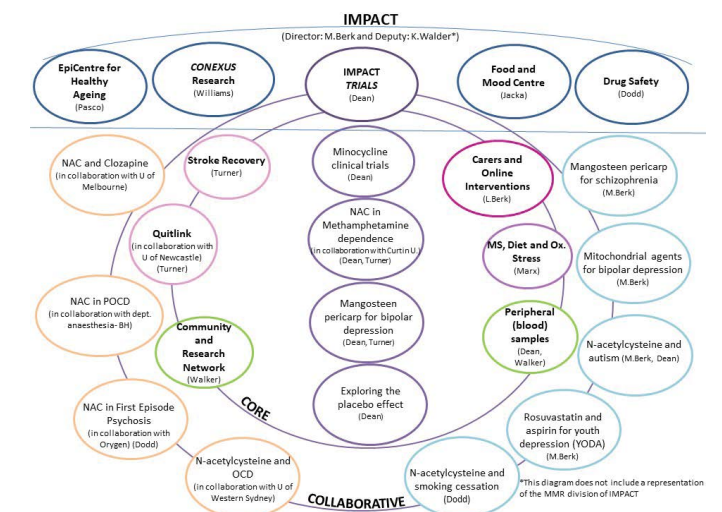
IMPACT TRIALS

Associate Professor Olivia Dean
Theme Leader

IMPACT TRIALS works with collaborators both nationally and internationally. There have been a number of completed trials with agents including; N-Acetyl Cysteine, minocycline, mitochondrial enhancers, aspirin and rosuvastatin. Data from these trials provides rich sources to explore not only primary efficacy but also underlying factors related to treatment response. IMPACT TRIALS ultimately aims both to provide interventions that can be rolled out into clinical practice and to identify factors that will enhance personalised medicine in psychiatry.

This dynamic group includes the following staff and students; Prof Michael Berk (Director, IMPACT

Institute), Assoc/Prof Seetal Dodd, Dr Alyna Turner, Dr Lesley Berk, Dr Adam Walker, Dr Wolfgang Marx, Dr Lisa Olive, Dr Emily Moriarty, Dr Ajeet Singh, Dr Lekan Ogunleye, Dr Mary Lou Chatterton, Dr Kyoko Hasebe, Dr Bruno Agustini, Melanie Ashton, Bianca Kavanagh, Lauren Arancini, Lucy Saunders, Aswathy Viswambharan, Alcy Meehan, Margaret Kent, Anna Wrobel, Sondita Mein, Catherine Mazza, Jade Doonan, Izel Eraslan, Samantha Russell, Natasha McKenzie, Sarah Nadjadai, Samantha Lo Monaco and Angela Bourne. IMPACT TRIALS also includes a multitude of national and international collaborations (reflected in the publication list included further in this report).





Psychosocial intervention for people with bipolar disorder or depression

Dr Lesley Berk

Dr Lesley Berk is a Postdoctoral Research Fellow and clinical psychologist. Her research focuses on examining psychosocial risk factors and developing interventions to assist people and families dealing with depression or bipolar disorder. Currently she is developing a psychosocial intervention for people with bipolar disorder that is provided as an adjunct to pharmacotherapy; the MyMAPS project. The intervention integrates face-to-face and online methods of treatment delivery. To this end she works closely with the School of Information Technology at Deakin University, and collaborates with researchers at the University of California, Berkeley, Harvard, Stanford, Swinburne and Melbourne universities.

In addition, Dr Berk is developing and formatively evaluating a training website for family and friends who support a person with major depressive disorder funded by an Australian Society for Bipolar Disorder and Depression/Servier Depression grant. She previously developed and evaluated an information website for family/friends of people with bipolar disorder www.bipolarcaregivers.org that was positively evaluated in a follow-up study and is freely accessible to the public. She also contributes to the training of staff in the use of psychological assessments for clinical research trials.

IMPACT TRIALS

Dr Alyna Turner

Dr Alyna Turner, Senior Lecturer at IMPACT TRIALS, is currently an investigator on Mangosteen for Bipolar Disorder and the N-ICE trial, as well as two other NHMRC-funded RCTs studies led by the University of Newcastle, focusing on smoking cessation in people with serious mental illness, and an online secondary prevention health



behaviour change program targeting stroke survivors. Dr Turner has continued to work with the Stroke Association of Victoria and Barwon Health on a pilot service designed to keep people in employment following a stroke, and is now conducting a feasibility study of a telecommunications version of that service.

IMPACT TRIALS

Dr Adam Walker

Dr Adam Walker is a postdoctoral researcher within IMPACT TRIALS. His research program includes identifying biological markers associated with treatment response in psychiatric disorders. In 2019, Adam was named the inaugural recipient of the Trisno Family Fellowship - jointly funded by the Trisno Family Gift and Deakin University.

Adam is leading the biological correlates program within IMPACT TRIALS, focusing on blood samples derived from several novel psychiatric efficacy trials. In late May, he received seed funding to investigate an array of immune-inflammatory markers in samples collected during a randomised control trial of adjunctive minocycline treatment for major depression. This data, generated via the Myriad RBM

InflammationMAP® platform, will be used to explore participant inflammatory profiles, and how these changed in relationship to treatment response. Through a collaboration with the QIMR Berghofer Institute, he and the team are also exploring genetic factors related to treatment response in people with major depression.

Reflecting his commitment and contribution to academic collegiality, research translation and community engagement in the field, Adam has co-chaired the Community and Research Network (CARN) since 2017. He is also a member of the organising committee for the IMPACT Showcase, a one-day conference that highlights the annual research outputs for the institute.



Part 4

Professor Tania de Koning-Ward's team

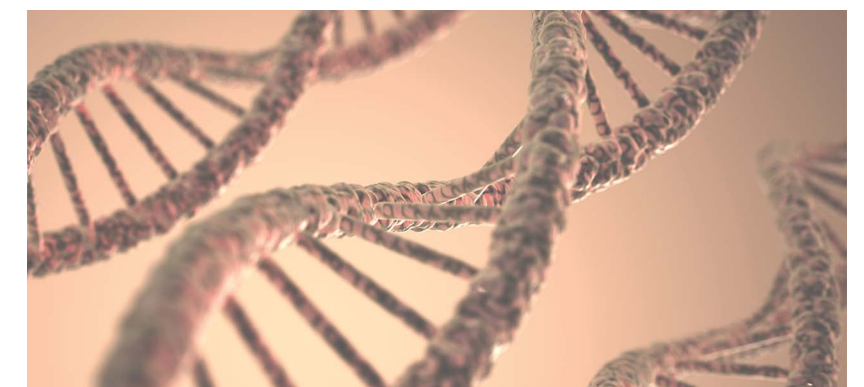


Understanding the molecular basis of malaria parasite-host cell interactions

Professor Tania de Koning-Ward
Theme Leader

Tania de Koning-Ward is a NHMRC Senior Research Fellow and Professor of Molecular Microbiology in the School of Medicine at Deakin University. Here she heads a vibrant research team of postdocs, research assistants, PhD and Honours students, who aim to dissect at a molecular level key malaria parasite-host cell interactions that enable the parasite to secure their survival and cause disease. This includes understanding how malaria parasites (i) export hundreds of proteins that are critical for parasite virulence into their host cell (Dr Kathryn Matthews, Dr Joyanta Modak), (ii) establish nutrient channels in the red blood cell membrane and degrade host haemoglobin to secure essential nutrients required for parasite growth (Dr Natalie Counihan, Dr Joyanta Modak), (ii) establish themselves

within a new host cell after they have invaded it (Dr Natalie Counihan), and (iv) regulate gene expression (Dr Jingyi Tang). To achieve these aims, Prof de Koning-Ward's research team use the most cutting-edge approaches to genetically engineer human and rodent malaria parasites to knockout, knockdown or tag genes of interest, after which the parasites are then analysed phenotypically, including in in vivo malaria infection models, to dissect the biology and how interaction with the host cell is affected. This research provides identification of new molecular targets for vaccine and drug development against malaria parasites, which are in critical need given the parasites have now developed resistance to all other anti-malaria drugs currently in use.





Infection and immunity

Professor Soren Alexandersen

The Geelong Centre for Emerging Infectious Diseases (GCEID) is a collaborative, multidisciplinary research partnership of Deakin University, Barwon Health and CSIRO's Australian Animal Health Laboratory (AAHL). GCEID is focused on a "One Health" approach to understanding and mitigating the risks and reducing the impact caused by emerging infectious diseases on human, livestock, pet and wildlife health in Australia and globally. GCEID started as a virtual partnership almost six years ago and has evolved since late 2015 into a fully established partnership with core laboratory and office space at Barwon Health's University Hospital, Geelong. In addition to the work done at the core facilities, GCEID is also an important hub for facilitating partner collaboration and coordination of swift research on emerging infectious diseases including diagnostics, vaccines, therapeutics, and epidemiology.

Major Research Projects Include:

- The sequencing of the genome of a human picornavirus (human parechovirus 3) that caused meningitis in young infants during an outbreak in Geelong in late 2015.
- The screening of wild birds for the presence of coronaviruses.
- The metagenomics of viruses in Australian wild birds.
- Detection and characterisation of animal influenza viruses in Australia.



Professor Soren Alexandersen (3rd from R) and his team at GCEID.

Infectious endocarditis (ICE) and Buruli ulcer research

Professor Eugene Athan



Professor Eugene Athan is the inaugural Director of the Department of Infectious Disease, Barwon Health and a salaried Level E Professor of Infectious Disease, School of Medicine, Deakin University. He has an extensive track record as a clinician researcher leveraging on substantive clinical and administrative role and nurtured a culture of academic excellence and research translation with local and global impact. He has supervised and trained generations of Infectious Disease (ID) physicians and clinical microbiologists. He oversees a large and productive academic department with a strong national and international profile; publishing over 40 papers per annum in peer reviewed journals. He supervises five advanced trainees in ID/Microbiology. He completed his PhD in 2015 describing the major global epidemiologic trends of

Infective Endocarditis in the 21st century, included increasing Staphylococcal and Enterococcal aetiology and increasing healthcare association and device infections. He has published over 180 papers in peer reviewed journals including the NEJM and JAMA and extensively contributed to national and international guideline development. He is a principal investigator for the International Collaboration for Infective Endocarditis (ICE) and the WHO Collaborating Centre for Buruli ulcer research. He is currently primary supervisor for eight PhD students; three successfully been awarded in 2018. He leads a multidisciplinary team comprising basic genomic and pathogen biology scientists, environmental scientists, public health specialists, epidemiologists and expert clinicians. His team are tackling diseases of public health importance.

Infectious disease: The interplay between host, pathogen and environment

Associate Professor Alyssa Barry



Associate Professor Alyssa Barry is based at Deakin University School of Medicine and holds a co-appointment in Disease Elimination and Maternal and Child Health Programs at the Burnet Institute in Melbourne. She leads a multidisciplinary research program that aims to dissect the interplay between host, pathogen and environment that drives infectious disease epidemiology. Current projects focus on antimalarial drug resistance, antigenic diversity and building parasite genomic surveillance capacity in malaria endemic countries. Alyssa works closely with a large network of local and international collaborators including field and clinical researchers in malaria endemic countries including Papua New Guinea, Solomon Islands, Cambodia, Myanmar, Mali and Tanzania. She is an Investigator

with the NHMRC Australian Centre of Research Excellence in Malaria Elimination (ACREME) and the NIH International Centres of Excellence in Malaria Research (ICEMR) for the Asia Pacific and West Africa, and has funding from the DFAT Indo-Pacific Centre for Health Security. Alyssa is a member of the Asia-Pacific Malaria Elimination Network (APMEN) and the Malaria Genomic Epidemiology Network (MalariaGEN).

Barwon infant study-mentoring scientists with emerging careers

Dr Fiona Collier



Dr Fiona Collier is a scientist with over 46 years' experience in laboratory-based research. As the Senior Scientist for Barwon Health, and investigator on the BIS steering committee, Fiona managed the collection, processing and storage of the biosamples for the Barwon Infant Study (BIS) from 2010-2020, and undertook immune phenotyping, at multiple time points, in the BIS

offspring blood samples. Her current interest and focus, as she nears the end of her career, is to assist and mentor HDR students and younger scientific staff so that they develop a love for all aspects of their work.



The role of mucosal immunology in human health and disease

Dr Poshmaal Dhar

Dr Poshmaal Dhar completed her PhD in Medical Bacteriology and Immunology from The University of Melbourne in 2017. She joined Deakin University in early 2018 as a Lecturer in Medical Science at the School of Medicine. She is the chair for the unit, Emerging infectious diseases, which is a part of the infection and immunity undergraduate major.

During her PhD, Dr Dhar investigated the role of mucosal immunology in human health and disease, which continues to be her research interest. The mucosal barrier, consisting of the epithelial cells and mucus layer, along with the immune responses at these sites, constitute the first layer of defence (along with the skin) against invading pathogens and allergens. She is currently setting up her Mucosal Immunology research lab at the School of Medicine. Her lab is focussed on understanding how the human immune system and specific human proteins (including mucins) regulate the incidence and severity of infections and inflammatory diseases in humans. She has been an associate supervisor for one MPhil and two Honours students in 2018. She is currently co-supervising one PhD student at the School of Medicine.

Bench top bone cell research

Dr Jason Hodge



Dr Jason Hodge is a senior scientist at University Hospital Geelong and holds a conjoint appointment with Deakin University, School of Medicine: Barwon Health. He graduated with B.Sc (Hons) majoring in Biochemistry from the University of Melbourne (1989) and an M.Sc in human nutrition from Deakin University (1993). He then completed a part time PhD candidature through the University of Melbourne (December 2008) and conducts bench-top bone cell research, having had over 25 years of research experience in

osteoclast and osteoblast biology. He has conducted novel research that has led to the development of a new in vitro model of human osteoclastogenesis from early progenitor cells derived from human umbilical cord blood. This advance has enabled the study of factors that direct this process and has brought important insights to a field in which the majority of data comes from animal models. A current focus of his research is the effects of various psychotropic drugs on bone cell formation and function.



Barriers to care, focussing on Hepatitis C

Dr Christine Roder

Dr Christine Roder completed her PhD in bacteriology, selenoproteins and drug discovery in 2018. She is currently a clinical infectious diseases researcher, splitting her time between Barwon Health/ Deakin University and Alfred Health.

Dr Roder has expertise in selenium metabolism, selenoproteins and selenium utilisation in bacteria, which has been recognised during national and international presentations, including presentations at the Australian Society for Microbiology Annual Scientific Meeting (ASM) and the European Congress for Clinical Microbiology and Infectious Diseases (ECCMID). Additionally, Dr Roder has expertise in clinical infectious diseases, antimicrobial resistance and drug repurposing. Her current research addresses public health issues such as barriers to care, with particular focus on hepatitis C.

Dr Roder has five publications in Q1 and Q2 journals, three of which are first author. She was an AI on a Deakin University Faculty of Health Research Equipment Support Scheme grant in 2018 and has reviewed papers for high impact journals including 'Journal of Antimicrobial Chemotherapy' and 'Pharmaceuticals', as well as providing external grant review for the Sir Charles Gairdner and Osborne Park Health Care Group.



Extracellular matrix enzymes in disease pathogenesis and immunity

Professor John Stambas

Prof. John Stambas is an expert in influenza virus immunity. He leads a young and energetic team, supported by NHMRC grant funding, that studies the importance of extracellular matrix enzymes in disease pathogenesis and immunity. More broadly, his laboratory is focused on understanding host-pathogen interactions in order to drive development of innovative disease intervention strategies. Currently, commercially available annual vaccines and antivirals are deployed to control seasonal influenza virus pandemics. Although reasonably effective these strategies have limitations as they only target the virus. There is however increasing evidence to suggest that

targeting host cell function can alter virus replication and inflammatory responses leading to improved disease outcomes. The Stambas group is at the forefront of this emerging field of science and has national and international collaborations (University of Georgia and the Lerner Centre) that will advance novel concepts and provide mechanistic insights into the role of host proteins following influenza virus infection with the overall aim of reducing the socioeconomic impact of disease on the Australian community.

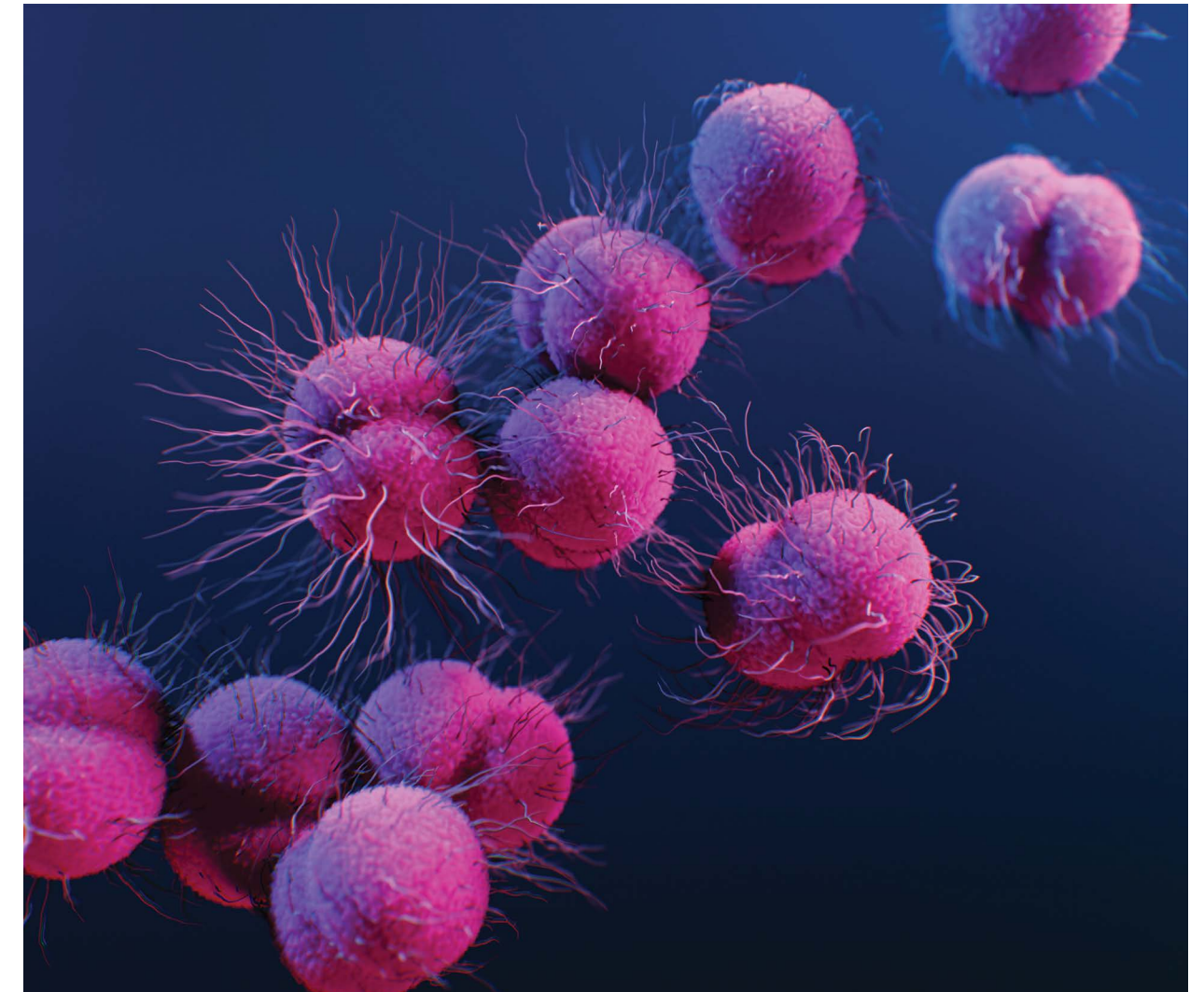
Genome Editing

Dr Clifford Liongue



Dr Clifford Liongue is a Research Fellow primarily based at the Molecular Medicine Research Facility at the Waurn Ponds campus of Deakin University. Cliff's research has added significantly to both the understanding of cytokine receptor signalling via the JAK/STAT pathway in blood and immune cells, as well as contributing to the development of zebrafish as an experimental model. Moreover, Cliff has utilised genome-editing techniques to establish a suite of customised zebrafish lines that will aid in the understanding of cytokine receptor signalling mediated disease aetiology in humans such as for acute myeloid leukaemia as well as other leukaemias and lymphomas.

In the age of genome editing, the conservation of the development and function of blood and immune cells between humans and zebrafish has enabled zebrafish to become an important animal model for understanding human disease aetiology. Establishment of a relevant, accessible, and cheap animal model to investigate diseases is a crucial step in the personalised medicine revolution, with customised zebrafish disease models particularly useful for rapid pharmacological testing for novel treatments to currently lethal diseases. This could lead to the tailoring of treatment regimens that are specific to the needs of the patient, and will improve their medical outcomes.





Gut microbiome and early life immunity

Professor Peter Vuillermin

Prof. Peter Vuillermin is a hospital and community general paediatrician based in the Barwon region of Victoria, Australia. He was recently appointed as the Director of Research at Barwon Health and Chair in Medicine at Deakin University. Peter's research focuses on identifying and modifying factors in the modern environment and lifestyle associated with early life immune dysregulation and related diseases. His team are particularly interested in the relationship between the gut microbiome and early life immunity. They have established a program of research based around large, representative birth cohorts, combining detailed biosampling and clinical phenotyping. Foremost among these is the Barwon Infant Study (BIS). NHMRC recently awarded the BIS team three separate Project Grants to conduct the primary school wave of reviews. BIS has been designed to place cutting-edge laboratory studies within a causal, epidemiological framework.

Controlling Buruli ulcer in Victoria

Dr Nilakshi Waidyatillake



Dr Nilakshi Waidyatillake is formally trained in Medicine, Public health and Epidemiology and has a background in public health with a Master of Science and Doctor of Medicine in Public Health. She has also completed a very productive PhD within the Allergy and Lung Health Unit in Melbourne School of Population and Global Health at The University of Melbourne in which she investigated the associations between early life liquid diet on allergic diseases for three and a half years. She has eight years' experience in the research field and has worked as a public health consultant to the World Health Organisation and United Nations Children's Fund (UNICEF).

Nilakshi is the Medical Epidemiologist of the Controlling Buruli Ulcer in Victoria: Case Control Study at Deakin University and has a particular interest in infectious disease prevention. She has strong clinical, statistical, public health and epidemiology skills and research experience in different settings and is actively engaged in mentoring post-doctoral students and honours students in the School of Medicine, Deakin University. Nilakshi also works as a Research Fellow at the Allergy and Lung Health Unit in the Melbourne School of Populations and Global Health, The University of Melbourne.

Zebrafish model of severe congenital neutropenia

Professor Alister Ward



Prof Alister Ward leads a team focused on understanding the role of cytokines and their downstream signalling pathways in development and homeostasis, with a focus on the blood and immune systems. His group generates innovative animal models using genome editing and other approaches to identify how individual genes and gene mutations in this pathway impact on health and disease. A highlight of 2019 was the elucidation of the function for the granulocyte colony-stimulating factor receptor in neutrophil homeostasis

throughout the life-course, through the generation of a zebrafish model of severe congenital neutropenia carrying a patient-derived mutation in this receptor, published in *Infection and Immunity*.



Part 5

Professor Wei Duan's team



Developing novel molecular tools for liquid biopsy

Alfred Deakin Professor Wei Duan
Theme Leader

Alfred Deakin Professor Wei Duan is a leading expert in aptamer (chemical antibody) research in Australia. Current research in Prof Duan's group focuses on developing novel molecular tools for liquid biopsy using naturally derived nanoparticles, termed exosomes, in human body fluids. One international patent has been filed and another patent is in the final stage of drafting, both on novel technologies on exosome and aptamers. Effects have been directed to the development of

molecular-based and nanotechnology-focused diagnostics that require a very small amount of blood for early detection of cancer, for monitoring the response of the patients to treatment, for guiding the clinicians for personalised adjustment of therapeutic regimen in real time over the entire course of treatment. Prof Duan's translational medical research is partly supported by an unprecedented 18-year R&D contract from an industry partner overseas.





Genetic underpinnings of different cancers

Dr Faiza Basheer

Dr Faiza Basheer is a research fellow at Deakin School of Medicine. Her research focuses on examining the genetic underpinnings of different cancers like melanoma, colorectal cancer and pancreatic cancer using zebrafish as an animal model. Faiza is passionate about cancer research employing zebrafish models and has mastered the cutting-edge genome-editing technique that enabled her to generate genetic models of zebrafish cancer. Her PhD research exploited zebrafish models of different hematopoietic disorders including immune-deficient models to determine the genetic lesions underlying these diseases. One such optically clear immune-deficient zebrafish model is extended to her current research fellow project, where she aims at unravelling the molecular basis of different cancers by performing xenotransplantation of these human cancer cells. This zebrafish model is expected to provide important insight into key problems in cancer biology and will serve as an ideal system for personalised cancer biology by enabling testing of therapeutics on patient-derived tumour samples. She is currently developing her own research niche and is involved in collaborative programs with other research groups within the field at Deakin's School of Medicine and in Melbourne.

Mechanisms of gene regulation in cancer

Associate Professor Amardeep Dhillon

Associate Professor Amardeep Dhillon is a cell and molecular biologist who leads a research group that studies mechanisms of gene regulation in cancer and development. Research in the Dhillon laboratory focuses on the biology of DNA-binding proteins known as transcription factors. Using a variety of molecular and genetic approaches, the group investigates the role and mechanism by which specific transcription factors

orchestrate gene expression programs critical for tissue development and cancer progression. In addition to providing fundamental insight into gene expression control mechanisms that operate in these biological contexts, the research is expected to reveal strategies to manipulate the actions of transcription factors for treatment of aggressive and drug-resistant cancers.



Drug discovery and nanomedicine

Professor Jagat Kanwar

Professor Jagat R Kanwar is the team leader of Nanomedicine-Laboratory of Immunology and Molecular Biomedical Research (NLIMBR), Faculty of Health. He has an international reputation and expertise in investigating fundamental and applied molecular signalling aspects of pathogenesis of cancer, chronic inflammation and neurodegenerative diseases, thereby, leading to the development of treatment strategies from bench to bedside. He has more than 250 research publications in high impact factor and peer reviewed international journals, 57 book chapters and 4 edited books. Prof Kanwar's research has generated several patents/PCTs with more than five licensed patents for commercialisation to the BioPharma industry. His group is currently working on drug discovery and nanomedicine for oral and systemic

drug delivery of a range of natural bioactive and biomacromolecules (proteins/peptides, siRNAs and aptamers) for targeting survivin, HIF-1 α and other apoptotic and inflammatory cell signalling molecules in cancer, chronic inflammation and neurodegenerative disorders. A number of in vitro (2D and 3D models), ex vivo human cell/tissue based co-culture models for cancers, microbial infections; autoimmune diseases; chronic inflammatory diseases (osteoarthritis, inflammatory bowel disease), gut health, neurodegeneration and immunomodulation have been developed by his group. His recent research focus on locked nucleic acid (LNA) LNA-modified aptamers conjugated "double targeted nano-bullet nanocapsules" with natural anti-tumour proteins which specifically target cancer cells.



Diagnostics and therapeutics for cancer drug resistance

Dr Rupinder Kanwar

Dr Rupinder Kaur Kanwar has expertise in applying cutting-edge techniques of cell biology, molecular biology and immunology to study the pathophysiology and therapeutic targets of human cancers and chronic inflammatory diseases (atherosclerosis, asthma, osteoarthritis and multiple sclerosis). Dr Kanwar has an award-winning career and skills in delivering industry-oriented research. During the past two decades, she has worked in New Zealand and Australia, in different positions supporting and building new research programs related to interdisciplinary research, international collaborations and

large-scale initiatives ranging from biomedicine to nanomedicine. She is a key inventor on a number of patent applications on devising treatments for chronic inflammatory diseases. Her current research focus at Deakin is on combining nanomedicinal approaches with basic cell biology and immunology research, to devise diagnostics and therapeutics for cancer drug resistance (prostate cancer, glioblastoma), cancer stem cells, and chronic inflammatory disease (atherosclerosis).





Medical biotechnology, infection and immunity

Dr Rasika Samarasinghe

Dr Rasika Samarasinghe is an early career researcher and an academic at the School of Medicine. Her research focuses on understanding epigenetic mechanisms in childhood diseases, in particular cancers, inflammatory and degenerative disorders and bone health. Her lab is involved in understanding metabolic and other regulatory changes that occur due to epigenetic factors, in the hopes of identifying therapeutic targets and alternative drugs that can be translated into clinical applications. Her investigations on aggressive forms of childhood cancers, in collaboration with the Metabolic Remodelling Laboratory at the Metabolic Research Unit, revealed some positive correlations between metabolic mechanisms and

cancer progression and identified key regulatory molecules involved in childhood cancer epigenetics. Her lab is currently working to further understand these molecular pathways and identify alternative drugs for childhood cancers. She is also involved in research programs within the SLS lab that investigates aptamers for diagnostic and therapeutic applications and in the Division of Psychiatric Epidemiology and GOS mental health, which looks at the effect of mood disorders and anti-psychotic drugs on bone health. She collaborates with researchers in the Hudson Medical Institute and is an active member of the Australian Epigenetic Alliance and the Inflammation Research Association.



Aptamers as targeted theranostic agents

Dr Sarah Shigdar

Dr Sarah Shigdar is focused on developing aptamers for both diagnostic and therapeutic applications. Projects include the development of aptamers to aid in the diagnosis of tumours in pathology labs and the generation of more sensitive diagnostic tests, as well as the development of these aptamers as drug delivery vehicles for the treatment of metastatic cancer. A major focus of the Shigdar lab is to develop these aptamers into effective agents that can cross the blood brain barrier and target brain cancers and metastatic cancers that have spread to the brain. Dr Shigdar is also the President of the International Society on Aptamers.

Solutions for drug delivery

Dr Phuong Tran

Dr Phuong Tran is an ARC DECRA Research Fellow in Professor Wei Duan's research group. Her research interests focus on controlled drug delivery of poorly water-soluble drugs, solubilisation techniques to enhance drug bioavailability and development of targeted nanodrugs and delivery systems. Dr Tran is particularly interested in nanoparticles and extracellular vesicles (EVs) that can be used for enhancing therapeutic efficacy and reducing risks of systemic side effects. She has published 20 articles (first/corresponding author on 10 publications) in high to mid-ranking journals in 2019 which encompasses a wide range of biomedical/ pharmaceutical, molecular biology and nanotechnology-based research areas. She has successfully established nano-matrix structured EVs that could solve the problem of low cargo loading efficiency into EVs to induce increased cytotoxicity in



tumour cells. In proof of principle experiments of this new biological nanoplatform, an anti-inflammatory drug (aspirin) was transformed into a potent anti-cancer agent due to sufficient cargo loading into EVs. This suggests there may be potential application of other cargoes to this bioplatform, including a delivery of CRISPR/Cas9 that are currently being studied for targeting of Alzheimer's disease. These findings have been patented and published in the International Journal of Pharmaceutics, which is ranked in the top 2% of Pharmaceutics, Toxicology and Pharmaceutics journals in 2019. Dr Tran's article, focusing on the development of aptamer-guided exosomes as a new nanoengineering strategy for targeted drug delivery, has been recently highlighted in the Research News of Advanced Materials Journal, which is ranked first in both categories of Material Science and Engineering.

Cancer therapies and stem cell based treatments

Dr Richard Williams

Dr Richard Williams is a Senior Lecturer in Medical Biotechnology. His research is focussed toward bioinspired approaches to improve clinical outcomes after surgical intervention, spatiotemporal delivery of cancer therapies and stem cell based treatments for stroke and Parkinson's Disease. His research expertise lies with the development of tailored novel microenvironments allowing for application specific presentation and delivery of therapeutic compounds and stem cells for the augmentation and repair of damaged and diseased tissue.



Currently, his group has national collaborations with ANU, the Florey, St. Vincent's Hospital, Southwestern Orthopaedics and UWA, and an international collaboration to develop material approaches for drug delivery with the University of Washington. He is the Deakin lead investigator in the ARC Training Centre for Innovative BioEngineering (\$4.5 million multi-institute centre) and CI on an NHMRC grant to reprogram immune cells to functional neurons after traumatic brain injury. He is currently supervisor to eight PhD students.



Algorithms in ischaemic stroke

Professor Paul Yelder

Professor Paul Yelder is inaugural Chair and Professor of Medical Imaging in the School of Medicine at Deakin University. His research focuses the use of eye tracking and electroencephalography (EEG) systems and advanced medical imaging fMRI and CT perfusion algorithms investigating sensory motor integration, brain plasticity and multimodal sensory encoding. His collaborative clinical work examines neck pain and fatigue, multisensory integration in attention deficit hyperactivity disorder (ADHD) and exercise prescription as an adjunct therapy in major depressive disorder (MDD). Work in progress involves sensory integration of experimentally induced pain and the functional relationship between the preferred and non-preferred limbs during motor learning and movement performance linked to workplace injury risk assessment and the neuromechanics of technology design.

Currently Prof Yelder is co-Principal Investigator in a clinical observational study "Stroke and Ethnicity" investigating cerebral perfusion and comparative optimal ischemic thresholds of rCBF in Australian and Indonesian ischemic stroke patients. His work involves collaborations with Barwon Health, the Royal Melbourne Hospital, the National Brain Hospital Jakarta Indonesia, The Australian Spinal Research Foundation and Ontario Tech University Canada with personal granting support from the Natural Sciences and Engineering Research Council of Canada (NSERC).



Part 6

Professor Felice Jacka's team



Food & Mood Centre

Professor Felice Jacka
Theme Leader

Professor Felice Jacka leads the Food & Mood Centre within the IMPACT Institute. This centre is recognised as globally unique as it is the only one specifically focusing on Nutritional Psychiatry research. Centre members carry out cutting edge research that aims to identify new and effective approaches to the prevention and treatment of mental and brain disorders using nutritional approaches. It is also set up to provide a resource for the public, researchers and clinicians, where they can access clear and easy to understand information on nutrition and mental health. The website can be found at: www.foodandmoodcentre.com.au

The Food & Mood Centre was initiated in late 2016 and has grown rapidly, from three members to comprise approximately 25 HDR students, postdoctoral researchers and research assistants. Currently there are more than 20 different projects underway at

the Food & Mood Centre, with many of these studies focused on the gut microbiota as a key pathway of interest in the link between diet and mental and brain health. These include nine randomised controlled trials, seven of which are being led by the Food & Mood Centre, and a large number of observational studies. The centre is also developing many resources, including an online dietary program and app, postgraduate courses, workshops, and many other educational materials on Nutritional Psychiatry. Professor Jacka is also the president of the International Society for Nutritional Psychiatry Research (ISNPR) and led the biennial ISNPR conference in London, UK in October 2019.

Prof Jacka published a book for the general public (Brain Changer) in February 2019 through Pan Macmillan in Australia, which was subsequently published in the UK and Europe through Yellow Kite in July 2019.



Nutritional epidemiology, adolescent mental health and prevention science

Dr Erin Hoare



Dr Erin Hoare completed her PhD in public health/ psychology in 2016, with the WHO Collaborating Centre for Obesity Prevention at Deakin University. Her PhD research examined links between adolescent depression and modifiable behavioural risk factors, including diet, nutrition, physical activity and sedentary behaviour. She is a current National Health and Medical Research Council Early Career Fellow completing her overseas component at MRC Epidemiology, University of Cambridge.

Erin's PhD findings indicated improvements in depressive symptoms among Australian adolescents following a community-based obesity prevention intervention, which aimed to facilitate

healthy food and physical activity environments in Australian secondary schools. She is currently examining these relationships at larger scale, across the state of Victoria. Erin's research interests include nutritional epidemiology, adolescent mental health, and prevention science, and she has research skills in population-level data analysis, systematic reviews, and intervention evaluation. She is leading the mental health evaluation of a large-scale school based physical activity program in the UK. She is a 2019/2020 Fulbright Scholar and will be working with the Framingham Heart Study at Boston University to extrapolate diet and physical activity patterns and later life mental health.



Novel nutraceutical and polyphenol compounds

Dr Wolfgang Marx

Wolfgang Marx holds an Alfred-Deakin Postdoctoral Research Fellowship with the Food & Mood Centre where he is investigating the use of novel nutraceutical and polyphenol compounds on relevant pathways (e.g. kynurenine-related metabolites and the microbiome), cognition, fatigue and mental health. Specifically, he is involved in multi-centre randomised controlled trial that is investigating the use of a combined nutraceutical therapy on fatigue and depression in 150 people with multiple sclerosis. Wolfgang is also exploring the association between dietary polyphenols and clinical markers of depression and multiple sclerosis in large observational cohorts.



Prenatal and early life predictors of child mental health

Dr Amy Loughman

Amy Loughman completed her PhD thesis in psychology at the University of Melbourne and is a Postdoctoral Research Fellow at the Food & Mood Centre, IMPACT Institute. She is an associate supervisor for five PhD students at IMPACT.

Clinically trained in neuropsychology, she is passionate about understanding the relationships between physical and mental health. A particular research interest of Amy's is the gut microbiome and the potential relevance that this 'forgotten organ' for understanding human health. In 2017 she was awarded the Jack Brockhoff Foundation Early Career Grant to examine the role of the microbiome in Alzheimer's disease and cognition. She is also working on collaborative research regarding prenatal and early life predictors of child mental health at the Food & Mood Centre and the Barwon Infant Study.

Amy is an active science communicator, and has written for The Conversation, The Research Whisperer and The Thesis Whisperer. She can also be found at:

www.mindbodymicrobiome.com and on Twitter @MBmicrobiome.

Knowledge translation in nutrition and mental health

Dr Tetyana Rocks



Dr Tetyana Rocks is a postdoctoral research fellow and Head of the Translational and Educational stream at the Food & Mood Centre. Her main role within the centre is to support the translation of the current evidence in the field of Nutritional Psychiatry into policy

and clinical practice. Tetyana is an Accredited Practising Dietitian with extensive experience in tertiary and professional education. Her main research focus is on the role of gut microbiota in metabolic and eating disorders.



The relationship between diet, the gut and mental health

Dr Heidi Staudacher

Dr Heidi Staudacher is an accredited practicing dietitian with experience in the clinical management of individuals with gastrointestinal disorders. Her PhD at King's College London investigated the role of diet in irritable bowel syndrome (IBS) and its impact on the gut microbiota. She ran the first placebo-controlled trial of low FODMAP dietary advice in irritable bowel syndrome during her doctorate. Her work has helped to progress understanding of the potential efficacy of diet to manage gut symptoms, but also insight into the consequences of altering diet on the gut microbiota and dietary quality. She recently joined the Food and Mood Centre as an Alfred Deakin Postdoctoral Research fellow and will be extending her research to investigate the relationship between diet, the gut and mental health with particular focus on disorders such as anxiety and depression.

Nutritional psychiatry for psychotic disorders

Dr Anu Ruusunen



Dr Anu Ruusunen is a Conjoint Clinical Senior Lecturer at the Food & Mood Centre. The primary focus of her postdoctoral research is on clinical dietary interventions for psychiatric disorders, including eating disorders, depression and schizophrenia. Anu has pioneered clinical dietary counselling and interventions supporting dietary improvements in psychiatric populations, holding

a unique clinical dietitian's position at the Department of Psychiatry (Kuopio University Hospital, Finland). She currently focuses on developing and evaluating strategies to improve diet in order to increase physical and mental health in these populations. Anu is currently a principal investigator for three research projects.



Part 7

Professor Sean McGee's team



Metabolic reprogramming

Professor Sean McGee
Theme Leader

Professor Sean McGee teaches into the Metabolism and Musculoskeletal block of the MD degree at the Deakin University School of Medicine and conducts his research at the Metabolic Research Unit. His research focusses on understanding the molecular mechanisms of metabolic reprogramming in response to physiological stressors such as exercise, as well as in diseases such as obesity

and type 2 diabetes, cancer and cardiovascular disease. A feature of his research program is leveraging this biological understanding to discover new therapeutic approaches to combat these diseases. To commercialise his work he has cofounded two biotechnology companies, Imitex Pty Ltd and Ambetex Pty Ltd, in 2017 and 2019, respectively. His academic work is funded by grants from the NHMRC.





Optometry, vision science and the origins of cardiovascular disease

Professor James Armitage

Professor James Armitage is the Optometry Course Director and Head of Vision Science in the School of Medicine at Deakin University. James is a practicing optometrist and has research interests that include developmental programming of cardiovascular, metabolic and autonomic dysfunction, as well as the interplay between ocular and vascular function. Current projects include the use of non-invasive angiography methods to assess ocular blood flow responses to commonly used medications. James is also part of a large team studying the relationship between early life experiences eye health in Indigenous and non-Indigenous Australians. James' teaching research includes the development and use of novel teaching tools and learning resources to provide personalised, active learning opportunities for students. James' scholarly activities in teaching seek to review the way that aspects of communication, digital literacy, clinical decision making and cultural safety are taught in order to transform them from the "hidden curriculum" into explicitly taught and assessed aspects which are central to the development of professional identity.

Novel approaches to stop diabetes

Dr Kathryn Aston-Mourney

Dr Kathryn Aston-Mourney is the head of the Islet Biology Laboratory at the Metabolic Research Unit. Her research team is focused on both type 1 and type 2 diabetes, with the aim to discover and develop novel treatments to prevent disease development and progression. The root cause of diabetes is insufficient levels of the blood glucose-lowering hormone insulin. This is caused by failure and death of the beta cells in the pancreas, which are responsible for producing insulin. While current treatments for diabetes can help manage the symptoms of the disease, they cannot protect these

beta cells. Therefore, the aim of the Aston-Mourney group's research is to develop ways in which the beta cells can be protected. The group is currently collaborating with world-leading researchers to discover new drugs, develop nano-medicine targeted approaches to prevent type 2 diabetes onset and disease progression, as well as innovative engineered microenvironments to enhance islet transplantation approaches so that this can deliver a genuine long-term cure for type 1 diabetes. Ultimately, the aim of these treatments is to reduce the impact of diabetes on all Australians.



Stem cells and pharmacological response in bipolar disorder

Dr Chiara Bortolasci

Dr Chiara Bortolasci is an Early Career Researcher and the Group Leader in the Stem Cell Division at the Metabolic Research Unit at Deakin University. The research conducted at the Metabolic Research Unit is focused on identifying pathways and targets that are important in bipolar disorder to be able to identify new drugs to treat the disease. Dr Bortolasci's main aim is to use this knowledge associated with environmental and genetic aspects to predict pharmacological response in bipolar disorder. This work has been conducted in collaboration with University of Toronto and Harvard University. Dr Bortolasci also collaborates nationally and with IMPACT researchers to provide laboratorial advice during study design and also with measurement of markers in blood and other biological fluids.



Twins Centre of Research Excellence

Associate Professor Jeff Craig

Associate Professor Jeff Craig is a Lecturer in Medical Sciences at the Deakin University School of Medicine. He studies epigenetics – the 'musicians that play the music of life on our DNA'. He researches the role of epigenetic state in mediating the effects of early life environment on the risk for neurodevelopmental disorders such as autism, ADHD, cerebral palsy, social anxiety disorder, and developmental coordination disorder. He has expertise in biosample collection, twin studies, and science communication. With clinicians and epidemiologists, he has established a number of longitudinal cohorts, most involving twins. In his longest-running cohort, he is currently studying the relationship

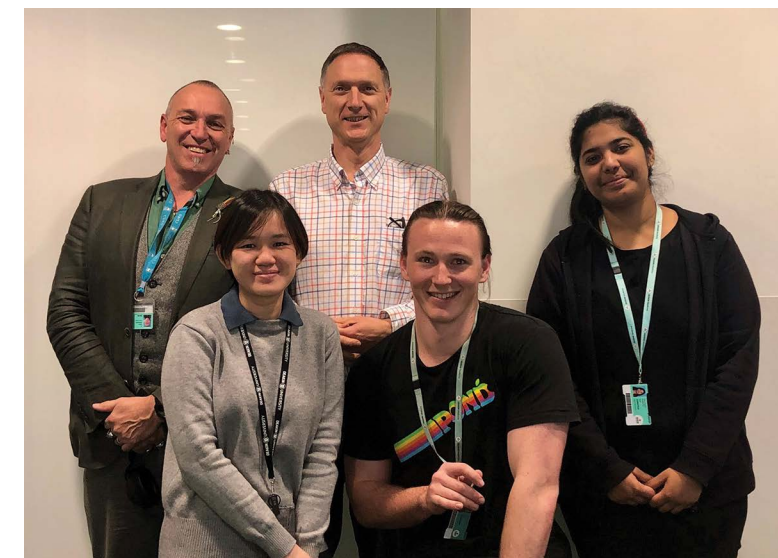
between early life epigenetic state and brain structure and function in late childhood. A/Prof Craig is a Chief Investigator on the NHMRC-funded Twins Centre of Research Excellence, and President of the International Society for Twin Studies. He has a keen interest in public engagement, and in this capacity, leads the cross-faculty 'Gen(e)quality' Deakin University Research Network. In 2019, he is co-chairing organising two international conferences on the early life origins of disease and twins. He is currently Course Director of the Honours program at the Deakin School of Medicine.



AFL injury study. Joint Study. Microembolisation.

Dr Stephen Gill

Dr Stephen Gill is a Research Fellow with the Barwon Centre for Orthopaedic Research and Education (B-CORE). Three major projects in his portfolio include the Australian Rules Football Injury Study, the St John of God Hospital Joint Replacement Registry and Microembolisation for Musculoskeletal Conditions. The football injury study is a collaboration with the Australian Football League and 12 Emergency Departments in Geelong and South West Victoria. It is the most comprehensive investigation to date of injuries suffered by females playing Australian Rules Football. The Joint Replacement Registry is a cohort study investigating outcomes following hip, knee and shoulder arthroplasty. The Registry adds more than 700 patients each year and will become one of the largest and most sophisticated databases for private arthroplasty patients in Australia. Microembolisation is a new treatment technique for chronic musculoskeletal conditions. We are conducting a range of studies investigating the effects of the technique on conditions such as osteoarthritis, tendinopathy and fasciopathy. Our randomized controlled trial for knee osteoarthritis is the first of its kind. Stephen also works clinically as a senior clinician physiotherapist at Barwon Health.



Metabolic and Musculoskeletal team, including: Dr Garth Stevenson, Dr Yen Ting Wong, Jeff Craig, Liam Ryan (Honours student), Oshin Misquitta (Masters Student). Missing: Jennifer Snowball (Masters Student), Namitha Mohandas (PhD student), Claire Kennedy (Research Assistant).



The biochemical changes in individuals predisposed to dementia

Dr Veer Gupta

Associate Professor Veer Gupta is an NHMRC Dementia Leadership Fellow and appointed as an Associate Professor in Neurobiology at the School of Medicine. She also holds an adjunct appointment within the School of Medical and Health Sciences at Edith Cowan University, Western Australia. She leads an energetic and young group supported by NHMRC and Faculty funding. Her work is focused on investigating the biochemical changes in individuals predisposed to dementia, prior to the appearance of clinical symptoms. She is involved in the development of early stage diagnostics for the detection of Alzheimer's disease and novel therapeutic agents. Under the therapeutics stream, she is also studying the novel amyloid neutralising peptides that are specific in binding to human Amyloid beta 42. A/Prof. Gupta works with several population and clinical cohorts such as Geelong Osteoporosis Study, Australian Imaging, Biomarkers & Lifestyle Study via the joint collaborative projects and supervising PhD students. Her research interests are neuroscience, blood and CSF biomarkers, imaging and ocular biomarkers, early-stage diagnostics and proteomics.

Exploring biomarkers in musculoskeletal conditions

Professor Richard Page



Professor Richard Page is an orthopaedic shoulder / upper limb surgeon and Director of the Barwon Centre of Orthopaedic Research and Education (B-CORE), as Foundation St John of God and Barwon Health Chair of Orthopaedic Surgery at Deakin University. He is involved in hospital and surgical leadership at a national and international level, holds positions on the Victorian Orthopaedic Trauma Outcomes Registry (VOTOR), the Expert Reference Group for Health Purchasing Victoria and the Advisory Committee of Medical Devices for the TGA. He is upper limb Clinical Advisor to the Australian Orthopaedic Association (AOA) National Joint Replacement Registry, a Trustee to the Victorian Orthopaedic Research Trust (VORT), Scientific Secretary and Board member elect to the AOA and

Co-Chair of the International Shoulder Arthroplasty Consortium (ISAC).

He directs research programs in three key areas: musculoskeletal tissue banking with gene expression in common shoulder conditions and the role of biofilms in prosthetic joint infections, both exploring potential biomarkers in musculoskeletal conditions; biomechanics of the shoulder and upper limb and related trauma outcome topics; surgical outcomes in upper limb pathology and joint replacement surgery, particularly the shoulder with oversight of regional and national joint replacement registries. In addition, he is an active teacher of medical students, registrars, surgical fellows and supervises higher degree students.



Professor Richard Page (front row left) and colleagues at the annual Geelong Orthopaedic Society meeting 2019.



Gut health research

Dr Leni Rivera

Dr Leni Rivera is a lecturer in Medical Sciences and is expert in gastrointestinal health and physiology. Her research focuses on investigating the effects of poor nutrition on gut health and the gut microbiota. Currently, in both developed and emerging economies, there is a preference to consume nutrient-poor, energy-dense, and highly processed foods. Many people are both overfed and undernourished. This transition from traditional to the modern diet

has seen increases in obesity, non-alcoholic fatty liver disease, and other metabolic disorders. The first vulnerable organ to encounter these substances is the gut. The gut has an epithelial lining that acts as a barrier to prevent harmful agents including bacteria and bacterial toxins from entering the bloodstream. When this barrier is compromised, the gut becomes permeable and these harmful agents are able to enter the blood stream, triggering the immune system and causing inflammation throughout the body. It is well known that both obesity and non-alcoholic fatty liver disease are associated with increased gut permeability and changes in the gut microbiota composition. However, the mechanisms underlying these changes, and in particular the role of dietary factors, remains unclear. In an era where there is no proven effective therapy for preventing progression of these diseases, improving gut health is an exciting and promising target.

Targeting the relaxin-3 system to treat depression and obesity

Dr Craig Smith



Dr Craig Smith is head of the Neuroscience of Stress and Mental Health Laboratory within the School of Medicine. His research characterises pathways in the brain that control stress, and identifies ways in which drugs can influence these pathways to potentially treat depression and other mental illnesses, including obesity. Dr Smith is a CI on two current NHMRC Project Grants, and a major focus of this work is a brain neurotransmitter called 'relaxin-3', which plays important roles in controlling both stress and feeding behaviours. His team uses a range of preclinical anatomical and behavioural techniques to investigate the biology and therapeutic potential

of relaxin-3. This has revealed several important mechanisms through which relaxin-3 influences stress and feeding, by modulating key brain regions including the amygdala and hypothalamus. A second major research focus investigates the brain pathways that drive salt overconsumption, which contributes to hypertension, obesity, and other metabolic disorders. Taken together, this research aims to fast track the development of novel pharmacological treatments for mental disorders such as depression and obesity, by targeting key pathways in the brain including those involved in relaxin-3 signalling and salt consumption.



The relationship of microbiota to the development of autism

Dr Garth Stephenson

Dr Garth Stephenson is an Academic within the Deakin School of Medicine and a member of Associate Professor Jeffrey Craig's Epigenetics and Twins research group.

Garth's academic career spans 10 years at Deakin where he has worked in numerous units from the School of Medicine (SoM), School of Life and Environmental Sciences (LES) and School of Exercise and Nutrition Sciences (SENS). Garth's current position is Lecturer and Assistant Course Director for the Medical Biotechnology and Infection and Immunity stream of the biomedical degree. He is Unit Chair for HMM203, Human Anatomy and the 2020 SoM co-ordinator for the HBS400 Research Methods unit for the honours program.

Garth has a research interest in the causes of neurodevelopmental disorders such as Autism Spectrum Disorder (ASD) and the relationship of the human Gastrointestinal (GIT) and Female Reproductive Tract (FRT) microbiotas to the development of these conditions during gestation. His current studies aim to investigate the impact of the Maternal Immune Activation state due to dysbiosis of the GIT or FRT and the effect of proinflammatory cytokines on neurodevelopmental genes during gestation and identify inflammation induced epigenetic changes in genes regulating the development of the central and enteric nervous system.

Drug repurposing

Professor Ken Walder



Professor Ken Walder leads a laboratory based research group at Deakin's Waurin Ponds campus, focussed on major depressive disorder and schizophrenia. Using complex molecular biology techniques and sophisticated statistical analysis, the group identifies "gene expression signatures" for the effects of drugs currently used to treat these diseases. These "genetic fingerprints" are then used in laboratory-based screens of libraries of existing drugs, as well as in silico screens using an array of bioinformatics tools. Prof Walder's group has identified a number of promising leads, which are currently being investigated for potential repurposing for mental health disorders. Another major component of this group's research is to identify biomarkers associated with

the diseases, and particularly biomarkers of treatment response. In close collaboration with A/Prof Olivia Dean and IMPACT TRIALS Group, we measure circulating factors in serum samples collected during various clinical trials and analyse these to identify those factors that predict a positive response to treatment. Finally, we are implementing a new technique to generate pluripotent stem cells from blood samples collected from participants with mental health disorders. These cells can be differentiated into networks of brain cells that will enable us to investigate potential causes of these diseases and factors involved in treatment response, as well as further screening of drugs for repurposing.



The Epigenetic Study

Dr Yen Ting Wong

The Epigenetic study: To investigate how specific environmental factors interact with vulnerable genetic markers, leaving changes that mediate gene expression and which have the ability to influence trajectories of continuing development and mental health.

Dr Yen Ting Wong is a Postdoctoral Research Fellow. Her research focuses on developing epigenetic biomarkers for neurodevelopmental and other chronic disorders. Currently, she is working to predict the onset and different developmental trajectories in attention-deficit/hyperactivity disorder (ADHD) and carry out all the laboratory and epigenetic analyses of DNA methylation data produced by the Infinium arrays and in the complex procedure of Sequenom MassArray EpiTyper methylation analysis used in the validation steps. Dr Wong works

closely with researchers at the School of Psychology at Deakin University and collaborates with researchers at MCRI, Royal Children's Hospital.

In addition, Dr Wong is maintaining a close working relationship with the Deakin Genomics Research and Discovery Facility to establish the DNA methylation data analysing platforms including TruSeq and amplicon bisulfite sequencing epigenetics studies. This has benefit to all other researchers throughout Deakin University.



Part 8

A/Prof Adrienne O'Neil's team

Heart and Mind

Associate Professor Adrienne O'Neil
Theme Leader



Associate Professor Adrienne O'Neil is leading our new Heart and Mind Research Group, supported by the Heart Foundation. This group investigates the role of lifestyle in the onset and outcomes of depression and cardiovascular disease, both respectively, in relation to each other and when they co-occur. They have found that:

- Australian women with depression have double the risk of heart attack or stroke in the following 18 years compared to women without. The team is investigating ways to include brief mental health screening to be included in heart health checks with GPs.
- Cardiac rehabilitation attendance after heart attack reduces frequency of hospital readmissions and length of stay. The team is testing new

ways to better ensure patients access rehabilitation and don't slip through the cracks.

- Current Australia Clinical Guidelines for treating heart attack are based on studies where women are under-represented (median 35%). Only 18% reported sex-disaggregated results for primary outcomes
- Stress during the day may blunt heart rate during sleep overnight; a key predictor of cardiovascular disease and mortality.
- Stressful life events for mothers during pregnancy can affect the cardiovascular health of their children at 7 and 17 years and the role of DNA.

Understanding the interplay between mental health and the cardiovascular system

Dr Lisa Olive



Dr Lisa Olive completed her PhD (Clinical Psychology) at the Australian National University, Canberra and is an NHMRC Postdoctoral Research Fellow at IMPACT. Lisa leads a research program focused on understanding the interplay between mental health and the cardiovascular system in both the onset and trajectory of cardiovascular disease. Her work also involves the translation of

epidemiological findings into evidence-based interventions addressing the shared pathways to the common mental health disorders and cardiovascular disease. As a part of this work, Lisa played an instrumental role in securing industry partner funding for a number of translational projects, including the Victorian Physical Literacy Project and the Active Early Learning Project.

Part 9

Professor Julie Pasco's team



The Epi-Centre for Healthy Ageing

Professor Julie Pasco
Theme Leader

Professor Julie Pasco heads the Epi-Centre for Healthy Ageing. Her research focuses on modifiable factors that influence the trajectory of healthy ageing.

The Epi-Centre for Healthy Ageing conducts long-term population-based research involving the internationally recognised Geelong Osteoporosis Study (GOS), the Vitamin D in Pregnancy (VIP) study and the Ageing, Chronic Disease and Injury (ACDI) study. This distinctive program of research seeks to understand the progression of chronic disorders including osteoporosis, sarcopenia, frailty, obesity, diabetes, cardiovascular disease, cognitive decline, and the nexus between physical and mental health. An important component of this program of epidemiological research is to facilitate knowledge transfer from research into clinical practice and into the community.

Epi-Centre for Healthy Ageing project scope:

- musculoskeletal disease and the impact on health, productivity and wellbeing
- clinical utility of bone material properties using impact microindentation
- synchronic changes in ageing skeletal muscle and bone
- glycaemic status, musculoskeletal health and wellbeing
- selenoproteins in musculoskeletal and other aspects of health
- musculoskeletal health, common

mental disorders and cognitive performance

- indices of healthy ageing
- health literacy, ageing and the progression of chronic disease
- musculoskeletal decline among patients in intensive care
- health outcomes in compensable injury
- maternal vitamin D levels during pregnancy and offspring growth, development and behaviour
- epidemiology of chronic disease and injury across western Victoria.

GOS data feature in multi-disciplinary collaborations and contribute to large multi-centre projects that pool data from leading (inter)national cohort studies, such as the Australian and New Zealand Diabetes and Cancer Collaboration; the International Consortium of Obesity and Diabetes; the Australian and New Zealand Taskforce for Sarcopenia; the economic evaluation of the cost of osteoporosis in Australia; and the international reference range for impact microindentation.



Risk factors for musculoskeletal disorders

Dr Kara Holloway-Kew

Dr Kara Holloway-Kew is a member of the team working on the Geelong Osteoporosis Study (GOS). One of her roles in this study is the implementation of a new technique to measure bone strength using a novel device called the OsteoProbe. This has been successful, and to date, over 400 men have had this measurement performed during the male 15-year GOS follow-up. Her current research program focuses on risk of fracture within different population sub-groups. She is involved in evaluating the effect of diabetes and chronic kidney disease on bone quantity and quality, as well as how these changes impact fracture risk. In

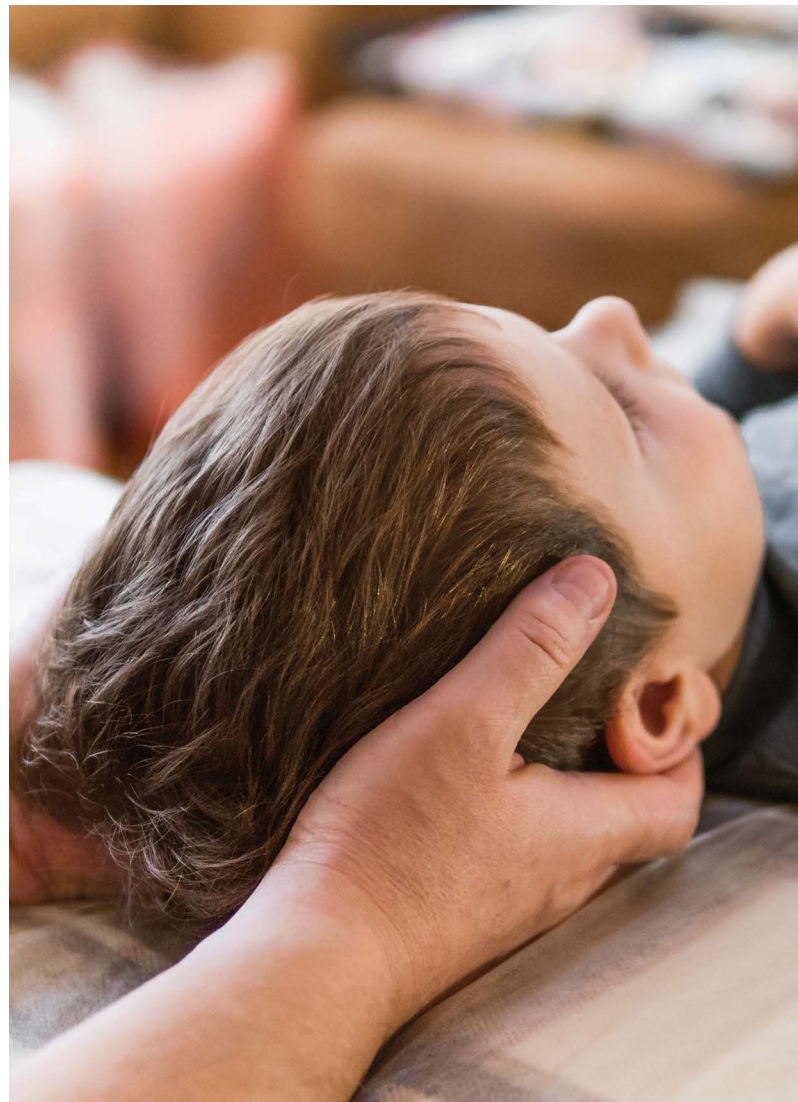
April 2019, she spoke about her work on chronic kidney disease and bone at the World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases in Paris, France. She was also awarded an International Osteoporosis Foundation Young Investigator Award at the International Osteoporosis Foundation Regionals in Sydney at the end of 2018.



The contribution of modalities measuring bone strength to fracture risk prediction

Dr Natalie Hyde

Dr Natalie Hyde's current fellowship is examining fracture risk prediction in adults using data from the most recent follow-up of men participating in the Geelong Osteoporosis Study. Moreover, she continues to work on data collected as part of the Vitamin D in Pregnancy study looking at early-life exposures and offspring health in childhood. Most recently, she was successful in obtaining a grant to purchase equipment to establish a bone component of the Barwon Infant Study. Specifically, she will be investigating the impact that gestational diabetes has on child bone health and fracture outcomes.



Part 10

A/Prof Lana Williams's team

CONEXUS Research

Associate Professor Lana Williams
Theme Leader



Associate Professor Lana Williams leads CONEXUS Research within IMPACT Institute and is the co-director of the Geelong Osteoporosis Study. She and her team are leading investigations aimed at understanding the interplay between mental disorders, associated treatment regimens and physical disease. This year they have had considerable funding success, most notably, A/Prof Williams was successful in securing a highly competitive NHMRC Investigator grant to continue the host of epidemiological and basic science projects being undertaken within CONEXUS Research, while Ms Kayla Corney was awarded an Australian Rotary Health PhD scholarship, Ms Behnaz Azmi Manavi a Deakin University International Scholarship and Ms Stephanie Cowdery the Geoff and Betty Betts Rotary Club of Geelong Early Mental Health Researcher award.

This year has also seen continued work on the two NHMRC-funded projects investigating the interplay

between psychiatric disorders, the medications used to treat these disorders and bone health. A range of student/postdoctoral research-led projects are also well underway and include investigations into the mental health-cancer link, serotonin and bone, bipolar disorder and bone health, antipsychotic use and bone health, cognition associated with ageing trajectories, depression and pain, health literacy and health outcomes associated with personality disorder.

The epidemiological resources and collaborations that form the foundation of this program of work are an invaluable resource for collaborative studies and generating knowledge able to be transferred into clinical practice, service planning, and policy development. Given the nature of the studies underway, we can determine both predictors and outcomes associated with a host of disease states. All enquires are welcomed.

Health literacy and osteoporosis management

Dr Sarah Hosking



Dr Sarah Hosking is a Postdoctoral Research Fellow within CONEXUS Research. Her innovative research stream investigates the role of health literacy in supporting health across the lifespan. The central focus of Dr Hosking's work is investigating the relationship between health literacy and appropriate use of medications to prevent falls and fractures in older

adults. Dr Hosking also collaborates widely on projects that explore the potential of health literacy to prevent and/or manage a range of health conditions across the lifespan. This includes projects investigating maternal health literacy and child health, mental health and health literacy, and ehealth literacy and the use of technology.

Support staff



Amelia Betson
RA



Tim Connor
RA



Jade Doonan
RA



Dr Stella
May Gwini
Post-Doctoral RF



Sheree
Martin
RA



Catherine
Mazza
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Alcy Meehan
RA



Jane Meier
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Nicholson
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Josephine Russell
RF



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RA



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Stuart
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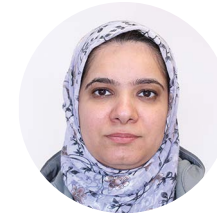


Catherine
Verecondi
EA



Anna
Wrobel
RA

PhD candidates



Afrah Jalil Abd

Novel nanoformulations to ameliorate aged macular degeneration in mammalian models.

Afrah's project includes testing of ultrasmall Apo-bLFGCNP and RNV66GCNP on the retinal and glial cells (in vitro) exposed to stress as age-related macular degeneration models, in addition to, synthesise 3D tissue culture model. Ex vivo model was used to check the possibility of delivering the ultra small nanoparticles to the posterior segment of the eye when applied topically.



Kara Anderson

Bone microindentation and fracture risk.

The aim of Kara's project is to assess different methods for determining fracture risk using data from the Geelong Osteoporosis Study, with a focus on the OsteoProbe, a new tool for directly measuring the material strength of bone.



Dr Bruno Agustini

Factors associated with depression in older adults.

Bruno's project aims to determine risk and protective factors for depression in an older population. Late-life depression is an urgent public health issue with the progressive ageing of the world's population. Better understanding might lead to improved outcomes in this age group. To do that, he analyses data from a large clinical trial of over 19,000 older individuals, the Aspirin for Reduction of Events in the Elderly (ASPREE).



Aseel Al-Araji

Detection and characterisation of bacterial antimicrobial resistance genes using molecular methods.

To detect and characterise bacterial antimicrobial resistance genes (AMR) using traditional Next-Generation Sequencing (NGS) method and AMR panel to analyse the resistance genes.



Khyber Alam

Increasing access to low vision rehabilitation services in Australia.

To determine the characteristics of patients seeking low vision care compared to those who are referred but fail to attend and to recognize the enablers to accessing low vision rehabilitation services. To develop, implement and evaluate new methods of improving uptake of low vision rehabilitation services.



Lauren Arancini

Predictors of successful tobacco smoking cessation.

Lauren's research is specifically looking at predictors of successful smoking cessation. She is currently running the NAC for smoking cessation clinical trial to determine the effects of N-Acetyl Cysteine on quit smoking behaviours.

**Melania Ashton**

Exploring factors that contribute to treatment response in bipolar depression.

Focus on bipolar disorder and the need for better treatment for the depressive phase of the illness. In July 2019, Melanie submitted her PhD thesis.

**Hajara Aslam**

The effects of different types of milk proteins on gut physiology: a randomised controlled trial of A2 vs conventional milk in women.

Hajara's PhD project is focused on assessing the effects of dairy products on gut microbiome and gut physiology.

**Nagendra Prasad Awasthi**

Role of non-canonical STAT5 signalling in development and its disruption.

The objective of the project is to investigate the alternative functional aspects of the transcription factor STAT5 in particular for blood and immune development, growth and metabolism as well as their disruption in diseases through the utilisation of zebrafish as an in vivo model system.

**Tarka Raj Bhatta**

Detection and characterisation of animal influenza and other viruses using next generation sequencing.

Tarka is using next generation sequencing to identify potential viruses (including influenza viruses) circulating in animals with a view to detecting viruses at an early stage, before they can cause an international pandemic threat.

**Bryce Thomas Blades**

A new role for Apolipoprotein E (ApoE) in brain metal regulation.

The aim of this research is to characterise the effect of ApoE on cellular copper regulation using a cell culture model of astrocytes and neurons and in doing so, identify new areas of focus for the development of Alzheimer's Disease therapeutic agents.

**Carly Botheras**

Understanding complications in Staphylococcus aureus bacteraemia.

Identifying associations from host and bacterial factors that could enable better understanding of complications and could possibly predict complications of Staphylococcus aureus bacteraemia.

**Behnaz Azimi Manavi**

Health and disease (H960).

With a Bachelor in Clinical Psychology and Masters in General Psychology, Behnaz's PhD project is about the effect of antipsychotic medications on bone mineral density (BMD).

**Christine Bacal**

Blood filtration using 2D nanoporous membranes.

Christine's project is about designing and fabricating membranes for blood purification.

**Tulika Basak**

Potential uses of bovine lactoferrin on Temozolomide-resistant glioblastoma.

Investigating the role of iron in glioblastoma (GBM); testing the effects of bovine lactoferrin, a natural milk protein, as an iron-chelator.

**Bakhtiar Bukari**

Brain-Bound Biologics: An Alternative Approach to Crossing the Blood-Brain Barrier.

This study looks into generating and developing aptamers or "chemical antibodies" against surface proteins of cerebrovascular endothelial cells to assist with therapeutics delivery across the blood-brain barrier.

**Vilasha Bulleeraz**

Disruption of cytokine signalling in leukaemia.

This thesis modelled two leukaemia-related mutations in zebrafish, providing new understanding of their biological effects and creating platforms for future testing of therapeutic agents to combat this lethal disease.

**Sara Campolonghi**

Exploring the perceived enablers and barriers for healthy food choices in parents.

Sara is exploring the views and experiences of Australian fathers, or individuals playing a fathering role, with children aged 1 to 12 years, about food and eating, personal food choices, the relationship between food and health, and the father's role in the family food context.



Sheetal Yogesh Chand

Current standing of molecular testing of MPN's in India; the correlation of various aberrations with haematological profile and its role in management of MPN patients.

The significance of molecular testing in MPNs and the detection of specific mutations with its haematological profile and patient characteristics impact disease management in an Indian study cohort.



Vinoomika Chandrasekaran

Bipolar disorder and bone health.

A growing body of research suggests that depressed individuals are more likely to have increased bone loss, often exacerbated by the consumption of selective serotonin reuptake inhibitors (SSRIs). Vinoomika's project, titled 'Bipolar disorder and bone health', aims to understand the association between bipolar disorder and bone health, and if associated treatments, such as anticonvulsants, affect this association.



Mohammed Mehadi Hassan Chowdhury

Zinc Ferrite Multifunctional Nanoparticles for Liver Cancer.

Zinc ferrite multifunctional nano-particles coupled with chemo-therapeutic agents comprise a promising imaging modality system for diagnosis of liver cancer and reveal excellent anticancer activity.



Darcie Cooper

Bacterial attachment and biofilms in prosthetic joint infections.

Understanding the effects of biofilm causing bacteria in prosthetic joint infections to aid in better diagnostic and treatment pathways.



Kayla Corney

Cognitive ageing and the interplay between biological, psychological and environmental factors.

This population-based project aims to establish the extent of poor cognitive function and different cognitive age trajectories in the Victorian population; a multi-factor model, which delineates cognitive ageing trajectories.



Stephanie Cowdery

Mood disorders and its association with cancer risk and associated mechanisms.

Stephanie utilises data from population-based studies and collaborations with registries both locally and internationally to determine the association between mood disorders and cancer risk and associated mechanisms.



Sharnel Clatworthy

Copper in prostate cancer: From basic science to therapeutic investigation

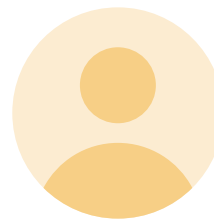
Characterising copper transporters in normal and cancerous prostates in mouse and human, with the hope of finding a therapeutic target for prostate cancer.



Jasmine Cleminson

Serotonin and Bone Metabolism

With the overarching aim of developing a better understanding of the effects of serotonin on bone, Jasmine aims to illuminate associations between diet, gut-health, depression, antidepressant use and bone outcomes, including fracture risk, utilising clinical data from epidemiological studies and human in vitro investigations.



Sam Collins

The associations between diet and common mental disorders.

Understanding and intervening/preventing adverse shifts in diet and mental health during emerging adulthood is important, as these shifts may increase risk for future mental health problems at individual and next-generation levels.



Jessica Davis

Interrelationships between the gut microbiome, sarcopenia and cognitive function in older adults.

Jessica's PhD focuses on the impact of dietary patterns and the microbiome on muscle health in older adults. She hopes that the results from this research will contribute to improving the quality of life in older populations through improvement of their physical health.



Samantha Dawson

Maternal and infant gut health.

Samantha hypothesises that it is possible to alter infant gut microbiota via the perinatal diet. She has designed and conducted a randomised controlled trial to test the efficacy of a perinatal educational dietary intervention in altering the gut microbiota of mothers and their infants measured at four weeks of age.



Lelia de Abreu

Dysglycaemia in women.

Lelia's project focuses on diabetes and pre-diabetes, all-cause mortality and skeletal morbidity in female participants of the Geelong Osteoporosis Study. In addition, she will also be determining risk factors for developing diabetes as well as investigating associations between fractures and health literacy.

**Rebecca Edgar**

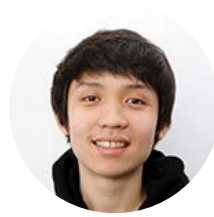
Characterising the aminopeptidases of *Plasmodium falciparum* as potential drug targets.

Rebecca's PhD aims to functionally characterise two aminopeptidases, PfA-M1 and PfA-M17, in order to validate them as targets for therapeutic intervention alongside a number of novel inhibitors being developed in an attempt to overcome the growing resistance of malaria parasites to currently used therapeutics.

**Izel Melissa Eraslan**

Validating RXFP3 as a promising pharmacological to treat stress-related mental illnesses.

Izel's project will help characterise neuroanatomical features of RXFP3 to gain insights into how this receptor controls stress within the brain and will test the ability of RXFP3-acting drugs to alter stress behaviours in mice.

**Mikha Gabriela**

Understanding the molecular mechanism of *Plasmodium* export complex.

Investigating how effector proteins interact with *Plasmodium* translocon of exported proteins (PTEX) in the context of red blood cell remodelling by malaria parasite.

**Liam Hall**

The role of amyloid beta 42 in heart disease.

Obesity significantly increases the risk of heart disease, however the underlying mechanisms of this are poorly understood. Liam's research aims to determine the role of the Alzheimer's disease protein amyloid beta 42 in the development of this condition and assess it as a potential therapeutic target to treat the disease.

**Qambar Hasan**

Regulation and assembly of Yeast Set1C (COMPASS).

Studying Set1C regulation and assembly in yeast may give important insight to help understand MLL type of human cancers.

**Somayyeh Heidary**

Function and regulation of STAT5 during development and disease.

This project will provide in vivo insights into the function of STAT5 and the gene regulatory networks under its influence. It will contribute greatly to the understanding of the molecular mechanisms underlying blood and immune cell development and function as well as growth and homeostasis in both health and disease.

**Yuan Gao**

Research on the maternal fecal microbiome and the offspring's non-communicable disease risk

The Barwon Infant Study (BIS). Mechanisms by which the maternal gut microbiome influences the risk of food allergy in offspring.

**Jessica Green**

The "Moving Moods" study.

Jessica's PhD will investigate the use of human microbiome transfer therapy as an adjunctive treatment for adults with major depressive disorder.

**Dr Lawrence Gray**

Maternal diet and the microbiome influence respiratory health in children. Barwon Infant Study.

Investigating the role of the maternal microbiome during pregnancy in offspring atopy and allergic disease.

**Justin Liam Henri**

EpCAM aptamers for the targeted delivery of a cytotoxic chemotherapy.

The use of DNA aptamers (chemical antibodies) to specifically deliver a common chemotherapeutic to well-established cancer biomarker overexpressed on ovarian cancer cells for the potential use as a targeted therapeutic.

**Meghan Hockey**

The relationship between dairy consumption and mood and cognition.

Meghan's project investigates the associations between the consumption of total dairy, fermented and non-fermented dairy products and depression.

**Gina Howland**

The PANIC Protocol: A randomised controlled trial to examine the effectiveness of dietary change compared to CBT for PTSD symptoms.

Gina's PhD project will include a systematic review, cross-sectional study and a randomised controlled trial. If a dietary intervention is shown to be efficacious in the reduction of PTSD symptoms, it could provide evidence for a pragmatic and cost-effective adjunct treatment strategy.

**Cuong Huynh**

Developing novel aptamers for effective cancer diagnostics.

Detecting and quantifying extracellular vesicles derived from cancer cells and blood using aptamers.

**Tara Johnson**

Understanding and addressing eHealth literacy barriers and enablers experienced by older adults in utilising digital resources to support wellbeing.

Tara's project will investigate the barriers and enablers experienced by older adults in utilising digital technology, with a particular focus on eHealth literacy. Tara will use the evidence generated by her project to inform a framework that will guide the development of technologies to ensure they meet the needs of older adults.

**Bianca Kavanagh**

Personality disorder as a moderator of psychiatric clinical outcomes.

Clinically, the treatment outcomes of those with comorbid personality and mood disorders will be examined to assess if the experience of co-occurring personality disorder limits the effectiveness of pharmacological treatments and functioning outcomes.

**Dr Yohanna Kusuma**

Influence of ethnicity on neuroimaging and clinical outcome post stroke.

The aims for this research project to investigate and establish the optimal threshold of rCBF correlates with final infarct volume for Asian populations. By using the accuracy of rCBF for measuring the size of the ischemic core precisely, it is postulated that this will lead to optimal reperfusion therapy, reduce the complication of HT and help clinical decision making during the acute phase.

**Melissa Lane**

Gut microbiota composition during and following dietary programs for weight loss in adults.

The aim of Melissa's research is to compare changes to gut microbiota composition following two types of very-low energy dietary interventions for weight loss in women with obesity: food-based versus supplement-based.

**Dr Ashani Lecamwasam**

The potential for novel biomarkers in diabetic chronic kidney disease.

Investigating the potential role for novel biomarkers in DNA methylation (epigenetics), metabolomics and the gut microbiome in people with diabetic chronic kidney disease.

**Umair Khalid**

Nuclear medicine theranostic applications in breast cancer.

Radiolabelled aptamers for thera-nostic approach in triple negative breast cancer and their metastasis in brain.

**Samuel King**

Characterisation of a Novel Peptide Inhibitor of Human Beta-site Amyloid Precursor Protein Cleaving Enzyme 1 (BACE1).

BACE1 is a promising target for therapeutic intervention in Alzheimer's disease; Samuel aims to characterise a novel pep-tide inhibitor of BACE1 by developing in-house techniques that will benefit future studies into therapeutics targeting BACE1.

**Smita Satish Kulkarni**

Retrospective Mutational Analysis of C-KIT and PDGFRA Genes in Gastrointestinal Stromal Tumors (GISTs).

This study will contribute to the existing knowledge of GIST management and retrospectively analyse the correlation between the mutation status and tumour responsiveness/or resistance to treatment.

**Michelle Manning Hutson**

Best practice case management in compensable injury.

Michelle's PhD research uses a mixed methods approach to help us understand how we can change insurance case management practices to improve physical and mental health outcomes after workplace injury.

**Melina Magsumbol**

Association of plasma lead (Pb) levels with incident hypertension in non-occupationally exposed participants of the Centre for Cardiometabolic Risk Reduction in South Asia Surveillance Study (CARRS).

Investigating the association of environmental Pb exposures to the development of hypertension in a representative sample of urban residents of New Delhi, India: A matched case-control study nested within a longitudinal, prospective cohort study of cardiometabolic disease.

**Girish Masand**

Design of therapeutic antibody formulations for subcutaneous delivery.

Cetuximab is an anti-epidermal growth factor receptor (EGFR) monoclonal antibody approved by the United States Food and Drug Association (USFDA) for the treatment of head and neck and colorectal cancer. The current administration of cetuximab is via intravenous infusion. This project aims to develop a high concentration formulation of cetuximab, which would be suitable for facilitating subcutaneous administration of the drug.

**Jake Mazur**

Natural therapeutics coupled with nanotechnology, advancing GBM treatment efficacy.

Investigating the increased efficacy of natural therapeutics in nano-formulations; possible brain delivery via nasal neuronal tracts.

**Jacob Tom McCann**

Beneficial effects of metformin in diabetes.

Throughout his PhD, Jacob will be looking at the mechanisms of action of metformin in beta cells and the use of hydrogel cell encapsulation to improve islet transplant outcomes.

**Kevin McEwen**

Drugs that recapitulate the exercise adaptive response to exercise.

Targeting HDAC-MEF2 interactions to enhance skeletal muscle metabolism.

**Ereeny Mikhail**

Patterns in ocular symptoms, signs and biosignatures in allergy.

A longitudinal study, which aims to monitor patients to identify patterns in symptoms, signs and bio-signatures and correlate these patterns with the allergens identified in air sampling.

**Dr Nicholas Paltoglou**

Comparison of shoulder arthroplasty between public and private hospitals in a regional setting.

To determine the role insurance status has on shoulder arthroplasty surgery, exploring impact on revision rate and functional outcomes.

**Bhavisha Patel**

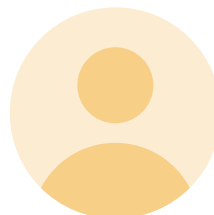
Aptamer-based targeted therapy to protect pancreatic beta cells from dysfunction.

Throughout her PhD, Bhavisha aims to explore targeted therapy of metformin, a known anti-diabetic drug, using aptamer technology to protect the important beta cells from further dysfunction in type 2 diabetes.

**Amelia McGuinness**

MICRO-SCOPE: A study of health, behaviour, gut microbiota and mental health.

The aim of Amelia's research is to investigate the inter-relationships between physical health, health behaviours and the gut microbiota, and their associations with mental health symptoms. She is also investigating the effect of the bowel prep process for colonoscopy on the composition of the gut microbiota, and subsequent gut health and mental health symptoms, and factors that influence gut microbiota re-establishment post-colonoscopy.

**Kanika Mehta**

Comprehensive multi-omic analysis to identify potential biomarkers of cognitive decline.

Kanika's PhD project involves identification of potential blood biomarkers of poor cognition.

**Snehal Midge**

Development of novel theranostic strategies to fight against breast cancer.

Currently striving towards developing a novel non-invasive diagnostic tool to detect breast cancer in the earlier stage.

Working along developing a targeted aptamer to capture the circulating biomarkers such as the extracellular vesicles in breast carcinoma.

**Shweta Shashikant Patel**

Aptamer-based molecular pathology of cancer.

This project aims to develop a rapid immunohistochemical technique for intra-operative diagnosis of cancer to determine the surgical margin of tumour.

**Jess Pedrina**

Investigating the role of ADAMTS proteoglycanases in influenza virus infection and immunity.

Investigating the role of enzymatic remodelling of the extracellular matrix in the immune response to influenza virus infection, to explore new therapeutic options.

**Cindy Pham**

Prenatal oxidant exposures and integration of mitochondriomics in childhood neurodevelopment.

Investigation of early life environmental exposures and biological pathways associated with childhood neurodevelopment disorders.

**Viet Cuong Pham**

Developing novel aptamers for effective cancer therapeutics.

Using robust aptamers for specific labelling, detecting and tracking cancer-derived extracellular vesicles.

**Ethan Pitman**

Dissection of the assembly and operation of the Plasmodium export machinery.

Teasing out the structure and function of the essential components that form the Plasmodium translocon of exported proteins, for possible use as future drug targets to combat malaria.

**Dr Thomas Quinn**

Understanding sequencing data as compositions.

Technological advances have made it possible to measure the relative amount of RNA present in any biological sample. When collected from clinical specimens, these measurements can be used as biomarkers for disease prediction and stratification. Thomas develops new algorithms that enable the study of these high-dimensional genomic data.

**Samantha Russell**

Primary and comorbid bipolar disorder and Post Traumatic Stress Disorder.

Exploring the pharmacological treatment factors and moderators of primary and comorbid bipolar disorder and PTSD.

**M. Amber Sajjad**

Acute health service utilisation in diabetes mellitus: a study in western Victoria.

IMPACT Institute student Amber Sajjad completed his PhD. Amber's project provided new insights into predictors of acute health service use in people with diabetes in western Victoria. It highlighted target areas for its prevention and improved primary care management to reduce reliance on the public hospital system.

**Nikhil Sudhir Sathe**

Development of a novel therapy using bacteriophages: An alternative to antibiotics for wound healing.

The aim of this proposal is to isolate bacteriophages from the environment, and investigate the anti-microbial activity of bacteriophages against multidrug resistant bacteria isolated from Indian hospitals.

**Sheena Bhanu Prakash Raju**

Factors involved in cardiomyocyte differentiation.

The project is to identify factors in cardiomyocyte differentiation with potential role in proliferation of cardiomyocytes.

**Dr Aarth Ramasamy**

Maturity onset diabetes of the young in India: Prevalence, clinical characteristics, complications, treatment and health-related quality of life.

Aarth's project aims to study the prevalence, clinical characteristics and treatment modalities of a rare, genetic cause of diabetes called MODY. The study centre will be Dr Mohan's Diabetes Specialities Centre, Chennai, South India.

**Pamela Rufus-Membere**

Bone material strength index: a new method for determining the material properties of bone.

Pamela's project involves the use of a device known as OsteoProbe®. It is a novel, hand-held device designed for clinical measurements of bone material properties in situ. The OsteoProbe® quantifies the ability of the bone to resist the growth of cracks giving a score called the Bone Material Strength index (BMSi).

**Elizabeth Senn**

Exploration of the relationship between maternal and infant microbiome and subsequent infant cognition at two years of age.

Investigation and comparison of the relationship between pre and postnatal microbial composition at four time-points (maternal microbiome at 28 weeks/infant microbiome at four weeks, six and 12 months) and infant cognition at two years of age.

**Mia Strom**

Generation of pan-reactive aptamers to hospital acquired infections.

Development of a novel and rapid detection system for hospital acquired infection-causing bacteria.

**Sophia Xin Sui**

Muscle power and brain power: opportunities for delaying dementia.

This project is designed to uncover how 'muscle power builds brain power', and will provide unique and much needed data for generating the evidence base to inform key health strategies for the prevention of cognitive decline in our ageing population.

**Monica Tembo**

Developing an understanding of musculoskeletal conditions in relation to frailty.

Monica aims to use existing frailty assessment tools to identify men and women with frailty from the Geelong Osteoporosis Study. She will also develop a novel risk factor profile that will determine the contribution of musculoskeletal factors to frailty. Her project will assist in developing a universally accepted definition of frailty and risk factor profile that can be translated into clinical use.

**Matthew Thackeray**

Assessment of muscle mass in Intensive Care Unit patients.

Through the use of existing data from dual-energy x-ray absorptiometry scans from The Geelong Osteoporosis Study (GOS) and a prospective study by Associate Professor Neil Orford, muscle mass in ICU patients will be from pre-admission to survivorship. This will provide further insight into the physical disability suffered by ICU survivors.

**Sathya Priya Thandavan**

Eye as a tool for the early diagnosis of cognitive decline: exploring lipidomics connection.

Study of associations between eye and cognitive decline through plasma lipidomics analysis: investigation of inflammatory lipid modulators and its associated enzymatic pathways for potential biomarkers of Alzheimer's disease.

**Madeline West**

Gut microbiota in anorexia nervosa and atypical anorexia.

Madeline aims to investigate changes in the microbiome during nutritional rehabilitation at a local inpatients facility. Knowledge acquired from this project will provide insights into the role of the gut microbiome in restrictive eating disorders and inform future nutritional treatments.

**Anna Withanage Dona**

Hypoallergenic variants of the major egg white allergens.

Hypoallergenic variants of all the major egg allergens for future use in diagnostics and immunotherapy.

**Claire Young**

Online dietary intervention targeting gut health for the treatment of depression – a feasibility study.

Claire's PhD research is focussed on looking at the best ways to engage people with common mental health problems in online interventions that promote dietary change.

**Phuong Nguyen Tran**

Microbiologically Influenced Corrosion (MIC): Uncovering the mechanisms and discovering inhibitors - biofilm and antimicrobial properties of new inhibitor compounds.

Phuong aims to understand the association between microbial behaviours and corrosion on mild steel at molecular level by looking at whole cell gene expression using transcriptomics sequencing.

**Abhirami Venugopal**

Identification and characterisation of novel markers in high-grade neuroendocrine tumour cells.

Study investigating the potential biomarkers for neuroendocrine tumours using patient samples.

**Jessy Vibin**

Metagenomics of viruses in Australian wild birds.

Jessy's project aims to characterise the virus community (virome) of Australian wild birds using a combination of novel molecular techniques and ecological information and thereby contribute knowledge towards controlling the risk from zoonotic viruses in wild birds.

**Realla Jones (MPhil)**

Application of immunodeficient zebrafish.

Realla's Master degree is aimed at characterising a zebrafish mutant based on the debilitating human severe combined immune-deficiency (SCID) and applying this to infection, immunity and transplantation studies and ultimately for testing of therapeutic agents.

**Jennifer Snowball (MPhil)**

Epigenetics of motor impairment in preterm infants.

The aim of Jennifer's project is to find epigenetic markers, specifically DNA methylation markers, that relate to motor impairment.

**Lara Voglsanger (MPhil)**

The role of RXFP3 in the brain-gut axis.

Uncovering RXFP3 mechanism of action in the mouse hypothalamus

Saad Mohammed Abdul Wahhab Al-Fad'am

Molecular investigation of the extra-gastric effect of *H. pylori* infection.

Saba Ansari

Investigating the link between MRI-assessed liver fat content and progression of prediabetes and gestational diabetes to type II diabetes.

Hridika Barua

Development of exosome-based liquid biopsy assay for early detection of cancer.

Michelle Bauer

Aptamers as molecular probes for diagnostic applications.

Rocky Chowdhury

Development of chemical antibody-drug conjugates for precision medicine.

Madeline Grace Dans

Identifying egress and invasion inhibitors in *Plasmodium falciparum*.

Kiran Deshmane

Identification of novel/rare mutations in Thalassemia patients in Indian population to recognize emerging trends in genetic make-up and study their clinicopathological characteristics.

Pooja Dixit

Development of non-hydrolytic oxidative protein/s for enhancement in saccharification of Lignocellulosic biomass.

Hao Fang

The role of IL-6 family signalling components in ovarian cancer.

Emma Hays.

Bioengineering a smart platform for therapeutic delivery into the brain.

Julia Kent

Assessing population connectivity of fish species in Victoria and South Australia.

Khadizatul Kubra

Alterations in glucose metabolism by glucose transporter during epithelial-mesenchymal transition promotes lung cancer.

Wasan Abbood Hassoon Naser

Role of CISH in development and homeostasis.

Tuong Ngoc-Gia Nguyen

Targeted delivery of exosomes in cancer treatment.

Sravana Kumar Pulipati.

Harnessing intracellular signalling for developing functional bioassay for anti-IL-17 antibody.

Timothy Poole

Investigation on the effects of allergens on cultured human neuronal cells.

Joshua Blair Price

Investigating stress and inflammation mechanisms of treatment resistance in depression.

Shimaa Shehata

Chemical antibody based molecular cancer medicine.

Smithamol Sithara

A b-cell specific global approach for drug identification in T2D.

Malini Subba Rao

Understanding the in vitro phagocytic activity induced by therapeutic antibodies.

Smitha Sudhakar

Determining the nature and roles of interacting proteins in multimeric RhopH complex of *Plasmodium* infected erythrocytes.

Sasha Zhao

The role of miRNAs in influenza virus pathogenesis and immunity.

Section 6

International visiting staff

IMPACT is always delighted to welcome visiting fellows, and this year was no exception.

We were pleased to host visiting scientists from countries including Brazil, Spain, Norway, Israel and France. Collaborations and partnerships form a critical element of the work at IMPACT, as does mentorship, both internally and externally, of the next generation of research leaders.

Professor Leigh Ackland's team hosted French scientist Dr Theo Risser. He had just completed his PhD at Université de Pau et des Pays de l'Adour, France at the Institute of Analytical Sciences and Physico-Chemistry for Environment and Materials (IPREM-UMR 5254) in the Environment and Microbiology team.

Prof Sean McGee's team member Prof Richard Page hosted Israeli Orthopaedic Surgical Fellow Dr Mohammad Ghadir for 6 months in 2019.



Visitors to Prof Michael Berk's team (L-R): Doctors Oscar Soto Angona (Spain), Nieves De Uribe Vilorio (Spain), Lise Tuset Gustad (Norway), Gerard Anmella (Spain).



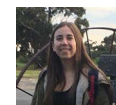
Dr Rodolfo Rehder
(Brazil)



Dr Alessandra Nunes
(Brazil)



Dr Christian Kieling
(Brazil)



Dr Anna Giménez
(Brazil)



Dr Mohammad Ghadir (Israel) working alongside Prof Richard Page and colleagues.

IMPACT Showcase

and other community engagement

The 2019 IMPACT Showcase

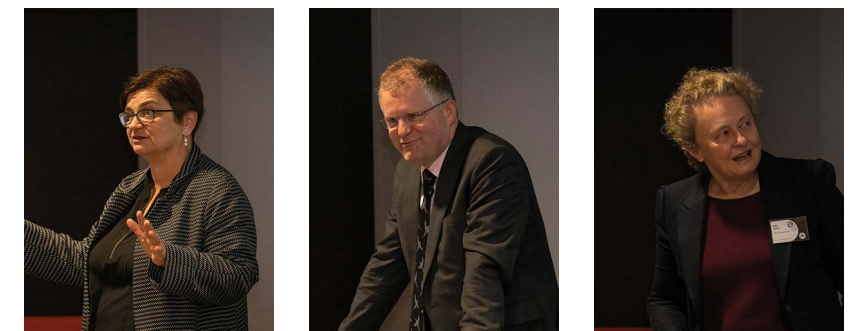


The 2019 IMPACT Showcase was held on September 11, a keystone event supporting the future merger of two of Deakin University's most productive strategic research centres - the centre for Innovation in Mental and Physical Health and Clinical Treatment (IMPACT) and the Centre for Molecular and Medical Research (CMMR). Historically, these two centres have conducted much of their research in close collaboration with Barwon Health. The formation of the new institute – the Institute for Mental and Physical Health and Clinical Translation (IMPACT), marks an important step for the future of research in the region.

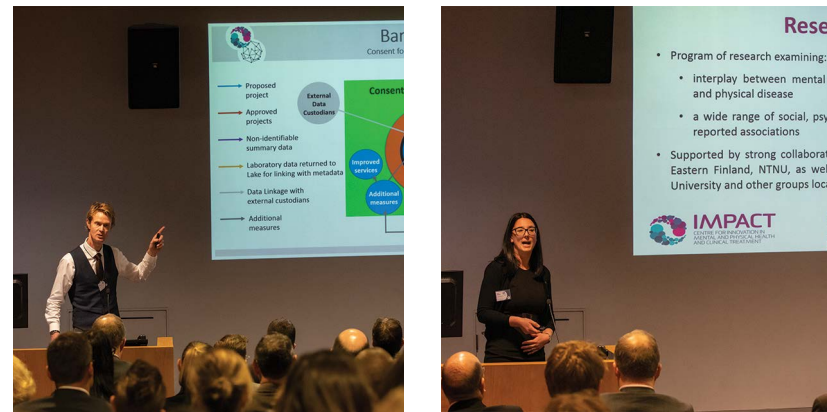
Proceedings kicked off with a welcome from the Institute's Scientific Director Professor Michael Berk and Deputy Director Professor Ken Walder. Their welcome was followed by words from Deakin University's Vice Chancellor Professor Iain Martin, and Barwon Health's Chief Executive Officer Frances Diver, who spoke of the ongoing excellence of research being conducted within the centres and the potential for continual collaboration to further benefit our communities. Deputy Vice Chancellor of Research Alfred Deakin Professor Julie Owens also spoke about research and innovation, and challenges and opportunities in the context of the institute.

Image top: Professor Ken Walder and Alfred Deakin Professor Michael Berk. (Photo credit: Donna Squire)

Images right (L-R): Barwon Health CEO - Frances Diver, Deakin University Vice-Chancellor - Professor Iain Martin, Deakin University Deputy Vice Chancellor Research - Alfred Deakin Professor Julie Owens. (Photo credit: Donna Squire)



Session 1 featured talks from a handful of senior researchers, including Professor Peter Vuillermin – who leads Barwon Infant Study (BIS) and is the Director of Research at Barwon Health; and Associate Professor Lana Williams – the Director of CONEXUS, and recent recipient of an NHMRC Investigator grant, among others.



The remainder of the day was filled with presentations by staff and students, presenting on clinical trials, molecular data, genetics studies, and longitudinal cohorts such as the Geelong Osteoporosis Study (GOS). In addition to a lunchtime poster session, the day concluded with an expert panel discussing career pathways in industry and academia with a scientific research background.



Images top: Professor Peter Vuillermin and Associate Professor Lana Williams. (Photo credit: Donna Squire)

Images left: Collection of images from the lunchtime poster session. (Photo credit: Donna Squire)

Following on from the success of last year's event, the 2019 Showcase boasted an attendance of approximately 150 people, over two dozen oral presentations, a professional development session and nearly fifty poster presentations. These two centres extend an invitation for all those interested to attend next year's showcase, and look forward to the official launch of the Institute in early 2020.



Image right (L-R): Mr Michael Betts (son of past-PDG Geoff Betts and Betty Betts), Ms Stephanie Cowdery recipient of the 2019 award, Ms Jasmine Cleminson recipient of the 2018 award, Professor Michael Berk, Mr Peter Monk.

The Past District Governor Geoff Betts and Betty Betts Annual Early Mental Health Researcher Award aims to recognise and support mental health research in the Geelong Region. It has been established by the Rotary Club of Geelong to acknowledge the sterling support PDG Geoff Betts has given to the Geelong community as a Rotarian for some 50 years and as a strong supporter and contributor to the Rotary Foundation and Australian Rotary Health.

The award is of \$3000 cash to assist the researcher and/or their team to further their research in mental health. The 2019/20 recipient was Stephanie Cowdery, PhD candidate.

Community and Research Network (CARN)

The Community and Research Network (CARN) is a network of health professionals, health consumers, researchers and interested community members, seeking to share their expertise and experience to promote good health and wellbeing for the community of Geelong.

The network offers opportunities for members to connect and collaborate to further both community and research activities. At bi-annual meetings, CARN members come together to present ideas, provide their thoughts and ideas to project development, and contribute to general discussion. Members also share exciting news and promote health-related events through the online network, social media and the CARN newsletter.

At the July meeting a newly appointed co-Chair Dr Sarah Hosking was introduced. She presented on the potentially important role of health literacy in mental health and the committee had a highly constructive

discussion with network members around this topic, receiving feedback to inform future work in this area. As of 2019 CARN is run by a central committee. This committee includes:

Co-chairs Adam Walker and Sarah Hosking:

Adam and Sarah lead the committee and provide a point of contact for most CARN members. They organise and chair CARN meetings, develop and distribute the CARN newsletter, share upcoming events and other network news, and engage new members.

Secretary Alcy Meehan:

Alcy supports the work of the committee by assisting in the development of newsletter content and other CARN materials, taking minutes at CARN meetings and promoting CARN.

Student Liaison Tara Johnson:

Tara is the research student voice within CARN and provides a link between CARN

and the Honours and PhD students of IMPACT Institute.

Founding member Olivia Dean:

Olivia established the CARN in 2013, chairing the network until 2017. She remains an active committee member providing an auxiliary role in regards to network membership, meetings and content.

Beyond the central committee, CARN has over 60 valued community members from a range of organisations around the Greater Geelong region. In 2019 CARN welcomed representatives from: Ambulance Victoria, First State Super, the Rotary Club of Drysdale, Corio Lions and the Health Literacy Working Group for Barwon Health MHDAS.



The CARN Central Committee (L-R): Tara Johnson (student liaison), Alcy Meehan (secretary), Sarah Hosking (co-chair), Adam Walker (co-chair) and Olivia Dean (founding member).

Community Events in 2019

Connected Communities during Mental Health Month

Mental Health month – October – saw a range of activities run as part of the Art of the Minds Festival. Led by longstanding CARN member Jules Haddock, these activities focussed on engaging the Surf Coast Shire and surrounding regions in educational and creative community events in a bid to raising awareness for mental health.

Of particular note was the Connected Communities event, held at the Grant Pavilion, Torquay on October 23. This well-attended education day included presentations from a number of speakers, including IMPACT researcher and CARN co-Chair Sarah Hosking, who spoke to the audience about her research into health literacy and mental health in Geelong. To cap off this brilliant event, afternoon mindful workshops ensured that attendees all left with calm smiles on their faces!



CARN co-Chair Sarah Hosking presents at the Art of the Minds Connected Communities event.

Answering questions on World Bipolar Day

To celebrate World Bipolar Day, IMPACT hosted their third annual 'ask-me-anything' panel session Questions Unanswered on April 1 at the Geelong Library & Heritage Centre. The event aimed to further promote awareness of bipolar disorder, eliminate the social stigma surrounding mental illness, and provided an update on research taking place.

Event proceedings opened with words from award-winning playwright, mental health researcher, and former Victorian politician - Neil Cole. His address was followed by stirring presentations from world leader in bipolar research and Director of IMPACT Professor Michael Berk, Chief Executive Officer of Headspace Jason Trethowan, and expert by experience Matthew Dale.

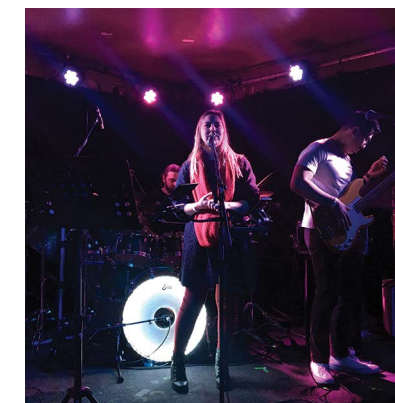


Panel members answer audience questions at the 'Ask Me Anything' event – from left to right; Neil Cole, Michael Berk, Matthew Dale, Jason Trethowan and event chair Olivia Dean.

Supporting local Musicians, and local Mental Health Research

The Geelong Music Community Collective (GMCC) continued to raise awareness and support for mental health in addition to raising funds for student travel awards. This collective of local Geelong musicians, established in 2017, continued their support in 2019 via a series of live music performances held at the Barwon Club Hotel. Events included: Pavlova Fight! Oz & Kiwi Tribute Night, April 14; Queen - A Kind of Magic, July 21; The Call of Cthulhu - Metallica Tribute Night, October 6, and an Americana Tribute December 8.

The proceeds from these events fund the Dean McInnes Student Travel Awards. These awards provide local student researchers within the field of mental health travel funding to attend scientific conferences, network with other scientists and present their findings.



CARN founding member Olivia Dean on stage at the July GMCC event. (Photo credit: Patrick Callow)



Vale

Mishka Jules McIntosh
13 July 1972 - 27 February 2020

Mishka McIntosh was committed to bringing together consumer priorities, clinical services and research opportunities. IMPACT expresses condolences to the McIntosh Family, in particular Pamela, who continues to work towards better opportunities for carers of people with mental illness. We thank Mishka for his participation in our research activities, being an active member of the Community and Research Network, reliably updating carers through the carer newsletter, in addition to many other things. Mishka was always open-minded, kind-hearted, helpful and pragmatic. We value all of the contributions he has made to the research being conducted at IMPACT.



Geelong Music Community Collective GMCC

Since 2017 local Geelong musicians have been contributing towards improving mental health in a very special way. The Geelong Music Community Collective (GMCC) was established following the passing of Chris Cornell. An event was put together to pay tribute to Chris' life, music and to promote mental health and looking out for one another.

From that initial event, 15 events have subsequently been run, including a wide variety of different genres from Queen to Numetal. The events bring together the Geelong community and promote mental health awareness.

One of the GMCC founding members, Stuart Caldwell, said "Musicians are amongst the highest represented people when it comes to mental illness, so supporting the amazing work being done by the IMPACT researchers is a cause we can truly take ownership of, and one that we can share and promote with genuine passion."

Additionally, the GMCC decided to raise money to fund research awards for local postgraduate

students. The Barwon Club Hotel hosts the event at no cost and the ticket sales are donated directly to IMPACT to support the Dean McInnes Student Travel Awards, named after the late Dean McInnes, a GMCC founding member. Since beginning in 2017, the GMCC has raised over \$10,000 that has provided 11 national and international student travel awards.

This funding allows students to promote their research more broadly and network with relevant researchers, ultimately to provide better outcomes for people with mental illness.

IMPACT would like to recognise the contributions of the GMCC, The Barwon Club Hotel, Don't Poke the Bear and all of the other volunteers who have donated to these events.

Artwork credits

GMCC logo: Adam Giles
GMCC event poster art: Bridie Coughlin



Awards

Barwon Health Chair of Psychiatry Michael Berk has been recognised as a world-leading scientist at the 2019 Victoria Prize and Fellowship Awards.

The Deakin University, Alfred Deakin Professor of Psychiatry was awarded the \$50,000 Victoria Prize for Life Sciences, acknowledging his research into risk factors, novel therapies, and effective treatments of psychiatric conditions, such as bipolar disorder.

Professor Berk, who is also a National Health and Medical Research Council senior principal research fellow, leads Deakin's multidisciplinary research institute, IMPACT, which has discovered new treatments for people with complex mental health disorders.

He said he was surprised, delighted and humbled to receive the award this week, describing it as recognition for his research team.

"I think it's a huge achievement for mental health, for regional Australia, for Deakin and Barwon Health," Professor Berk said.

"It's recognition that our large team has produced a body of work that will hopefully impact the population's health. Research is the ultimate team sport and nobody could do this on their own."

Professor Berk said IMPACT's clinical trials team had made significant discoveries to treat depression and bipolar disorder in new ways.

"We have effective treatments but not everybody responds to them, so there's a huge unmet need and our focus is on treatment, because ultimately when people are unwell that's what they're looking for. Treatment does more than treat the symptoms – we know it's the most effective anti-suicide strategy and it's an essential anti-stigma strategy. The stigma of leprosy didn't go away because of campaigns; it went away because of antibiotics."

In a career spanning more than three decades and more than 1000 papers, the Victoria Prize described Professor Berk's research as improving the

industry's understanding of mental illness, to the extent that Thompson Reuters lists him as one of the world's most influential scientific minds.

Minister for Jobs, Innovation and Trade, The Hon. Martin Pakula announced the 2019 award winners, calling The Victoria Prize for Science and Innovation "the State's most prestigious award for life sciences and physical sciences, acknowledging individuals who are leaders in their field".



L-R: Professor Michael Berk (recipient of Victoria Prize for Life Sciences), The Hon. Martin Pakula MP (Minister for Jobs, Innovation and Trade) and Professor Anthony Burkitt (recipient of Victoria Prize for Physical Sciences).

- James Armitage: Best Paper of the InSITE 2019 Conference for the paper entitled “Implications of Updating Digital Literacy; A Case study in an optometric curriculum”. The full team comprised A/Prof Jo Coldwell Neilson, Dr Ryan Wood-Bradley, Mr Blair Kelly, Prof Alex Gentle and Prof James Armitage.
- Melanie Ashton, Samantha Dawson, Madi West, Claire Young and Stephanie Cowdery: GMCC Dean McInnes Student Travel Awards.
- Eugene Athan: IMPACT Symposium Best Oral presentation - “Reduced incidence of IDU associated IE with Chlorhexidine a public health intervention”.
- Eugene Athan: Barwon Health Best Care Awards to Department of Infectious Disease “Sepsis Project” Winner of: Top 3 awards - Board award, Most Effective, Best Project.
- Anthony Chamings: School of Medicine travel award worth \$4000 to attend to the American Society of Virology Conference in Minneapolis, USA in July 2019 and give a presentation titled: “A recombinant human parechovirus type 3 was the predominant virus implicated in epidemics in Australian children between 2013 to 2018”.
- Kayla Corney: The Australian Rotary Health/Bing Taylor PhD Scholarship in Dementia.
- Stephanie Cowdery: Geoff Betts and Betty Betts Early Mental Health Researcher Award through The Rotary Club of Geelong.
- Samantha Dawson: won the Medical School's Three Minute Thesis Competition 2019. She spoke of her PhD work, which included her BIS work looking at associations between maternal gut microbiota during pregnancy and emotional



Image left: Associate Professor Olivia Dean (right), Telstra Finalist.

- and behavioural dysregulation in children at two years.
- Olivia Dean: 2019 Telstra Business Women's Award Finalist – Victoria Public Sector and Academia.
- Dan Dlugolenski: Dean's Research Postdoctoral Fellowship, Faculty of Health, Deakin University 2019-20 (Stambas lab).
- Somya Mehra (Bioinformatician Research Assistant in A/Prof Alyssa Barry's lab at Burnet and visiting scientist, Deakin Uni) 2020 Fulbright Future Scholarship (funded by the Kinghorn Foundation) for research exchange at the Harvard T. H. Chan School of Public Health.
- Lisa Olive: 2019 - Australian Psychological Society Health College Travel Award.
- Lisa Olive: 2019 - Australian Psychological Society Health College Best Presentation Award.
- Liz Senn: Deakin University School of Medicine HDR Symposium (2019) – poster presentation (awarded best poster).
- Brodie Tweeddale: Deakin Faculty of Health Honours Project Publication Award - Supervisor E Athan – “Treatment of Buruli ulcer”.
- Jessy Vibin: Best presentation award. Deakin University School of Medicine HDR Student Symposium on June 06, 2019. Oral presentation on “Australian wild ducks carry genetically different viruses and viruses with potential cross-species transmissibility”. 2019.
- Lana Williams: 2019 Vice Chancellor's Mid-Career Researcher Award for Career Excellence.
- Lana Williams: NHMRC Investigator Grant.

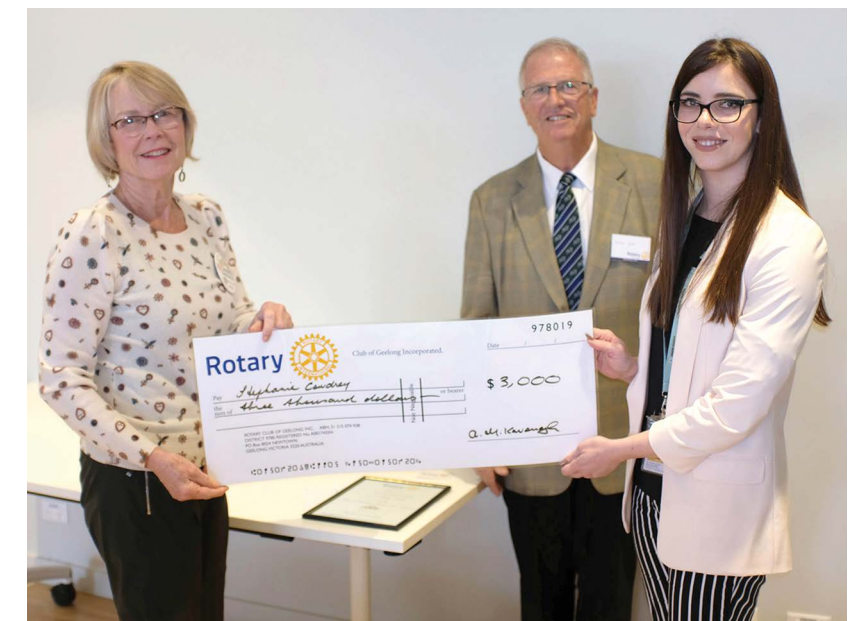


Image right (L-R): Rotary Geelong President Ms Anne Kavenagh, Mr Michael Betts, Ms Stephanie Cowdery.

Funding

Grants - new and ongoing

- NHMRC Synergy (APP1182301).**
Solving the long-standing evidence-practice gap associated with cardiac rehabilitation and secondary prevention of coronary heart disease (SOLVE-CHD). Redfern J, Briffa T, Gallagher R, Jennings G, Bauman A, Wood D, Ratcliffe J, Brieger D, O'Neil A. \$5,000,000.00. 2020-2024.
- NHMRC (APP116530).**
Australian Partnership (for) Preparedness Research on Infectious (disease) Emergencies (APPRISE). Lewin S, Sorrell T, McVernon J, Webb S, Kaldor J, Andrews R, Cheng A, Gilbert L, Smith D, Alexandersen S. \$5,000,000.00. 2016-2021.
- ARC, IC170100022.**
ARC Training Centre for Innovative BioEngineering. Zreiqat H, Suaning G, Feng D, Berndt C, Li Q, Dunstan C, Kim J, McEwan A, Chandrawati R, Li JJ, Kumar A, Fulham M, Al Muderis M, Rutkove S, Smith W, Kappelt G, Sadeghpur M, Lu W, Williams R, Nisbet D, Ivanova E. \$4,420,408.00. 2018-2023.
- NHMRC (APP1152807).**
Controlling Buruli ulcer. Athan E, O'Brien D, Stinnear T. \$3,000,000.00. 2018-2021.
- Australian Research Council (ARC). (IH170100013).**
Research hub for digital enhanced living. Grundy J, Venkatesh S, Mouzakis K, Hutchinson A, Berk M, Maddison R, Kouzani A, Vasa R, Yearwood J, Wickramasinghe N, Phung D. \$2,962,655.10 over 5 years. 2017-2021.
- Wellcome Trust.**
Berk M. \$2,700,000.00. 2020-2025.
- NHMRC Centres of Research Excellence Grant (APP1153607).**
CREDIT: The CRE for the development of innovative therapies for psychiatric disorders. Berk M, McGorry P, McNeil J, Malhi G, Jacka F, Cotton S, Walder K, Dean O, Williams L. \$2,497,157.50. 2019-2024.
- NHMRC (APP1079102).**
Australian Centre of Excellence in Twin Research. Hopper J, Craig JM, Simpson S, Ferreira P. \$2,475,361.00. 2015-2019.
- MRFF - Research Grants. MRF1169845.**
The Candesartan Adjunctive bipolar DEpression Trial – CADET. Berk M, Malhi G, Ng C, Hopwood M, Fernandes B, Gwini S, Amerena J, Chatterton M-L, Suppes T, Williams L. \$2,428,397.10. 2019-2022.
- NHMRC Project Grant (APP1138736).**
A randomised controlled trial of low-dose ketamine in youth with severe depression and elevated suicide risk. Davey C, Loo C, Cotton S, Glozier N, Baune B, Amminger P, Harrison B, Hermens D, Somogyi A, Martin D, Rodgers A, Lagopoulos J, Schmaal L, Berk M. \$2,232,756.74. 2018-2021.
- NHMRC Project Grant (APP1125778).**
The efficacy of N-acetyl cysteine as an adjunctive treatment for first episode psychosis. Cotton S, Dodd S, Wood S, Allott K, Bartholomeusz C, Bortolasci C, O'Donoghue B, Ratheesh A, Berk M (AI). Partner led grant. \$2,143,069.40. 2017-2021.
- Active Early Learning.**
Developing physical literacy in Australian early learning centres. Telford, R, Telford RD, Olive L. \$1,961,000.00, 2019-2021.
- NHMRC Research Grant (APP1152063).**
MRFF Research Grant. A randomised controlled trial of N-Acetyl Cysteine for premanifest Huntington gene expansion carriers (NAC-preHD). Loy C, Berk M, Stout J, Scahill R, Hannan A, Panegyres P, Teixeira-Pinto A, O'Sullivan J, Glikmann-Johnston Y, Kapp R. \$1,868,170.70 over five years. 2018-2023.

- NHMRC Project Grant (APP1128147).** The N-ICE trial: A randomised controlled trial of the safety and efficacy of N-Acetyl Cysteine (NAC) as a pharmacotherapy for methamphetamine ('ice') dependence. McKetin R, **Dean OM**, Lubman D, Dietze P, Higgs P, Kelly P, Turner A, Quinn B, Carter G, Berk M (AI). \$1,610,722.40 over 3 years. 2017-2019.
- NHMRC Project Grant (APP1128626).** Randomised controlled trial of the RECOVER tailored psychological intervention for first episode bipolar disorder. **Berk M** (AI) et al. \$1,550,290.70. 2017-2022.
- NHMRC (GNT1180825).** The Candesartan Adjunctive Major Depression Trial - CADET: A double-blind, randomised, placebo-controlled trial. **Berk M**, Malhi G, Ng C, Hopwood M, Fernandes B, **Gwini S**, Amerena J, **Chatterton M-L**, **Williams L**. \$1,532,880.02. 2020-2025.
- NHMRC (APP114333).** Quantifying the role of epigenetic factors in neurocognitive outcomes: a twin study. **Craig JM**, Seal M, Silk T, Burnet A, Theda C, Scurrah K. \$1,495,848.00. 2017-2021.
- NHMRC(APP1102018).** A randomised phase II study of Nab-paclitaxel in combination with Carboplatin as first line treatment of gastrointestinal Neuroendocrine Carcinomas (NABNEC). Khasra, M, Lipton L, Chantrill L. Hoffman M, **Ackland ML**. \$1,393,082.86. 2018-2021.
- Deakin University DVCR's Transformative Infrastructure call.** Consent for Systematic Excellent (CSE). **Vuillermine P** et al. \$1,376,623.00. 2019.
- NHMRC Project Grant (APP1121510).** The efficacy of adjunctive garcinia mangostana linn. pericarp for bipolar depression: A 24-week double-blind, randomised, placebo-controlled trial. **Dean OM**, Berk M, Ng C, Dodd S, Hopwood M, Turner A, Jacka FN. \$1,227,271.60 over 4 years. 2017-2020.
- NHMRC (APP1164212).** A longitudinal population-based study of the development of cardiovascular risk in early childhood, Burgner D, Saffery R, Juonala M, **Ponsonby A-L**, Lawlor D, Netea M, Collier F, Vuillermine P (AI). \$1,217,906.60. 2019-2024.
- NHMRC Investigator grant (APP1174060).** Understanding the interplay between mental disorders, treatment regimens and physical disease. **Williams LJ**. \$1,188,332.20. 2020-2024.
- NHMRC Project Grant (APP1139125).** Quitlink: Accessible smoking cessation support for people living with severe and enduring mental illness. Baker A, Borland R, Bonevski B, Castle D, Williams J, Segan C, Kelly P, **Turner A**, Brophy L, Sweeney R. \$1,141,189.00. 2018-2023.
- NHMRC (APP 1161066).** The genetic determinants of antigenic escape in malaria parasites. **Barry A**. \$1,136,938.38. 2019-2022.
- NHMRC Project Grant (APP1122189).** The pubertal onset of mental disorders and early substance abuse. **Jacka F** (AI) et al. \$1,118,072.40. 2017-2020.
- NHMRC Project Grant (APP1102097).** Improving quality of life in late stage bipolar disorder: RCT of a novel psychological treatment. Berk M (AI). \$1,083,620.20. 2016-2019.
- NHMRC MRFF Clinical Trials and Registries Funding (APP1152317).** A randomised placebo-controlled trial of combined mitochondrial agents for the treatment of fatigue and depression in multiple sclerosis with an assessment of the impact on kynurenine pathway metabolomics. Ponsonby A-L, Lucas R, Taylor B, van der Mei I, **Jacka F**, Fernandes B, Broadley S, Lechner-Scott J, Vukcevic D, Christodoulou J, Mason D, Butzkueven H, Berk M (AI), Macdonnell R. \$1,055,383.40. 2018-2020.
- The Wilson Foundation.** For research linking the human gut microbiome to mental and brain health. **Jacka F**. \$1,000,000.00 over five years. 2018-2023.
- NHMRC Project Grant (APP1129815).** A randomised controlled trial of NMDA antagonist, Memantine, for the treatment of borderline personality disorder. **Berk M** (AI) et al. \$993,067.30. 2017-2019.
- NHMRC Project Grant (APP1098442).** N-Acetyl Cysteine In Schizophrenia Resistant to Clozapine: A Double-Blind Randomised Placebo-Controlled Trial Targeting Negative Symptoms. **Berk M** (AI), **Dean O** (AI) et al. \$981,788.85. 2016-2019.
- De Puy-Synthes Educational Grants.** Geelong Shoulder and Upper Limb Fellow (AOA Accredited - held by SJOG). **Page RS**, Eng KE, Brown GD. \$980,000.00. 2006-2020 (ongoing).
- NHMRC (APP1147980).** Maternal carriage of Prevotella during pregnancy influences offspring innate immune responses and asthma at age 7. **Vuillermine P**, Macia L, Sly P, Mackey C, Ranganathan S, Collier F. \$904,140.80. 2018-2021.
- NHMRC Established Career Fellowship (APP1156072).** Novel therapies for psychiatric disorders **Berk M**. \$888,270.00. 2019-2023.
- NHMRC Project Grant (APP1104460).** N-Acetyl Cysteine in the adjunctive treatment of obsessive-compulsive disorder: A 16-week, double-blind, randomised, placebo-controlled study. **Berk M** (AI). \$850,448.20. 2016-2019.
- NHMRC (APP1139153).** Role of plasmepsin V and PTEX complex in plasmodium liver infection. Boddey J, **de Koning-Ward T**, Rogers K, Kneteman N. \$848,408.00. 2018-2020.
- NHMRC (APP1082307).** The relationship between maternal and infant dietary intake of fermentable fibre, etc - A population derived birth control study. **Vuillermine P**, Ponsonby A-L, Allen K, Tang M, Saffery R, Zhang Y, Nelson K, Topping D, Conlon M. \$843,749.00. 2015-2019.
- NHMRC (APP1141906).** Transcriptional effectors of oncogenic ERK signalling in colorectal cancer. **Dhillon AS**, Mariadason JM, Tebbutt N. \$820,766.00. 2018-2021.
- NHMRC (APP 1163420).** Defining host and parasite mechanisms that drive asymptomatic malaria. **Barry A**, Robinson L, Tsuboi T, Kazura J. \$804,477.22. 2019-2021.
- NHMRC (APP1147970).** Investigating early life exposures to plastic products in Australia and subsequent neurodevelopmental effects. **Ponsonby A-L**, Dewey D, Mueller J, Vuillermine P (AI), \$780,450.60. 2018-2020.
- NHMRC (APP1163238).** Role of protein kinase D in adiposity and the regulation of body weight. **McGee SL**, Andrews ZB. \$766,308.00. 2019-2021.
- NHMRC (APP1136602).** Establishing a blood-based biomarker panel for pre-clinical Alzheimer's disease. **Gupta V**. \$716,778.00. 2018-2021.
- NHMRC(APP1128975).** The role of novel and essential bromodomain proteins in coordinating malaria parasite gene regulation and their potential as anti-malarial targets. Duffy M, **de Koning-Ward TF**, Knapp S. \$689,034.00. 2017-2019.
- NHMRC (APP1165801).** Pharmacological modulation of the relaxin-3/RXFP3 neuropeptide system for controlling feeding. Rosengren KJ, **McGee SL**, Bathgate R. \$266,779. Gundlach A, **Smith C**. Total: \$689,187.00. 2019-2021.
- NHMRC (APP1141724).** Neural regulation of salt intake. Lawrence A, **McGee SL**, Smith CS. \$30,000.00. Total: \$680,585.00. 2018-2020.
- NHMRC Project Grant (APP1124356).** New treatments for Huntington's disease. **Berk M** (AI). \$647,034.00. 2017-2019.
- NHMRC (APP1127059).** The role of GAPDH acetylation and HDAC6 in liver metabolism and type 2 diabetes. **McGee SL**, Bruce CR, White FM, Walder K. \$635,428.00. 2017-2019.
- NHMRC (APP1128198).** Functional resolution of PTEX, the exporter of virulence factors in malaria parasites. Crabb BS, Beddoe T, **de Koning-Ward TF**, Gilson PR. \$625,212.00. 2017-2020.
- NHMRC (APP1136300).** Infection of malaria parasites with their host. **de Koning-Ward T**. \$640,210.00. 2018-2022.
- NHMRC (APP1144996).** Biomaterials for the direct reprogramming of reactive astrocytes into functional neurons. **Williams R**, Parish C, Nisbet D, Harvey A. \$639,327.41. 2018-2021.
- Sport Australia. Move it Aus Grant.** The PEPL approach to developing early physical literacy through PE and sport: A state-based rollout model. Telford RD, Telford R, **Olive L**. \$600,000.00. 2020.
- NHMRC Project Grant (APP1125429).** Healthy living after stroke: An online intervention for improving stroke survivor health behaviours and quality of life. Bonevski B, Spratt N, Pollack M, Baker A, Magin P, **Turner A**, Oldmeadow C, Collins C, Callister R. \$590,958.24. 2017-2019.
- ARC Discovery (DP190103081).** Targeting the genome and epigenome of the exercising skeletal muscle. Eynon N, **Craig JM**. \$575,000.00. 2019-2020.
- NHMRC (APP1087290).** Novel biocompatible nickel-free shape memory alloy scaffolds for biomedical applications (NHMRC Project Grant administered by RMIT). Wen C'E, Atrons A, Li Y, **Kanwar J**. \$569,000. 2015-2019.
- NHMRC (APP1179330).** Protecting the mental health of small-medium enterprise owners: evaluating real-world approaches to mental health first aid and client-relationship building training for small business advisers, Noblet A, Tanewski G, **Berk M**, **Walker A**, LaMontagne A, Reavley N, Nielsen K. \$559,073.00. 2019-2021.
- NHMRC Project Grant (APP1162867).** Antipsychotics and osteoporosis: Mechanisms and clinical consequences. **Williams LJ**, **Pasco JA**, **Hodge J**, Gibert Y, Laudet V. \$550,096.80. 2019-2021.

- Heart Foundation (110160).** Improving the mental health of Australians following heart attack. Heart Foundation Future Leader Fellowship. **O'Neil A**, \$520,000.00. 2017-2022.
- Fernwood Fitness sponsorship.** Postdoctoral Research Fellowship and associated support. **Jacka FN**. \$509,770.00. 2017-2020.
- NHMRC (APP1158951).** The role of extracellular matrix enzymes in influenza virus infection. **Stambas J**, Tripp R, Apte S. \$502,127.00. 2019-2021.
- NHMRC Career Development Fellowship R.D. Wright Biomedical (CDF Level 2) (APP1145634).** Integrated exploration of novel therapies for depression. **Dean OM**. \$476,728.00. 2018-2021.
- NHMRC Career Development Fellowship (2) (APP1108125).** Diet and mental health: Translating new knowledge into innovative prevention and treatment strategies. **Jacka FN**. \$463,652.00. 2016-2019.
- NHMRC Early Career Fellowship (APP1156909).** Lifestyle strategies for the prevention of common mental disorders: A community-based systems approach. **Hoare E**. \$417,192.00. 2019-2022.
- NHMRC Career Development Fellowship (APP1064272).** Psychiatric disorders, psychotropic agents and bone health: From bench top to bedside. **Williams L**. \$404,884.00. 2014-2020.
- A2 Dairy Company.** A randomised controlled trial of A2 vs conventional dairy in Australian women. **Jacka FN**. \$400,000.00 (approx). 2017-2020.
- ARC (DP180101465).** Multifunctional and environmentally friendly corrosion inhibitor systems. Forsyth M, Somers A, **Ackland ML**, Suarez, LM Terryn H. \$392,952.00. 2018-2020.
- ARC (DE160100900).** Smart aptamer-guided nanoexosome as a novel biotechnology platform. **Tran P**. \$366,000.00. 2016-2021.
- NHMRC (APP1149047).** Identifying novel lipid and genetic signatures of Metabolic disease in early childhood. Meikle P, Kamani N, Burgner D, Wenk M, Kingwell B, Wong G, Saffery R, Ponsonby A-L, **Vuillermin P**, Sendhil Velan. \$349,696.80. 2018-2020.
- NHMRC Project Grant (APP1104438).** Bone health in bipolar disorder. **Williams LJ**, Pasco JA, Maes M, Hodge JA, Brennan Olsen SL. \$329,033.60. 2016-2019.
- NHMRC Early Career Fellowship (APP1158487).** 'Cardiometabolic disease prevention and early intervention: Identifying pathways to better health. **Olive L**. \$327,192.00. 2019-2023.
- NHMRC (APP1165233).** Using social media data to identify markers of depression risk among individuals: A longitudinal cohort study. O'Dea B, Larsen M, Venkatesh S, Phung D, Glozier N, **Berk M** (AI). \$324,452.40. 2019-2021.
- ARC (0000018127 DP18).** Genomic diversity, tolerance and ecology of wildlife disease. Bennett A, **Alexandersen S**, Berg M, Edwards S. \$318,422.00. 2018-2020.
- Bourne Foundation.** Improved detection of neuroendocrine cancers. **Ackland ML**, Michalczyk, A, Callahan, D, Khasraw M. \$300,000.00. 2019-2021.
- ARC Linkage (LP 180100035).** Gender Equality in Australia: impact on social, economic and health outcomes. Milner A, Kavanagh A, Hewitt B, Bentley R, **O'Neil A**, King T, Sojo V., \$297,000.00. 2019-21.
- NHMRC (APP1166319).** Manipulating the maternal and infant microbiome to prevent immune related disease. **Vuillermin P**. \$290,044.00. 2019-2023.
- SJOG Health Group (PJ00973).** SJOG Orthopaedic Research Fellow. **Page RS**, **Gill S**. \$231,817.00. 2017-2020.
- NHMRC (APP1141906).** Transcriptional effectors of oncogenic ERK signalling in colorectal cancer. **Dhillon AS**, Mariadason JM, Tebbutt N. \$205,191.00. 2019-2021.
- AMP Foundation.** Stroke Association of Victoria. The stay at work initiative. **Turner A**, Smith H. \$200,000.00. 2017-2019.
- DFAT (1153241).** Stronger surveillance and systems support for rapid identification and containment of resurgent or resistant vector borne pathogens in Papua New Guinea. Robinson L, Laman M, Mueller I, Lavu E, John L, Karl S, Morgan C, **Barry A**, Fowkes F, Beebe N. \$200,000.00. 2018-2021.
- Victorian Medical Research Acceleration Fund.** Development of new exercise mimetics for better treatment of metabolic and heart diseases. **McGee SL**. \$200,000.00. 2019-2020.
- Defence Health Foundation Grants for Medical Research.** A trial of N-acetylcysteine for Post-Traumatic Stress Disorder that has not improved with normal treatment. Booster grant for 3 years. Kanaan R, **Berk M**, Back S, Redston S. \$192,816.00. 2017-2020.
- Deakin University. Alfred Deakin Postdoctoral Fellowship.** Reducing gastrointestinal symptoms in patients with depression or anxiety: is diet therapy feasible and efficacious? **Staudacher HM**. \$182,589.00. 2018-2021.
- Deakin University.** Alfred Deakin Postdoctoral Fellowship. Do technical variations in Latarjet shoulder reconstructions impact shoulder joint loading? **Page RS**, **Gill S**, Bonacci J, Fox A. \$182,589.00. 2019.
- CSIRO.** One Health Training Centre. **Alexandersen S**, **Chamings A**. \$170,000.00. 2017-2019.
- Department of Education, South Australia.** Implementation and efficacy of the South Australia PEPL approach for improving youth physical literacy. Telford R, Telford RD, **Olive L**. \$150,000.00. 2020.
- Waterloo Foundation Child Development Grant.** The microstructural basis of DCD and its co-occurrence with ADHD: an advanced constrained deconvolution investigation. Silk T, **Craig JM**. \$145,000.00. 2018-2019.
- Jack Brockhoff Foundation Early Career Medical Research Grant #4334-2017.** A novel approach to modifying the risk of Alzheimer's disease: the gut microbiome. **Loughman A**. \$120,000.00. 2017-2019 (extended to 2021).
- Amgen ISS.** A new method for determining material properties of bone: Geelong Osteoporosis Study. **Pasco JA**, Kotowicz MA, **Holloway-Kew KL**. \$101,000.00. 2018-2019.
- Deakin University Research Networks (DURN).** GEN(E)QUALITY. **Craig JM**, Kendal E, Meloni M, Bhatia N. \$100,000.00. 2019-2020.
- Stroke Association of Victoria, The stay at work initiative.** **Turner A**, Smith H, Glascodin M, Stephens C. \$100,000.00 AMP Employment Boost. 2017-2019.
- Western Alliance.** Antimicrobial stewardship in GP. **Athan E**, Neels A. \$100,000.00. 2017-2019.
- Cerebral Palsy Alliance (PG13618).** Enabling repair and regeneration after neonatal stroke. Walker D, **Williams R**, Tolcos M, Rank M. \$95,000.00. 2019-2022.
- NIH (3U19AI129387-03S1).** ICEMR-Mali: Multidisciplinary research for malaria control and prevention in West Africa. Seydo D et al, **Barry A**. \$94,000.00. 2019-2021.
- Alfred Deakin Postdoctoral Research Fellowship.** **Bortolasci C**. \$87,806.00 per annum. 2018-2020.
- Health Postdoctoral Research Fellowships.** Postdoctoral research fellow. **Ruusunen A**. \$80,490.00 per annum. July 2017-July 2019.
- Suzhou GenePharma, GenePharma-Deakin Joint Laboratory of aptamer medicine.** **Duan W**. \$80,000.00. 2017-2035.
- Deakin University Faculty of Health Research Equipment Support Scheme (RESS).** SpeedVac SPD1030 fully integrated concentrator system and two CryoCube F740hi ultra-low temperature (-80°C) freezers. **Craig JM**, Mcgee S. \$59,246.00. 2019.
- NBMRF (PJ05023).** Gestational diabetes and offspring bone health in childhood. **Hyde NK**, Pasco JA, Vuillermin P, Page R. \$57,830.00. 2019-2020.
- Deakin University. Microbial Anaerobic Workstation - RESS Grant.** **Page RS**, Athan E, Walder K, Alexanderson S. \$54,407.00. 2019.
- Australian Rotary Heath.** Cognitive ageing and the interplay between biological, psychological and environmental factors. **Corney K**. \$54,000.00. 2019-2021.
- Be Fit Foods.** Dietary interventions for weight loss in obese adults. **Rocks T**, Ruusunen A, Jacka F. \$52,492.00. 2018-2019.
- AOA.** Medical device biofilm infections. **Athan E**, Page R, Cooper D. \$50,000.00. 2017-2019.
- Medtronic.** Cardiac device infections. **Athan E**, Roder C. \$50,000.00. 2017-2019.
- Sport Australia.** Implementation and efficacy of the PEPL approach for improving youth physical literacy. Telford R, Telford RD, **Olive L**. \$50,000.00. 2020.
- NHMRC (APP1151322).** Maternal gut microbiome during pregnancy influences offspring atopy and asthma. **Gray L**. \$45,977.25. 2018-2019.
- Deakin University.** Career Continuity for Researchers who are Primary Carers. **Loughman A**. \$33,890.50. 2018-2020.
- ANSTO (AS193/SAXS/15472).** Investigation of self-assembling peptides as scaffolds and carriers of biomolecules and viral particles for gene therapy applications. **Williams**

- R, Wang Y, Bruggeman K, Boyd-Moss M, Long BM, Cembran A. \$32,784.00. 2019.
- AFL Research Board (PJ04507). AFLW Injury Study. **Page RS, Gill S.** \$30,000.00. 2019-2020.
- AOA Research Foundation (PJ00982). Optimising biofilm analysis in orthopaedic joint infections. **Page RS, Athan E, Cooper D.** \$30,000.00. 2017-2019.
- Australian Rotary Health. Natural therapeutics coupled with nanotechnology; advancing GBM treatment efficacy in invertebrate and cellular models. Mazur JEM, **Kanwar J.** \$29,000.00. 2018-2020.
- Deakin Faculty of Health, HAtCH. Characterising a neuronal receptor to treat stress-related mental illnesses. **Smith C.** Total and CS: McGee SL, Lawrence AL, Binder M, Walder K. \$28,600.00. 2019.
- DNA Genotek. Evaluation of oral collection methodologies and their effect on sample cellular composition and DNA methylation array performance. **Craig JM.** \$28,500.00. 2019.
- Deakin Faculty of Health. HAtCH. Identification of markers of lithium response in bipolar disorder. **Bortolasci C,** Walder K, Berk M. \$28,000.00. 2019.
- Deakin University. Career Continuity for Researchers who are Primary Carers (conference attendance and casual RA). **Staudacher H.** \$26,227.00. 2019-2020.
- AOA Research Foundation, PJ02728. Investigate changes in gene expression profiles in patients with rotator cuff tears (RCT) compared to those with non-degenerate shoulder conditions. **Page RS.** \$25,000.00. 2019-2020.
- Deakin University. HaTCH Grant. Can wearable technology accurately assess shoulder function? Fox A, **Gill S,** Page RS. \$25,000.00. 2019.
- Deakin University. Surfing the blues: A pilot randomised controlled trial of surf therapy for improving youth depression and social isolation. **Olive L** (lead investigator), Turner A, Berk M. \$25,000.00. 2020.
- MS Research Australia. Incubator Grant. Deakin Grant number: RM34604. **Marx W.** \$24,110.00. 2018-2019.
- Deakin University. Investigating gene expression and biomarkers in painful shoulder conditions (ERTPF). **Page RS,** Gill S, McGee. \$21,500.00. 2019.
- Deakin University. Intermittent fasting as a therapeutic approach to heart failure: A pilot study. **Marx W,** O'Neil A, Staudacher H, Jacka F. \$20,000.00. 2019.
- NHMRC GNT9000548. Purchase of Electroporator. **Bortolasci C.** \$13,594.45. 2019.
- NHMRC Equipment Grant (GNT9000548). Blue laser BD FACS Canto II. **Ward AC.** \$10,458.00. 2019.
- Bourne Foundation. Biomarker analysis in neuroendocrine carcinoma tissue. **Ackland ML,** \$10,000.00. 2018 and 2019.
- VORT Grant. Impact of painful shoulder conditions in young patients. **Page RS,** Ackerman I. \$10,000.00. 2018-2020.
- Deakin University Community Bank. Understanding the mechanisms underpinning lithium response. **Bortolasci C,** Berk M, Walder K, Andrezza A. \$7,618.00. 2019.
- Australian Rotary Health. Personality disorder as a moderator of psychiatric clinical outcomes (scholarship top up). **Kavanagh B.** \$6,954.00. 2018-2020.
- Mitacs Globalink Research Award. Identification of markers of lithium response in bipolar disorder. **Bortolasci C.** \$6,000.00. 2019.
- Deakin University School of Medicine. Travel award to attend to the American Society of Virology Conference in Minneapolis, USA in July 2019. Presentation titled: A recombinant human parechovirus type 3 was the predominant virus implicated in epidemics in Australian children between 2013 to 2018. **Chamings A.** \$4,000.00. 2019.
- Deakin University. Vice-Chancellor Carer Support Funding. **Loughman A.** \$2,000.00. 2019.
- Deakin University. Vice Chancellor Carer Support Funding. **Staudacher H.** \$2,000.00. 2019.
- Deakin University School of Medicine Travel Grant. Attendance at Twins 2019. **Craig JM.** \$1,869.00. 2019.

IMPACT Institute - internal seed funding

- B-CORE / SRC Equipment and Research Grant Support. **Page RS,** Gill S, McGee S. \$53,000.00. 2017-2019.
- IMPACT SRC Seed funding scheme. Blood collection and analyses for new male participants, **Williams LJ.** \$17,660.00. 2019.
- Deakin University MMR SRC seed funding. The parechovirus sequencing project mentioned. **Alexanderssen S.** \$15,000.00. 2019.
- Deakin University. Adhesive capsulitis, rotator cuff and OA shoulder biomarker (AD-CAB) study. **Page RS,** McGee S, Eng K, Brown G, Beattie S, Collier F, Gill F. \$7,450.00. 2019.
- Deakin University. Transcriptome expression analysis of osteoarthritis of the shoulder. **Page RS,** McGee S, Eng K, Brown G, Beattie S, Collier F, Gill F. \$5,158.00. 2019.
- Deakin University IMPACT SRC Seed Funding. A feasibility study of RESET (Resuming Employment after Stroke: Enhancement through Tele-coordination). **Turner A,** Dean O, Mohebbi M. \$14,320.00. 2019.
- Deakin University IMPACT Seed funding. Development and evaluation of a control nutrition education program for BeNEFIT, a global web-based randomised controlled dietary intervention trial in people with depressive symptoms. **Staudacher HM,** Marx W, Young C, Jacka F. \$11,678.00. 2019.
- Deakin University. Identification of markers of lithium response in bipolar disorder. **Bortolasci C.** (Lead Investigator). \$9,000.00. 2019.

Media exposure

03.01.19	Soil saver - what to do with your doggy doo	https://www.odt.co.nz/opinion/soil-saver-what-do-your-doggy-doo	Otago Daily Times	New Zealand	Auckland L
06.01.19	Sailors, sauerkraut and PTSD: Exploring the link between gut bacteria and mental health	https://www.abc.net.au/news/2019-01-06/ptsd-sauerkraut-and-sailing-charity-day-on-sydney-harbour/10677108	ABC News	Australia	Jacka F
06.01.19	Sailors, sauerkraut and PTSD: Exploring the link between gut bacteria and mental health	https://www.msn.com/en-au/lifestyle/lifestylegeneral/sailors-sauerkraut-and-ptsd-exploring-the-link-between-gut-bacteria-and-mental-health/ar-BBRQEsG	MSN - Aust	Australia	Jacka F
06.01.19	Sailors, sauerkraut and PTSD: Exploring the link between gut bacteria and mental health	https://wew.news/latest/474002/Sailors-sauerkraut-and-PTSD-Exploring-the-link-between-gut-bacteria-and-mental-health.html	Wew News	United States	Jacka F
08.01.19	Sailors, sauerkraut and PTSD: Exploring the link between gut bacteria and mental health	https://www.reachmd.com/news/sailors-sauerkraut-and-ptsd-exploring-link-between-gut-bacteria-and-mental-health/1623402/	ReachMD	United States	Jacka F
09.01.19	Kaitan Konsumsi Junk Food Saat Hamil dan Kondisi Mental Anak	https://www.haibunda.com/kehamilan/d-4377214/kaitan-konsumsi-junk-food-saat-hamil-dan-kondisi-mental-anak	Detik.com	Indonesia	Jacka F
09 & 10.01.19	Health Check: how do I tell if I'm dehydrated?	http://www.viv.com.au/index.php/news/17449-health-check-how-do-i-tell-if-i-m-dehydrated	Viw Magazine Australia, Australian Business, Daily Bulletin	Australia	School of Medicine
11.01.19	Essen für die Psyche: Großer Lebensmittel-Check: Was Sie essen müssen, um einer Depression vorzubeugen	https://www.focus.de/gesundheit/ernaehrung/gesundessen/ernaehrung-entspannt-die-psyche-von-eiern-bis-lachs-mit-diesen-lebensmitteln-koennen-sie-einer-depression-vorbeugen_id_10144877.html	Focus Online	Germany	Jacka F
14.01.19	Beating Dehydration this Summer - 2ser	https://2ser.com/beating-dehydration-this-summer/	2SER-Real Radio 107.3FM	Australia	School of Medicine
15.01.19	Town full of twins is a big science experiment	https://www.wtva.com/content/national/504324072.html	WTVA.com, KIMT.com	United States	School of Medicine

14, 15 & 22.01.19	Dynamic duos: Why science loves twins	https://kywnewsradio.radio.com/articles/news/dynamic-duos-why-science-loves-twinsw	KYW Newsradio 1060 AM. CNN Philippines. News Talk 580 and 105.9KMJ. Click Orlando. Remonesw US. Channel 3000.com and others.	United States. Philippines.	School of Medicine
16.01.19	Dog poop bags are a menace. But what's the green alternative?	https://www.theguardian.com/society/2019/jan/15/dog-poop-bags-plastic-alternatives	The Guardian	United Kingdom	Ackland L
16.01.19	How can you tell if you are dehydrated? - WSTale.com	http://wstale.com/health/how-can-you-tell-if-you-are-dehydrated/	WomanS Tale	United Kingdom	School of Medicine
17.01.19	Esercizio fisico, elisir di lunga vita anche per il cervello	https://www.fitnessstrend.com/esercizio-fisico-elisir-di-lunga-vita-anche-il-cervello	Fitness Trend	Italy	Jacka F
18.01.19	What Research Tells Us about Diet and Depression	https://goop.com/wellness/health/what-research-tells-us-about-diet-and-depression/	Goop	United States	Jacka F
21.01.19	How to lower your risk of depression by eating the right foods	https://www.nowtolove.co.nz/health/diet-nutrition/lower-risk-of-depression-with-the-right-foods-40298	Now To Love	New Zealand	Jacka F
21.01.19	Dehydrated or just thirsty?	https://www.odt.co.nz/lifestyle/magazine/dehydrated-or-just-thirsty	Otago Daily Times	New Zealand	School of Medicine
30.01.19	Makanan Sehat Membuat Kita Bahagia	https://gayahidup.republika.co.id/berita/gaya-hidup/info-sehat/19/01/30/pm4nk1366-makanan-sehat-membuat-kita-bahagia	Republika Online	Indonesia	Jacka F
06.02.19	Breakthrough depression research finds personality types and food matter The New Daily	https://thenewdaily.com.au/news/2019/02/06/breakthrough-depression-research-finds-personality-types-and-food-matter/	The New Daily	Australia	Berk M, Jacka F
06.02.19	The simple change we can make to reduce the risk of depression	https://www.stuff.co.nz/life-style/well-good/110403629/the-simple-change-we-can-make-to-reduce-the-risk-of-depression	Stuff.co.nz	New Zealand	Berk M, Jacka F

06.02.19	Breakthrough depression research finds personality types and food matter The New Daily	https://centredailytimes.org/depression/breakthrough-depression-research-finds-personality-types-food-matter-64628046	Centre Daily Times, DailyHeralds, News Live TV	United States	Berk M, Jacka F
06.02.19	The simple change we can make to reduce the risk of depression - WSTale.com	http://wstale.com/health/the-simple-change-we-can-make-to-reduce-the-risk-of-depression/	WomanS Tale	United Kingdom	Berk M, Jacka F
06.02.19	Healthy diet can relieve depression: Study - APN Live	https://www.newslive.com/lifestyle/healthy-diet-relieve-depression-study-64808024	News Live TV, DailyHeralds, Centre Daily Times.	United States	Jacka F
08.02.19	Ditch junk food to stave off depression	https://australiascience.tv/ditch-junk-food-to-stave-off-depression/	Australia's Science Channel	Australia	Berk M
12.02.19	Food and mood: Study showcases how losing weight could ease symptoms of depression	https://dailyheralds.org/research/food-mood-study-showcases-losing-weight-ease-symptoms-depression-84646000	DailyHeralds. Centre Daily Times. News Live TV. Nutraingredients-Asia.com. FoodNavigator-Asia.com.	United States	Berk M
14.02.19	A new review calls for the gut microbiome to be considered as part of standard nutritional rehabilitation for anorexia nervosa	https://www.gutmicrobiotaforhealth.com/en/a-new-review-calls-for-the-gut-microbiome-to-be-considered-as-part-of-standard-nutritional-rehabilitation-for-anorexia-nervosa/	Gut Microbiota for Health	Austria	Ruusunen A
16.02.19	Are you depressed about your diet or because of it?	https://www.tnonline.com/are-you-depressed-about-your-diet-or-because-it	Times News Online	United States	Jacka F
16.02.19	Content removed at the request of the publisher	https://www.theaustralian.com.au/	The Australian (Licensed by Copyright Agency)	Australia	Berk M
19.02.19	Content removed at the request of the publisher	https://www.goodfood.com.au/	Good Food (Licensed by Copyright Agency)	Australia	Jacka F
19.02.19	How the bacteria inside you could affect your mental health	http://www.bbc.com/future/story/20190218-how-the-bacteria-inside-you-could-affect-your-mental-health	BBC - Future	United States	Jacka F

22.02.19	Can food affect your mood?	https://www.ft.com/content/5073cbe2-34a5-11e9-bd3a-8b2a211d90d5	Financial Times	United Kingdom	Jacka F
25.02.19	I have to make a choice between my body and my mind -	https://wstale.com/health/i-have-to-make-a-choice-between-my-body-and-my-mind/	WomanS Tale. The Sydney Morning Herald (Licensed by Copyright Agency). The Age (Licensed by Copyright Agency). WAtoday.com.au (Licensed by Copyright Agency). Brisbane Times (Licensed by Copyright Agency). The Canberra Times (Licensed by Copyright Agency).	United Kingdom	Berk M
28.02.19	Health in body and mind	https://www.abc.net.au/radionational/programs/allinthemind/health-in-body-and-mind/10846326	ABC News	Australia	Jacka F
02.03.19	How food affects your mood: Eat your way to better mental health	https://www.couriermail.com.au/lifestyle/health/body-soul-daily/how-food-affects-your-mood-eat-your-way-to-better-mental-health/news-story/12c60e488a4c0230e9a103d80e10bc61	The Courier-Mail (Licensed by Copyright Agency)	Australia	Jacka F
02.03.19	5 benefits of intermittent fasting	https://www.geelongadvertiser.com.au/lifestyle/health/how-food-affects-your-mood-eat-your-way-to-better-mental-health/news-story/12c60e488a4c0230e9a103d80e10bc61	Geelong Advertiser (Licensed by Copyright Agency), The Advertiser. Ntnews.com.au (Licensed by Copyright Agency)	Australia	Jacka F
02.03.19	How food affects your mood: Eat your way to better mental health	https://www.cairnspost.com.au/lifestyle/health/how-food-affects-your-mood-eat-your-way-to-better-mental-health/news-story/12c60e488a4c0230e9a103d80e10bc61	Cairns Post (Licensed by Copyright Agency). The Daily Telegraph (Licensed by Copyright Agency).	Australia	Jacka F
04.03.19	'How I ate my way to better mental health'	https://www.bodyandsoul.com.au/nutrition/nutrition-tips/how-i-ate-my-way-to-better-mental-health/news-story/3e6ee2b0bd899f36e48adfa6d336afb4	Body+Soul	Australia	Jacka F

05.03.19	International Women's Day 2019: Geelong Cats AFLW star and Deakin University researcher Erin Hoare tackles inequity	https://www.ntnews.com.au/news/national/international-womens-day-2019-geelong-cats-aflw-star-and-deakin-university-researcher-erin-hoare-tackles-inequity/news-story/ed55e0a312bd7804dd160b5baf3ec69b	Ntnews.com.au (Licensed by Copyright Agency). The Advertiser (Licensed by Copyright Agency). The Daily Telegraph (Licensed by Copyright Agency). Geelong Advertiser (Licensed by Copyright Agency). Cairns Post. Gold Coast Bulletin. The Courier-Mail	Australia	Hoare E
06.03.19	Scientists Clarify Controversial Link Between Supplements and Depression	https://www.inverse.com/article/53821-nutritional-psychiatry-supplements-depression	Inverse.	United States	Berk M, Jacka F
06.03.19	Scientists Clarify Controversial Link Between Supplements and Depression .	http://www.medicalhealthnews.net/scientists-clarify-controversial-link-between-supplements-and-depression	Medical Health News.	Turkey	Berk M, Jacka F
06.03.19	Healthy Living Not a Panacea for Depression	https://www.medpagetoday.com/primarycare/dietnutrition/78378	Medpage Today	United States	Berk M, Jacka F
06.03.19	Diet and Depression— From Confirmation to Implementation	https://jamanetwork.com/journals/jama/fullarticle/2726964	The Journal of the American Medical Association.	United States	Berk M, Jacka F
06.03.19	Mediterraan dieet en extra voedingsstoffen houden depressie niet weg	https://www.nrc.nl/nieuws/2019/03/05/mediterraaan-dieet-en-extra-voedingsstoffen-houden-depressie-niet-weg-a3908063	NRC.nl.	Netherlands	Jacka F
08.03.19	'Limited' methods: Expert urges caution over study claiming 'supplements can't prevent depression'	https://www.nutraingredients.com/Article/2019/03/06/Limited-methods-Expert-urges-caution-over-study-claiming-supplements-can-t-prevent-depression	Nutra Ingredients.	France	Berk M, Jacka F
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08.03.19	Special K: from party drug to a cure for suicidal thoughts	https://thenewdaily.com.au/life/2019/03/08/ketamine-depression-cure/	The New Daily.	Australia	Berk M

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09.03.19	L'intestin, notre deuxième cerveau	https://www.lecho.be/culture/general/l-intestin-notre-deuxieme-cerveau/10105688.html	L'Echo.	Belgium	Jacka F
12.03.19	Kann die Ernährung Depressionen vertreiben?	http://www.medizinauskunft.de/artikel/diagnose/psyche/ernaehrung-depression-12-3-2019.php	Medizinauskunft.	Germany	Berk M
12.03.19	Diet key to mental health and wellbeing	https://thewest.com.au/lifestyle/health-wellbeing/crucial-link-between-diet-and-physical-wellbeing-revealed-ng-b881118453z	The West Australian (Licensed by Copyright Agency).	Australia	Jacka F
18.03.19	Nutrition Psychiatry: Can you Feel Lucky? eat	https://www.archyworldys.com/nutrition-psychoiatry-can-you-feel-lucky-eat/	Archy Worldys. Navva.	United States	Jacka F
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20.03.19	Wellness Wednesdays – 3/20/19	https://www.mvmag.net/2019/03/20/wellness-wednesdays-3-20-19/	Merrimack Valley Magazine.	United States	Jacka F
20.03.19	Psychiatria żywieniowa: zdrowe jedzenie uczyni cię szczęśliwszym	http://www.fpiec.pl/foodie/psychiatria-zywieniowa-zdrowe-jedzenie-uczyni-cie-szczesliwszym	F5 Trendy Rynku i Kultury.	Poland	Jacka F
21.03.19	The smart way and the dumb way to do a low-carb diet	https://centredailytimes.org/health/smart-dumb-carb-diet-06620488	Centre Daily Times. DailyHeralds. News Live TV.	United States	Jacka F
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21.03.19	Study to examine female footy injuries	https://freelocalnews.com.au/surfcoasttimes/living/study-to-examine-female-footy-injuries/	Surf Coast Times	Australia	Page R

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31.03.19	Como seu intestino pode ajudar seu cérebro	http://www.digorestenoticias.com.br/como-seu-intestino-pode-ajudar-seu-cerebro/	Digoreste Noticias. NoticiasAl. Noticiaplus. Ação Popular and others.	Brazil	Jacka F
02.04.19	Essen für die Psyche: Großer Lebensmittel-Check: Was Sie essen müssen, um einer Depression vorzubeugen	https://www.focus.de/gesundheit/ernaehrung/gesundessen/depression-mit-diesen-lebensmitteln-koennen-sie-einer-erkrankung-vorbeugen_id_10144877.html	Focus Online.	Germany	Jacka F
02.04.19	Como uma dieta saudável e bom funcionamento do intestino previne da depressão	https://www.antena1.com.br/noticias/como-uma-dieta-saudavel-e-bom-funcionamento-do-intestino-previne	Antena 1.	Brazil	Jacka F
03.04.19	This Australian scientist is forging a powerful weapon against depression: your diet	https://coach.nine.com.au/2019/04/03/10/53/nutritional-psychoiatry-felice-jacka	MSN - 9 Coach.	Australia	Jacka F
04.04.19	One in five deaths around the world is down to a bad diet, study concludes	https://coach.nine.com.au/2019/04/04/12/11/poor-diet-one-in-five-global-deaths-lancet-study	MSN - 9 Coach.	Australia	Jacka F
06.04.19	Contradictory Findings for Diet and Dementia Risk	https://www.medscape.com/viewarticle/911389	Medscape. Archy Nety.	United States	Jacka F
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12.04.19	Eat yourself happier	https://www.abc.net.au/radionational/programs/blueprintforliving/eat-yourself-happier/10984814	ABC Radio National.	Australia	Jacka F
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24.04.19	Ditch plastic dog poo bags, go compostable	https://www.dailybulletin.com.au/news/44804-ditch-plastic-dog-poo-bags-go-compostable	Daily Bulletin. Viw Magazine Australia. Australian Business.	Australia	Ackland L
23 & 24.04.19	Doctors issue warning after flesh-eating Bairnsdale ulcer spike	https://www.dailytelegraph.com.au/news/national/doctors-issue-warning-after-flesheating-bairnsdale-ulcer-spike/news-story/839dc49d4a03b220bfa25790ea900615	The Daily Telegraph. Ntnews.com.au. Geelong Advertiser. The Adelaide Advertiser. Cairns Coast. Herald Sun. Gold Coast Bulletin.	Australia	O'Brien D
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10.05.19	How diet affects brain health and mood, and what to eat to reduce stress and feel good	https://www.scmp.com/lifestyle/health-wellness/article/3009483/how-diet-affects-brain-health-and-mood-and-what-eat	South China Morning Post.	Hong Kong SAR China	Jacka F
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20.07.19	Genetic risk tests are now widely available, but they aren't always useful – and could even be harmful	https://qrius.com/genetic-risk-tests-are-now-widely-available-but-they-arent-always-useful-and-could-even-be-harmful/	Qrius.		Craig J et al

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02.09.19	Would you eat meat grown from cells in a laboratory? Here's how it works	https://www.dailybulletin.com.au/the-conversation/46462-would-you-eat-meat-grown-from-cells-in-a-laboratory-here-s-how-it-works	Australian News Daily Bulletin.	Australia	Ackland L
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10.09.19	Mental health study finds nutritional supplements may assist in management of depression, ADHD		7News	Australia	Marx W
13.09.19	The little-known kidney disease that's ruining lives	https://thenewdaily.com.au/life/wellbeing/2019/09/13/kidney-disease-australia-polycystic/	New Daily	Australia	Dwyer K
14.09.19	Polycystic kidney disease, the most common genetic kidney disorder you've probably never heard of	https://hashtag.net.au/the-conversation/42630-polycystic-kidney-disease-the-most-common-genetic-kidney-disorder-you-ve-probably-never-heard-of	#Hashtag	Australia	Dwyer K

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17.10.19	Connecting the community for a cause	https://ausprint.meltwater.com/print_clip_previewer/214653909?text=on	Bellarine Times	Australia	Walker A
18.10.19	10,000 Vital Days	https://ausprint.meltwater.com/print_clip_previewer/214688557?text=on	The Herald Sun	Australia	Craig J
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07.11.19	New Deakin University research uncovers areas with highest fall rates	https://www.cairnspost.com.au/news/national/new-deakin-university-research-uncovers-areas-with-highest-fall-rates/news-story/e5b7caa2186db-fe7e989b0f104cd9a65?btr=a0cb511e886b61acccb-0372cf0f61e3	Cairns Post, The Daily Telegraph, The Courier Mail, Geelong Advertiser, The Mercury, Herald Sun	Australia	Holloway-Kew K.
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13.11.19	Local malaria 'key'	https://geelongindy.com.au/news/14-11-2019/local-malaria-key/	Geelong Indy, Cairns Post, #Hashtag Australia	Australia	Barry A
14.11.19	Cancer findings	https://ausprint.meltwater.com/print_clip_previewer/220251434?text=on	Campus Morning Mail	Australia	Cowdery S

15.11.19	Food and Mood Parenting seminar	https://ausprint.meltwater.com/print_clip_previewer/220517978?text=on	camperdown Chronicle	Australia	Rocks T
19.11.19	Why happy meals might make you miserable	https://campusmorningmail.com.au/news/deakins-mooc-of-the-morning/	Campus Morning Mail	Australia	Rocks T, Jacka F
19.11.19	Uni SA suspends travel to Hong Kong	https://campusmorningmail.com.au/uni-sa-suspends-travel-to-hong-kong-%E2%80%A8/	Campus Morning Mail	Australia	Rocks T
21.11.19	The Victorian Government's prizes for science and innovation (via VESKI) go to, Michael Berk (Deakin U) – mental health recognised as a world-leading scientist	https://campusmorningmail.com.au/news/appointments-achievements-157/	Campus Morning Mail	Australia	Berk M
21.11.19	Eat and be happy, says duo	https://geelongindy.com.au/news/21-11-2019/eat-and-be-happy-says-duo/	Geelong Indy	Australia	Rocks T, Jacka F
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11.12.19	Deakin's doctors are in	https://ausprint.meltwater.com/print_clip_previewer/225669358?text=on	Geelong Advertiser	Australia	Dwyer K
20.12.19	Australian scientists discover power of gel in brain treatment	https://www.heraldsun.com.au/news/queensland/australian-scientists-discover-power-of-gel-in-brain-treatment/news-story/1ef6be454cbcd89ae-0612c4a79b6b7e9?btr=37463f-4cea6d1ed5a32637f9a6603ed4	Herald Sun, Courier Mail, Daily Telegraph, The Advertiser, The Mercury, Ntnews.com.au, Geelong Advertiser, Gold Coast Bulletin.	Australia	Williams R
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27.12.19	About 10 million Americans face workplace sexual violence	https://www.britishtasianews.com/news/newsDisplay.aspx?newsID=144031	Britishasia News	Reuters	O'Neil A

Collaborations

International

Aalborg University, Aalborg, Denmark.

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Anglia Ruskin University, Chelmsford, UK.

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Autonomous University of Barcelona, Barcelona, Spain.

Beijing Genomics Institute, Shenzhen, China.

Beijing Genomics Institute, Shenzhen, Guangdong, China.

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Copenhagen University, København, Denmark.

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Fullerton University, Los Angeles, USA.

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Liggins Institute, University of Auckland, NZ.

Loyola University Chicago, Maywood, IL, USA.

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Max Planck Institute for Psycholinguistics, The Netherlands.

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Norwegian Institute of Public Health, Nydalen, Oslo. Norway	Universidade Estadual de Londrina, Paraná, Brazil.	University of Sciences, Technology and Techniques. Bamako, Mali	CSIRO AAHL Victoria.	Queensland University of Technology, Brisbane, Queensland.	The University of New South Wales, Sydney, New South Wales.
Norwegian University of Science and Technology, Trondheim, Norway.	Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.	University of Southern Denmark, Odense M, Denmark.	Curtin University, Canberra, Australian Capital Territory.	RMIT University, Melbourne, Victoria.	The University of Queensland Diamantina Institute, Woolloongabba, Queensland.
NYU Medical Centre, New York, NY.	Universitätsklinikum Freiburg, Freiburg, Germany.	University of the Highlands and Islands, Inverness, UK.	Flinders University, Adelaide, SA.	Royal Brisbane and Women's Hospital, Brisbane, QLD.	The University of Queensland, St Lucia, Queensland.
Ontario Tech University, Oshawa, Ontario Canada.	Université Paris-EST, Paris, France.	University of Toronto, Ontario, Canada.	G21 Alliance, Geelong, Victoria.	Royal Melbourne Hospital, Victoria.	The University of Queensland, St Lucia, Queensland.
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Reliance Institute, Navi Mumbai, India.	University of Barcelona, Barcelona, Spain.		Griffith University, QLD.	Royal Women's Hospital, Parkville, Victoria.	The University of Western Australia, Nedlands, Western Australia.
Robert Koch Institut, Berlin, Germany.	University of Bergen, Bergen, Norway.		Hudson Institute of Medical Research, Clayton, Victoria.	Sir Charles Gairdner Hospital, Nedlands, Western Australia.	University Hospital Geelong, Barwon Health, Geelong, Victoria.
Sanger Institute, Hinxton, United Kingdom.	University of Birmingham, Edgbaston, UK.		James Cook University, Townsville, Queensland.	St. Vincent's Hospital/University of Melbourne.	Victoria University, Melbourne, Victoria.
Sankara Nethralaya Hospital, Chennai, Tamil Nadu, India.	University of British Columbia, BC, Canada.		Kardinia Health, Geelong, Victoria.	St. Vincent's Institute, Fitzroy, Victoria.	Walter and Eliza Hall Institute of Medical Research, Parkville, Victoria.
Shiraz University of Medical Sciences, Shiraz, Iran.	University of California, Davis, San Diego, CA 95616, USA.		La Trobe University, Melbourne, Victoria.	Swinburne University, Victoria.	Western Sydney University, Westmead, NSW.
Stanford University, Stanford, CA, USA.	University of Cambridge, Cambridge, UK.		Mater Research Institute, Brisbane, QLD.	The Australian Institute for Musculoskeletal Sciences, Melbourne, Victoria.	Olivia New John Cancer Research Institute, Heidelberg, Victoria.
State Serum Institute, Copenhagen, Denmark.	University of Cantabria, Santander, Spain.		Menzies Research Institute, Hobart, Tasmania.	The Australian National University, Canberra ACT.	
State University of Londrina, Londrina, PR, Brazil.	University of Copenhagen, Copenhagen, Denmark.		Menzies School of Health Research, Darwin, Northern Territory.	The Black Dog Institute, Sydney, New South Wales.	

National

Conferences attended

Conferences and posters

GCEID/CSIRO half day seminar. AAHL, Geelong, Australia. February 04, 2019.

- Al-Araji A. Antimicrobial Resistance Genes (AMR) detection and characterisation using molecular methods. Oral.
- Bhatta TR, Chamings A, Vibin J and Alexandersen S. Characterisation of canine astrovirus in puppies with diarrhoea. Oral.
- Botheras C. Predicting disease presentation in Staphylococcus aureus bacteraemia. Oral.
- Vibin J, Chamings A, Klaassen M, Alexandersen S. Metagenomics of viruses in Australian wild birds. Oral.

Australasian Society of Behavioural Health and Medicine. Christchurch, New Zealand. February 05-07, 2019.

- O'Neil A, Sojo V, Scovelle AJ, Poval P, Koehler T, Olsen J. Using ecological momentary assessment and wearable sensors to examine the relationship between stress and cardiovascular risk markers in Australian workers. Oral.
- O'Neil A, Bode S, Malta S, Howe P, Sherman K. Behaviour change interventions in public health: cross-learnings from cardiovascular disease, sexually transmitted infections, colon cancer and obesity prevention. Oral symposium.

Royal North Shore Shoulder Symposium 2019. Sydney, New South Wales, Australia. February 08-09, 2019.

- Page R. State of Play 2019. Registry guidance - has it changed my practice? Oral.

Australian New Zealand Association of Contextual Behavioural Science Conference. Canberra, ACT, Australia. February 09-12, 2019.

- Dober M, Olive L. The development

of a program to improve psychological wellbeing for patients with inflammatory bowel disease. Oral.

- Olive L, Telford R, Byrne D, Telford RD. The use of mindfulness in primary school physical education: Outcomes from a four year randomised control trial. Oral.

International Society on Internet Interventions. Auckland, New Zealand. February 13-15, 2019.

- Chatterton ML, Rapee RM, Catchpool M, Lyneham HJ, Wuthrich V, Hudson JL, Kangas M, Mihalopoulos C. Economic evaluation of stepped care including digital materials for the treatment of youth anxiety. Oral.
- Le LK-D, Sancu L, Chatterton ML, Kauer S, Mihalopoulos C. The cost-effectiveness of an Internet intervention to facilitate mental health help seeking by young adults. Oral.
- Mihalopoulos C, Le LK-D, Bucholz J, Chatterton ML, Engel L. Economic evaluations of eMental Health interventions. Oral.

Lorne Cancer Conference. Lorne, Victoria, Australia. February 14-17, 2019.

- Bauer M, Ward A, Shigdar S. Oligonucleotide aptamers as alternative bio-recognition reagents for immunohistochemistry: The utility of 'chemical antibodies' for the detection of co-localised surface stemness markers in colorectal cancer xenografts and the identification of putative cancer stem cells. Poster.
- Bukari B, Macdonald J, Samarasinghe R, Shigdar S. Overcoming the Blood-Brain Barrier to Deliver Therapeutics to Brain Tumours. Poster.

- Jones R. Xeno-transplantation of immunodeficient zebrafish. Poster.
- Kahlid U. Breast cancer and radiolabel aptamer for theranostic application. Poster.
- Macdonald J, Henri J, Shigdar S. Targeted drug delivery to brain metastases. Poster.

Australian Orthopaedic Association, Victorian Annual Scientific Meeting. Lorne, Victoria, Australia. February 22, 2019.

- Hill-Buxton LM, Gill SD, Gwini SM, Morrison S, Moreira B, Beattie S, Thomson A, Page RS. Simultaneous (two surgeon) versus staged or sequential bilateral knee arthroplasty: investigating intra-operative and post-operative outcomes. Podium presentation.

Advanced Shoulder and Elbow Symposium. Sydney, New South Wales, Australia. February 22-23, 2019.

- Page R. Complexities in elbow replacement surgery. Oral/Panel.

University of Melbourne Department of Rural Health Public Seminar. Shepparton, Victoria, Australia. February 28, 2019.

- Rocks T. Benefits of Healthy Eating for Your Mental Health and Mood. Invited Speaker.

World Congress of International Association for Women's Mental Health (IAWMH). Paris, France. March 05-08, 2019.

- Cowdery S. Mood disorders and cancer onset in women: Cross-sectional and longitudinal evidence. Oral.

5th Microbiome R&D and Business Collaboration Congress. Taipei, Taiwan. March 06-07, 2019.

- Rocks T. Diet and mental and cognitive health: role of the gut microbiome. Invited Speaker.

21st Annual ISBD Conference: Global advances in bipolar disorder and depression. International Society of Bipolar Disorders. Sydney, New South Wales, Australia. March 20-23, 2019.

- Ashton MM, Berk M, Ng CH, Hopwood M, Mohebbi M, Dean OM. Physical activity as a predictor of treatment outcomes for bipolar depression. Poster.
- Berk L, Dean O. Showcasing success in the Australasian Society for Bipolar and Depressive Disorders.
- Berk L. Diagnosing, assessing and treating bipolar disorder: an expert's course for those new to the field.
- Berk M, Dean O. Molecular mechanisms of bipolar disorder and its treatment.
- Berk M, Dean O. Novel treatment approaches in mood disorders.
- Berk M. Technological innovations for treatment patients with or at risk for bipolar.
- Bortolasci CC, Kidnapillai S, Panizzutti B, Spolding B, Udawela M, Connor T, Bonifacio K, Sanigorski A, Crowley T, Dean OM, Jamain S, Gray L, Scarr E, Dean B, Leboyer M, Berk M, Walder K. Drug repurposing for bipolar disorder. Oral (Parallel Symposia/ Brainstorming Session Title: Molecular mechanisms of bipolar disorder and its treatment).
- Chandrasekaran V. Anticonvulsant use and bone health: a population-based study.
- Dean O. Is mitochondrial dysfunction the key to regulate neurotransmission?
- Dean O. Speaker: Symposium:

S-030 Minocycline – its therapeutic potential.

- Dean O. Symposium Chair and Speaker: Showcasing Success in the Australasian Society for Bipolar and Depressive Disorders: S-098 Minocycline and N-acetyl cysteine for depression.
- Dodd S. Incidence and characteristics of the nocebo response from meta-analyses of the placebo arms of clinical trials of olanzapine for bipolar disorder.
- Harvey BH, Lotter J, Möller M, Dean O, Berk M. Bio-behavioural studies into the antidepressant and antipsychotic-like effects of *Garcinia mangostana* Linn extract and α -mangostin as adjunctive- or mono-therapy in a rodent model of schizophrenia
- Rocks T, Marx W, Helson C, Jacka F. Introduction to nutritional psychiatry.
- Williams L. Depression as a risk factor for fracture in men: a longitudinal study.

3rd Victorian Allied Health Research Conference, Melbourne, Australia. March 22, 2019.

- Selenitsch, N, Lowe, L & Gill SD. Activity levels of Rehabilitation and Geriatric Evaluation Management (GEM) patients. Poster.

WHO Geneva Mycobacteria Buruli ulcer meeting. Geneva, Switzerland. March 25-27, 2019.

- Athan E. Case Control study in Australia. Invited speaker.

Orygen Symposium: Exercise and Youth Mental Health - Moving in the right direction, Melbourne, Victoria, Australia. March 29, 2019.

- Ashton MM. Physical activity as a predictor of clinical trial outcomes for bipolar depression. Oral.

Oligo 2019 (hosted alongside Aptamers 2019) – 5th symposium on antisense & therapeutic oligonucleotides. Oxford, UK. April 01-02, 2019.

- Macdonald J, Denoyer D, Burvenich I, Pouliot N, Shigdar S. Bifunctional aptamer-doxorubicin conjugate crosses blood brain barrier and selectively delivers payload to Epithelial Cell Adhesion Molecule positive tumour cells. Oral.

Aptamers 2019. Oxford, UK. April 03-04, 2019.

- Bauer M, Ward A, Shigdar S. Aptamers as diagnostic probes for precision oncology. Poster.

ISTS Twin Registries' Networking Meeting. Budapest, Hungary. April 04-06, 2019.

- Craig JM. Welcome to the ISTS Twin Registries' Networking Meeting. Oral.

World Congress on Osteoporosis and Musculoskeletal Diseases (WCO-IOF-ESCEO). Paris, France. April 04-07, 2019.

- Anderson KB, Holloway-Kew KL, Williams LJ, Pasco JA. Mood disorders and antidepressant use are associated with trabecular bone score in women. Poster.
- Cleminson J. Potential autocrine role for serotonin in human osteoclastogenesis. Poster.
- Holloway-Kew KL, Rufus-Membere PG, Anderson KB, Kotowicz MA, Diez-Perez A, Hyde NK, Pasco JA. Ability of impact microindentation to identify prior fracture in men with and without chronic kidney disease. Oral and poster.
- Hosking SM, Holloway-Kew KL, Williams LJ, Page A, Brennan-Olsen SL, Beauchamp A, Buchbinder R, Pasco JA. Health literacy and

appropriate use of calcium supplements in a population-based sample of Australian women. Poster.

- Pasco JA, Tembo MC, Sui SX, Holloway-Kew KL, Hyde NK, Stuart AL, Williams LJ. Sarcopenic obesity and increased likelihood of anxiety symptoms. Poster.
- Rufus-Membere PG, Holloway-Kew KL, Diez-Perez A, Kotowicz MA, Pasco JA. Prior fracture and parental hip fracture are associated with lower bone material strength in men. Poster.
- Sui SX, Hyde NK, Tembo MC, Rufus-Membere PG, Holloway-Kew KL, Williams LJ, Cowdery S, Sajjad MA, Leach S, Pasco JA. Cognition, body composition and muscle function in older men. Poster.
- Tembo MC, Holloway-Kew KL, Bortolasci CC, Sui SX, Brennan-Olsen SL, Williams LJ, Kotowicz MA, Pasco JA. Total antioxidant capacity and frailty in older men. Poster.

Twins symposium. Osaka, Japan. April 05-06, 2019.

- Craig JM. Epigenetic and microbiome studies in the PETS twin birth cohort: clues to the early life origins of chronic disease. Oral.

1st National Symposium for Nutritional Psychiatry and Psychical Activities Related to Mental Health. Sao Paulo, Brazil. April 06, 2019.

- Rocks T. Introduction to Nutritional Psychiatry. Invited Speaker.

World Congress of Nephrology. Melbourne, Victoria, Australia. April 12-15, 2019.

- Lecamwasam A. The identification of potential biomarkers of chronic kidney disease in individuals with diabetes. Poster.

Australian Psychological Society Health College Conference, Adelaide, South Australia, Australia. April 25-27, 2019.

- Olive L, Byrne D, Telford R, Berk M, Telford RD. Childhood stress and depression: A risk for type 2 diabetes? Oral – Awarded Best Oral Presentation.
- Olive L, Byrne D, Abhayaratnay W, Telford R, Berk M, Telford RD. Self-reported stress and depressive symptoms and endothelial function in youth. Poster.

Association for Research In Vision and Ophthalmology. Vancouver, Canada. April 28-May 02, 2019.

- Douglass AG, Abel L, Armitage JA. Student eye movements to o-tic nerves.

Australia and New Zealand College of Anaesthetics Annual Scientific Meeting. Kuala Lumpur, Malaysia. May 01, 2019.

- Loughman A. Of bugs and brain: links between microbial and mental health. Invited speaker.

Osteoarthritis Research Society International (OARSI) World Congress. Toronto, Canada. May 02-05, 2019.

- Peiris WL, Menz HB, Pasco JA, Brennan-Olsen SL, Kotowicz MA, Cicuttini FM, Wluka AE. Disabling foot pain is associated with bone mineral density in men: The Geelong Osteoporosis Study. Poster.

Royal Australasian College of Physicians Annual Congress. Melbourne, Victoria, Australia. May 04-06, 2019.

- Vuillermin P. The maternal microbiome and offspring allergic disease. Oral. (Awarded the Rue Wright prize).

Cell Symposia Exercise Metabolism Meeting. Sitges, Spain. May 05-07, 2019.

- McGee S. The MEF2-class IIa HDAC axis mediates metabolic adaptation to exercise and can be targeted pharmacologically to treat chronic disease. Oral.

Royal Australasian College of Physicians (RACP) Congress. Auckland, New Zealand. May 06-08, 2019.

- Lecamwasam A. The identification of potential biomarkers of chronic kidney disease in individuals with diabetes. Poster.

GMHBA Public Lecture Series. Geelong, Victoria, Australia. May 08, 2019.

- Rocks T. Practical strategies for healthy eating. Invited Speaker.

The Australian Partnership for Preparedness Research on Infectious Diseases Emergencies annual meeting. Brisbane, Queensland, Australia. May 09-10, 2019.

- Alexandersen S. Human Parechovirus Outbreak 2017/18. Oral.

European Calcified Tissue Society (ECTS). Budapest, Hungary, May 11-14, 2019.

- Aleksova J, Ebeling PR, Kotowicz MA, Pasco JA, Schultz C, Wong P, Milat F, Elder GJ. Patients on dialysis have markedly abnormal cortical hip parameters assessed by dual-energy X-ray absorptiometry.

RANZCP National Conference. Cairns, Qld, Australia. May 12-16, 2019.

- Jacka F. Diet and mental health.

Australian and New Zealand Society for Geriatric Medicine (ANZSGM).

Adelaide, South Australia, Australia. May 13-15, 2019.

- Crone R, Hosking SM, Pasco JA. Health literacy in the 'Older Old'.

University of Melbourne. Food for a Healthy Planet Seminar. Melbourne, Victoria, Australia. May 15, 2019.

- Rocks T. Food, mood and the gut microbiome. Invited Speaker.

inVivo Planetary Health Conference. Detroit, Michigan, USA. May 15-17, 2019.

- Senn E. Early life microbial exposure, child neurocognition and behaviour at years of age: a birth cohort study. Oral.

Australasian Society for Infectious Disease ASID ASM Darwin 15-19 May 2019

- Aminzadeh Z, Athan E - Central venous catheter associated bloodstream infections (CVC-BSIS) in the non-intensive care setting: epidemiology, microbiology, and outcome. Oral.
- Bartolo C, Athan E. Turning the tide: reduced IDU associated IE following change to chlorhexidine wipes a major public health intervention. Oral.
- Bloch A, Athan E. Spine infections a 20 year review. Poster.
- Chiong F, Athan E. Pseudomonas aeruginosa blood stream infections epidemiology and outcomes at a tertiary centre. Poster.
- Neels A, Athan E. Antimicrobial stewardship in GP a simple intervention study. Oral.
- Parry L, Athan E. Gram negative blood stream infections in a large cancer centre. Poster.

Deakin University Infrastructure and Property Group Annual Meeting.

Melbourne, Victoria. May 16, 2019.

- Rocks T. Diet and mental health workshop. Invited Speaker.

3rd Australian Cancer and Metabolism Meeting. Sydney, New South Wales, Australia. May 20-22, 2019.

- Samarasinghe RM, McGee S. SMARCB1 - A key regulator of metabolism in paediatric cancer. Oral.

Alfred Hospital Mental and Addiction Health Grand Round, Melbourne, Victoria. May 22, 2019.

- Rocks T. Diet for mental and brain health: research and practice update. Invited Speaker.

Canadian Association for Neuroscience Satellite symposium. Toronto, Canada. May 23-26, 2019.

- McCracken H, Yelder P, Murphy B, Burkitt J, Glazebrook C. Audiovisual Multisensory Processing in University aged adults with Attention- Deficit Hyperactivity Disorder, in proceedings of the Canadian Association for Neuroscience – CAPNET CPS Satellite Symposium. Oral.
- Zabibhosseini M, Gilley R, Andrews D, Murphy B, Yelder P. Dominant vs non-dominant hand differences in early somatosensory evoked potentials, in proceedings of the Canadian Association for Neuroscience – CAPNET CPS Satellite Symposium. Oral.

St George Shoulder Conference. Sydney, New South Wales, Australia. May 25, 2019.

- Page R. Frozen shoulder - Gene expression in the joint capsule.
- Page R. Shoulder Surgery - Lessons from the Australian Joint Registry.

ASCP (American Society of Clinical Psychopharmacology) 2019 Annual Meeting. Scottsdale, Arizona, USA. May 28-31, 2019.

- Berk M. Novel therapies for bipolar disorder. Invited speaker.
- Berk M. ASCP-ISBD workshop – update on treatment of bipolar disorder. Oral.

Australian Society for Medical Research (ASMR) Victorian Student Research Symposium. Melbourne, Victoria, Australia. May 31, 2019.

- Venugopal A (presenter), Michalczyk A, Khasraw M, Ackland L. Identification and characterization of novel markers in high grade neuroendocrine tumour cells. Poster.

International Society of Arthroplasty Registers (ISAR) Annual Meeting. Leiden, Netherlands. June 01-03, 2019.

- Page R, Critchley O, Bain G. Revision of hemi Stemmed Shoulder replacement versus total reverse shoulder replacement for humeral fractures. Oral.
- Page R. Debate- regional Registries vs. National Registries: Which is Best? Podium – Debate.
- Sutherland Brown J, Gordon RJ, Peng A, Page R, Macgroarty KA. Molecular mechanism of adhesive capsulitis of the shoulder: Opportunities for novel treatment modalities. Oral.
- Taylor F, McLean A, Graves S, Lorimer M, Page R. Surgeon volume and its association with revision rates in total shoulder arthroplasty. Oral.

International Society for Cardiovascular Infectious Disease ISCVI Endocarditis meeting. Lausanne, Switzerland. June 01-04, 2019.

- Athan E. Global picture of Injecting drug use associated Infective Endocarditis. Invited speaker.

WFSBP 14th World Congress of Biological Psychiatry. Vancouver, Canada. June 02-06, 2019.

- Berk M. Biomarker guided novel therapy development. Invited speaker.
- Berk M. Is there clinical trial evidence for anti-inflammatory approaches? Invited speaker.
- Berk M. Treatment interventions tailored for stage in BD. Invited speaker.
- Bortolasci CC. Baseline amino acid levels predict treatment response to augmentation with N-acetylcysteine (NAC) in bipolar disorder. Poster.
- Bortolasci CC, Voigt C, Turner A, Mohebbi M, Fernandes B, Walder K, Berk M, Dean OM. The effect of a combination of mitochondrial-enhancing agents is moderated by Interleukin-6 in bipolar disorder patients. Poster.
- Chandrasekaran V, Hodge JM, Stuart AL, Pasco JA, Berk M, Brennan-Olsen SL, Williams LJ. Comparison of the effects of anticonvulsants on osteoclast formation and function. Oral.
- Walder K. Drug repurposing for bipolar disorder.

Mental Health Australia Community Seminars Series. Melbourne, Victoria, Australia. June 04, 2019.

- Rocks T. Nutrition in mental and brain health: what are the connections? Invited Speaker

20th European Federation of National Associations of Orthopaedics and Traumatology (EFORT). Lisbon, Portugal. June 05-07, 2019.

- Brown J, Page R. Revision

of hemistemmed shoulder replacement versus total reverse shoulder replacement for primary proximal humeral fractures: An analysis of the Australian Orthopaedic Association National Joint Replacement Registry.

- Brown J, Page R. Surgeon volume and its association with revision rates in total shoulder arthroplasty: data from the Australian Orthopaedic Association National Joint Replacement Registry. Oral.
- Gill S. Simultaneous (two surgeon) versus staged bilateral knee arthroplasty: investigating intra-operative and post-operative outcomes. Poster.
- Gill SD, Landers S, Hely A, Harrison B, Maister N, Hely R, Page RS. Microembolisation Of Neovasculature In Knee OA: 12 Month Clinical Outcomes And MRI Results. Podium presentation.
- Page R. Crossed linked polyethylene in conventional shoulder arthroplasty for osteoarthritis (OA): An Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) perspective on revision surgery. Poster. Winner best presented poster award.
- Page R. National Joint Replacement Registries. Oral.
- Page R. Primary reverse glenosphere size affects revision rates: A National Registry Analysis. Poster.

School of Medicine Symposium. Deakin University. Geelong, Victoria, Australia. June 06, 2019.

- Dawson S. Can the maternal and infant gut microbiota be altered through the perinatal diet? 3-minute thesis. Oral. (Winning presentation).
- Hall L, Czechor J, Connor T, McGee S. The Role of Amyloid Beta 42 in Heart Disease. Oral.

- Kusuma Y. Influence of ethnicity on neuroimaging and clinical outcome post stroke. 3-minute thesis competition. Oral.
 - McCann J. Engineering a cure for diabetes. 3-minute thesis. Oral.
 - Patel B, Sithara S, Ellis M, Crowley T, Walder K, Aston-Mourney K. Development of a novel gene expression-based high throughput screening approach for the identification of β -cell protective Drugs. Oral.
 - Patel B. Finding new purposes for old drugs. 3-minute thesis. Oral. (One of two winners 3MT for Medicine in June (school level)).
 - Pedrina J. Breaking down the wall – fighting flu with enzymatic force. 3-minute thesis. Oral.
 - Pedrina J. The role of ADAMTS proteoglycanases in influenza virus infection and immunity. Oral.
 - Pham CV. Thermodynamic and kinetic insights into CD81-DNA aptamer interactions. Oral.
 - Senn E. Early life microbial exposure, child neurocognition and behaviour at years of age: a birth cohort study. Poster.
 - Vibin J, Chamings A, Klaassen M, Alexandersen S. Australian wild ducks carry genetically different viruses and viruses with potential cross species transmissibility. Oral.
 - Vibin J. Birds, viruses and people. Oral.
- Australasian Society of Lifestyle Medicine. Auckland, New Zealand. June 07-09, 2019.**
- Rocks T, Marx W, Jacka F. Introduction to nutritional psychiatry. Oral – workshop.
- Dietitian Connections Australia Educational Webinars Series. Australia. June 12, 2019.**
- Rocks T. Diet and mental health: application for dietetic practice. Invited Speaker.
- Healthy Faculty 3MT Faculty Final. Burwood, Victoria, Australia. June 17, 2019.**
- Dawson S. Can the maternal and infant gut microbiota be altered through the perinatal diet? 3-minute thesis. Oral.
- 11th International Nanomedicine Conference. Sydney, New South Wales, Australia. June 22-24, 2019.**
- Kanwar J. Scientific Advisory Board for ARC Centre of Excellence in Convergent Bio-Nano Science & Technology. Attendee.
- International Conference for Children's Bone Health. Salzburg, Austria. June 22-25, 2019.**
- Duckham RL, Hyde NK, Brennan-Olsen SL, Hesketh K, Teo WP, Rodda C, Walsh A, Laing EM, Lewis RD. Do lifestyle factors play a role on bone health in boys diagnosed with Autism Spectrum Disorder? Preliminary data from the Promoting bone and gut health in our children (PROUD) study. Poster.
- Asia Pacific Congress of Nephrology (APCN). Nagoya, Japan. June 23, 2019.**
- Lecamwasam A. The identification of potential biomarkers of chronic kidney disease in individuals with diabetes. Poster.
- 10th International Nanomedicine Conference. Sydney, New South Wales, Australia. June 24-26, 2019.**
- Macdonald J, Denoyer D, Burvenich I, Pouliot N, Shigdar S. Targeted drug delivery reduces systemic and brain metastases. Oral.
- International Conference on Plasmodium Vivax Research (ICPvR) 2019. Paris, France. June 26-28, 2019.**
- Barry A, Fola A, Kattenberg E, Razook Z, Keo R, Koepfli C, Lautu D, Lee S, Mehra S, Bahlo M, Hetzel M, Laman M, Robinson L, Mueller I. Genomic insights into Plasmodium vivax transmission dynamics, the impact of control efforts and sources of rebound. Poster.
- Australian Society for Microbiology Special Interest Group Workshop. Adelaide, South Australia, Australia. July 03, 2019.**
- de Koning-Ward T. Adaption and evolution of eukaryotic microbes. Oral.
- Rajiv Gandhi Centre for Biotechnology, Kerala, India. July 03, 2019.**
- Vibin J (invited speaker), Chamings A, Klaassen M, Alexandersen S. Characterisation of viruses in Australian wild birds. Oral.
- 2nd Official SIPS Conference on Placebo Studies. Leiden, Netherlands. July 07-09, 2019.**
- Dodd, S. Incidence and characteristics of the nocebo response from meta-analyses of the placebo arms of clinical trials.
- Work in Progress Seminar Series, School of Medicine Monday seminar at Deakin University. Geelong, Victoria, Australia. July 08, 2019.**
- Kusuma Y. Influence of ethnicity on neuroimaging and clinical outcome post stroke. 3-minute thesis competition.
 - Berk M. Participation in commission.
- Australian Academy of Science 'Emerging Issues in Science and Society'. Melbourne, Victoria, Australia. July 12, 2019.**
- Craig JM. Genetic risk scores. Oral.
 - Interdisciplinary Network for Group Research Conference. Lisbon, Portugal. July 18-19, 2019.
 - Koehler T, Gonzalez-Morales GM, Sojo VE, Cortina JM, Olsen JE, O'Neil A, Vargas-Saenz A, Schachtman R, Holland E. The Effect of Team Pay Dispersion and Team Leader Manager Exchange on Perceived Incivility.
- American Society of Virology. Minnesota, Minneapolis, USA. July 20-24, 2019.**
- Chamings A, Druce J, Caly L, Yoga Y, Britton PN, Macartney K, Alexandersen S. A recombinant human parechovirus type 3 was the predominant virus implicated in epidemics in Australian children between 2013 and 2018. Oral.
- Nutrition Society of Australia Seminars Series. Perth, Western Australia. July 24, 2019.**
- Rocks T. Diet and mental health: mechanisms of action. Invited Speaker.
- Deakin University English Language Institute (DUELI) Annual Meeting. Melbourne, Victoria. July 26, 2019.**
- Rocks T. The role of diet in mental health: focus on a healthy gut. Invited Speaker.
- Australian Orthopaedic Association (AOA) Victoria Branch Winter Welcome, Melbourne, Victoria, Australia. August 02, 2019.**
- Page R. Victorian Orthopaedic Research Trust (VORT) address. Oral.
- Deakin University School of Medicine Research Seminar Series. Geelong, Victoria, Australia. August 02, 2019.**
- Rocks T. Food and Mood: Research update. Invited Speaker.
- Australian Cardiac Rehab Association. Sydney, New South Wales, Australia. August 05-07, 2019.**
- Scovelle A, O'Neil A. Examining sex inequalities in the evidence for the management of acute coronary syndrome (ACS): An audit of Australian clinical guidelines. Poster.
- Cardiac Society of Australia & New Zealand. Adelaide, South Australia, Australia. August 08-11, 2019.**
- Scovelle A, O'Neil A. Examining sex inequalities in the evidence for the management of acute coronary syndrome (ACS): An audit of Australian clinical guidelines. Oral.
- Australian Orthopaedic Association, Tasmanian Annual Scientific Meeting. Tasmania, Australia. August 10, 2019.**
- Maister N, Landers S, Hely A, Harrison B, Hely R, Page, Gill SD. Evaluating Interventional Embolisation of neovessels Improving OA knee pain (EIEIO) pilot data. Podium presentation.
- Dietitians Association of Australia 36th Annual Conference. August 13, 2019. Gold Coast, Queensland, Australia.**
- Rocks T. Mental Health Plenary. Invited Speaker.
- 62nd International Statistical Institute (ISI) World Statistics Congress. Kuala Lumpur, Malaysia. August 18-23, 2019.**
- Mohebbi M, Dodd S, Dean OM, Berk M. CPS1218: Evaluating agreement between ratings on The Patient Global Impression of Improvement (PGI-I) scale and the Clinical Global Impressions – Improvement (CGI-I): random effects linear models for estimating intraclass correlation coefficients for reliability research.
- Deakin University HDR Conference. Geelong, Victoria, Australia. August 19, 2019.**
- Cowdery SP. Mood disorders and cancer onset in women: Cross-sectional and longitudinal evidence. Poster.
- 20th Annual Scientific Meeting (ASM) of Australasian Gastro-Intestinal Trials Group (AGITG). Adelaide, South Australia, Australia. August 21-23, 2019.**
- Venugopal A, Ackland ML. Identification and characterization of novel markers in high-grade neuroendocrine tumour cells. Oral.
- Australian Diabetes Society Annual Scientific Meeting. Sydney, New South Wales, Australia. August 21-23, 2019.**
- Hall L, Czczor J, Connor T, McGee S. The Role of Amyloid Beta 42 in Heart Disease. Oral.
 - McCann J, Sithara S, Ellis M, Patel B, Hall L, McGee S, Aston-Mourney K. Metformin does not mediate its action via PKA and AMPK pathways In β -Cell. Poster.
 - Patel B, Sithara S, Ellis M, Crowley T, Walder K, Aston-Mourney K. Development of a novel gene expression-based high throughput screening approach for the identification of β -cell protective Drugs. Poster.
- Australian & New Zealand Academy for Eating Disorders. Adelaide, South Australia, Australia. August 22-23, 2019.**
- West M, Rocks T, Collier F, Loughman A, Jacka F, Ruusunen A.

Gut microbiota in anorexia nervosa and atypical anorexia – the effects of nutritional rehabilitation on gut microbiota: The ReGut study protocol. Oral.

European Health Psychology Society Conference. Dubrovnik, Croatia. September 03-07, 2019.

- Olive L, Byrne D, Telford R, Telford RD. The social identity process and school climate as novel targets for physical activity behaviour change. Oral.

13th Australian Peptide Conference. Port Douglas, Queensland, Australia. September 08-13, 2019.

- Smith CM. Validating the relaxin-3 neuropeptide receptor, RXFP3, as a promising target for the treatment of obesity and depression. Invited speaker.

29th Annual Scientific Meeting of The Stroke Society of Australasia 2019. Canberra, ACT, Australia. September 10-13, 2019.

- Kusuma Y. Influence of ethnicity on neuroimaging and clinical outcomes post stroke.

2019 IMPACT Institute Showcase. Geelong, Victoria, Australia. September 11, 2019.

Research Highlights

- Athan E. Turning the tide: Reduced incidence of IDU-associated IE following change to chlorhexidine-alcohol skin antisepsis: a public health intervention. Winner Best EMCR Oral presentation.
- Berk L, Mazza C. MyMAPS: protocol for an innovative, blended face-to-face and mobile application psychosocial intervention.
- Bortolasci CC. Stem cells.
- Botheras C, Bulach D, Athan E.

Genomic diversity of community-acquired *S. aureus* bacteraemia isolates. Poster.

- Dean O. IMPACT TRIALS.
- Hall L, Czczor J, Connor T, McGee S. The Role of Amyloid Beta 42 in Heart Disease. Oral.
- Hosking S. Health literacy and polypharmacy in older Australian women.
- Jacka F. Food & Mood Centre.
- Marx W. The effect of saffron supplementation on symptoms of depression and anxiety: a systematic review and meta-analysis.
- McGee S. Imitex.
- O’Hely M. Evaluating evidence of maternal-to-infant transmission of gut microbiota during birth.
- Olive L. Influence of stress and depression on vascular phenotypes in children: a target for early intervention?
- Russell S. Mixed methods analysis of mitochondrial agents in bipolar depression. Poster. (Winner Best Poster award).
- Stephenson G. Identifying evidence of dysbiosis and inflammation in the GIT of twins with autism.
- Turner A. Protocol for a feasibility study of RESET (Resuming Employment after Stroke: Enhancement through Tele-coordination).
- Vuillermin P. Barwon Infant Study (BIS).
- Williams L. CONEXUS.

Student talks

- Agustini B. The association of antihypertensive use and depressive symptoms in a large older population with hypertension living in Australia and the United States: a cross-sectional study.
- Cooper D. Staphylococcal biofilm attachment: an in vitro model.

- Davis J. Diet quality is longitudinally associated with skeletal muscle index in Australian women.
- Hall L. The role of Alzheimer’s disease protein amyloid beta 42 in heart disease.
- Kavanagh B. Personality disorder is associated with poor quality of life among Australian women with mental state disorders.
- Naung M. Dynamics of polymorphisms in a leading Plasmodium Falciparum vaccine candidate – reticulocyte binding homologue 5 (RH5).
- Tembo M. Total antioxidant capacity and frailty in older men.
- Tweeddale B. Investigation of effects of antibiotic duration on culture positivity of excised mycobacterium ulcerans disease lesions. Oral. Winner Best Honours Project presentation and Faculty of Health Publication Awards (Athan E supervisor).
- Voglsanger L. Dopamine and relaxin family peptide 3 receptor co-expression within feeding circuits of the mouse brain.
- Withanage A. Hypoallergenic variants of the major egg allergens.

Posters

- Abreu L. Health literacy in Australian women with impaired fasting glucose and diabetes: cross-sectional data from the Geelong Osteoporosis Study.
- Agustini B. Prevalence of depressive symptoms and its associated factors among healthy community-dwelling older adults living in Australia and the United States.
- Anderson K. Mood disorders and antidepressant use are associated with trabecular bone score in women.
- Arancini L. Age as a predictor of Quit attempts and Quit success in

smoking cessation. Findings from the ITC4-country survey.

- Ashton M. Interpersonal relationships in an adjunctive nutraceutical randomised controlled trial for bipolar depression.
- Aslam H. The effect of dairy and dairy derivatives on gut microbiota: A protocol for systematic literature review.
- Athan E. Controlling Buruli Ulcer in Victoria, Australia: A large-scale case-control study.
- Barua H. The impact of ‘gold standard’ methods on extracellular vesicle function study.
- Basak T. Bovine lactoferrin targets iron overload in human glioblastoma.
- Botheras C. Genomic diversity of community-acquired clinical *S. aureus* bacteraemia isolates.
- Chandrasekaran V. Quantitative Heel Ultrasound (QUS) and anticonvulsant use in a population-based study.
- Clements M. The role of media changes in the optimisation of static biofilm models.
- Cleminson J. Potential autocrine role for serotonin in human osteoclastogenesis.
- Cowdery S. Mood disorders and cancer onset: cross-sectional and longitudinal evidence in women.
- Dawson S. Can a perinatal educational dietary intervention alter the diversity of the infant gut microbiome? Preliminary results from a randomised controlled trial.
- Dawson S. Diversity of the prenatal faecal microbiota and offspring behaviour: a birth cohort study.
- Dichtl B. Regulating gene expression through alternative polyadenylation: from breast cancer to muscle development.
- Eraslan I. Distribution of relaxin

family peptide 3 receptor within stress circuits of the mouse brain, and co-expression with enkephalin.

- Gill S. Microembolisation of neovasculature in knee osteoarthritis: 12 month clinical outcomes and MRI results.
- Gill S. Simultaneous (two surgeon) versus staged or sequential bilateral knee arthroplasty: investigating intro-operative and post-operative outcomes using local and national registries.
- Hockey M. Is the glass half empty or half full? The associations between total, fermented and non-fermented dairy consumption, and depressive symptoms among middle aged Finnish men.
- Holloway-Kew K. How do we improve assessment of fracture risk for individuals with type 2 diabetes?
- Hosking S. A health literacy profile of Barwon Health Community Mental Health Services clients.
- Hyde N. Glycaemia control in pregnancy and offspring bone measures: the Vitamin D in Pregnancy Study.
- Hyde N. Maternal vitamin D in pregnancy and the risk of asthma in the offspring: the Vitamin D in Pregnancy Study.
- Lane M. Dietary interventions for weight loss and gut microbiota composition in adults with obesity: the MicroFit Study Protocol.
- Lautu D. Investigating Plasmodium falciparum artemisinin resistant mutations in Papua New Guinea.
- Loughman A. Predicting crying and behavioural outcomes from the microbiota of infants with colic.
- Mazur J. Efficacy of curcumin against brain cancer; natural therapeutics future with nanoparticle technology.
- McCann J, Sithara S, Ellis M, Patel B, Hall L, McGee S, Aston-Mourney K. Metformin does not mediate its
- action via PKA and AMPK pathways in β -Cells. Poster.
- McGuinness A. Differences in gut microbiome community structure associated with major depression: A systematic review of observational studies.
- Mein S. Depression Assist protocol for a novel online program for close family and friends of adults with major depressive disorder.
- Midge S. The exosome depleted serum is not depleted of exosome or extracellular vesicles.
- Mohebbi M. Evaluating agreement between ratings on The Patient Global Impression of Improvement (PGI-I) scale and the Clinical Global Impressions of Improvement (CGI-I).
- O’Neil A. Is a diabetes diagnosis or blood glucose a better predictor of depressive symptoms in the 2-years following Acute Coronary Syndrome (ACS)?
- Pedrina J. The role of ADAMTS versicanases in the immune response to influenza virus infection.
- Percival M. Maternal folate in pregnancy and offspring bone health: the Vitamin D in Pregnancy Study.
- Pham CV. Thermodynamic and kinetic insights into CD81-DNA aptamer interactions.
- Pitman E. Dissection of the assembly and function of the plasmodium export machinery.
- Roder C. Cost and outcomes of implantable cardiac electronic device infections in Victoria, Australia.
- Russell S. Mixed methods analysis of mitochondrial agents in bipolar depression.
- Stuart A. Falls in community-dwelling women with bipolar disorder.
- Sui S. Muscle strength and function

rather than muscle mass are better indicators for poo cognitive performance in older men: cross-sectional data from the Geelong Osteoporosis Study.

- Vibin J, Chamings A, Klaassen M, Alexandersen S. Australian wild ducks carry genetically different viruses and viruses with potential cross species transmissibility. Poster.
- West M. The effects of nutritional rehabilitation on gut microbiota in anorexia nervosa and atypical anorexia: the ReGut study protocol.
- Wong YT. Using epigenetics to predict the onset and different developmental trajectories in ADHD.
- Young C. Bringing e-Health Nutrition Education to populations for improved depression treatment: a randomised controlled trial protocol (BeNEFIT).
- Young C. Optimisation of an online dietary intervention for improvement of depressive symptoms: The My Food & Mood Project.

14th International Congress of Shoulder and Elbow Surgery (ICES). Buenos Aires, Argentina. September 17-20, 2019.

- Gill, SD, Beattie, S, Williams, S & Page, RS 2019a, 'Clinical quality registries for shoulder and elbow arthroplasty – lessons from a regional joint replacement registry.
- Page R. Molecular mechanism of adhesive capsulitis of the shoulder: Opportunities for novel treatment modalities. Poster.
- Page R. Assessing shoulder range of motion using a wireless inertial motion capture device - a validation study. Poster.
- Page R. Crossed linked polyethylene in conventional shoulder arthroplasty for osteoarthritis (OA): A national joint replacement registry

perspective on revision surgery. Oral – Podium.

- Page R. Primary reverse glenosphere size effects revision rates: A National Registry analysis. Oral – Podium.
- Page R. Staphylococcal biofilm attachment in prosthetic joint infection: an in vitro model for biofilm detection to guide treatment. Oral - Podium.

RANZCP 2019 New Zealand Conference. Nelson, New Zealand. September 18-20, 2019.

- Jacka F. Diet and mental health.

Asia Pacific Stroke Conference. Manila, Philippines. October 02-05, 2019.

- Kusuma Y. Influence of ethnicity on neuroimaging and clinical outcomes post stroke.
- Kusuma Y. Neuroimaging workshop. CT Perfusion. Oral.
- Kusuma Y. Neurosonology workshop. How to perform Trans Cranial Color Coded Duplex. Oral.
- Kusuma Y. Status and plans in South East Asia for World Stroke Organisation – Angels Initiative Regional Meeting. Oral.

Australian Orthopaedic Association (AOA) Annual Scientific Meeting, Canberra, Australia. October 06-10, 2019.

- Gill SD, Hill-Buxton LM, Gwini SM, Morrison S, Moreira B, Beattie S, Thomson A, Page RS. Simultaneous (two surgeon) versus staged bilateral knee arthroplasty: investigating intra-operative and post-operative outcome. Podium Presentation.
- Page R. Shoulder Registry Update – Plenary. Oral.
- Page R. Shoulder replacements in patients under the age of 50 years: an AOANJRR analysis of outcomes.
- Page R. Surgeon volume and its

association with revision rates in total shoulder arthroplasty: Data from the Australian Orthopaedic Association National Joint Replacement Registry.

45th International Mental Health Nursing Conference. Sydney, New South Wales, Australia. October 08-10, 2019.

- Jacka F. Diet and mental health.

Deakin University School of Medicine Staff Professional Development Day (Incorporating Post-Graduate Research Symposium). Geelong, Victoria, Australia. October 10, 2019.

- Bhatta T, Chamings A, Vibin J, Klaassen M, Alexandersen S. Detection of a reassortant H9N2 avian influenza virus with intercontinental gene segments in non-migratory Australian Chestnut teals. Poster.
- Cowdery SP. Mood disorders and cancer onset in women: Cross-sectional and longitudinal evidence. Oral.
- Lecamwasam A. The identification of potential biomarkers of chronic kidney disease in individuals with diabetes. Poster.
- Patel B, Sithara S, Ellis M, Crowley T, Walder K, Aston-Mourney K. Development of a novel gene expression-based high throughput screening approach for the identification of β -cell protective Drugs. Poster.

Victorian Infection and Immunity Network Young Investigators Symposium. Melbourne, Victoria, Australia. October 10, 2019.

- Naung M, Martin E, Boleda A, Cummings M, Razook Z, Utama D, Wong W, Guy AJ, Cowman A, Mueller I, Barry AE. Dynamics of polymorphism in a leading

Plasmodium falciparum vaccine candidate - Reticulocyte Binding Protein Homologue 5 (RH5). Poster.

- Pedrina J. The role of ADAMTS15 versicanase in the immune response to Influenza - a virus infection. Poster.
- Pitman E, Matthews K, de Koning-Ward T. Dissection of the assembly and operation of the Plasmodium export machinery. Poster.

Family Services Regional Parenting Unit Public Seminar. Camperdown, Victoria, Australia. October 14, 2019.

- Rocks T. Diet and mental health across the life stages. Invited Speaker.

International Society for the Study of Personality Disorders. Vancouver, Canada. October 15-18, 2019.

- Kavanagh BE, Stuart AL, Berk M, Turner A, Dean OM, Pasco JA, Jackson HJ, Koivumaa-Honkanen H, Chanen AM, Williams LJ. Mental state and personality disorders are associated with low quality of life among Australian women.

Australia and New Zealand Obesity Society Meeting ANZOS-ASLM-ICCR 2019. Sydney, New South Wales, Australia. October 16-18, 2019.

- Dean O. Factors contributing to treatment response in an adjunctive clinical trial for bipolar depression. Oral.
- Lane, M. The effect of very-low energy diets based on ultra-processed food on gut microbiota and metabolic outcomes in obese individuals: A systematic review. Poster.
- McGee S. Symposia on Energy Expenditure. Targeting skeletal muscle to increase energy expenditure. Oral.

Society for Neuroscience 2019. Chicago, Illinois, USA. October 19-23, 2019.

- Leung A, Barrow C, Berk M, Dean O, Neale A, Bortolasci C, Walder K, Dodd S, Harvey B. Production of purified fractions from garcinia mangostana l. (mangosteen) pericarp containing bioactive compounds and testing in anti-inflammatory cellular in-vitro assays (C8-B4 cell line). Poster.

2nd International Society for Nutritional Psychiatry Research (ISNPR). London, UK. October 20-22, 2019.

- Collins S. Diet and mental health during emerging adulthood: a systematic review. Poster.
- Davis JA, Collier F, Mohebbi M, Stuart AL, Loughman A, Pasco JA and Jacka FN. The Dietary Inflammatory Index and a vegetarian dietary pattern are longitudinally associated with skeletal muscle index in Australian women.
- Green J. Faecal Microbiota Transplants for depression: an overview of the Moving Moods Study protocol.
- Hoare E. Dietary and physical activity risk behaviours and health-related quality of life: baseline findings of the Australian Goulburn Valley health behaviours monitoring study and implications for mental health prevention.
- Howland G, Jacka F, O'Neil A, Rosenbaum S, Rocks T. Can dietary intervention improve symptoms in Post-Traumatic Stress Disorder? Protocol for a systematic literature review. Poster.
- Jacka F, Marx W, Rocks T. Introduction to Nutritional Psychiatry. Oral.
- Jacka F. Diet and mental health.
- Ruusunen A. Ketogenic Diet for

psychotic disorders: feasibility of randomised controlled pilot study in psychotic inpatients (PsyDiet).

- Staudacher H, Young C, Marx W, O'Neil A, Jacka F. Design, development and evaluation of a control condition for an online nutrition intervention in individuals with depression. Poster.
- Ward PB, Teasdale S, Firth J, Ruusunen A. The role of nutrition and nutrient supplementation in mental illness: Exploring the latest top tier evidence.
- West M. The effects of nutritional rehabilitation on gut microbiota in anorexia nervosa and atypical anorexia: The ReGut Study Protocol. Poster.

11th Developmental Origins of Health and Disease (DOHaD). Melbourne, Victoria, Australia. October 20-23, 2019.

- Almeida DL, Saavedra LPJ, Tofolo LP, Moreira VM, Armitage JA, Palma-Rigo K, Mathias PCF DOHaD and Exercise: Physical Activity as a Tool in the Programming/Deprogramming Paradox. Oral.
- Craig JM. The role of epigenetics in neurodevelopmental disorders. Oral.
- Cullen-McEwen LA, Puelles VG, van der Wolde J, Armitage JA, Tribolet T, Black MJ, Dowling JP, de Matteo R, Bertram MG Bertram JF. Low birth weight, low nephron and podocyte endowment and catch-up growth contribute to adult risk of renal pathophysiology. Poster.
- Dawson SL, O'Hely M, Ponsonby A-L, Symeonides C, Saffery R, Tang M L, Sly P, Ranganathan S, Jacka FN, Vuillermin P and the BIS Investigator Group. Diversity of the prenatal faecal microbiota and offspring behaviour: a birth cohort study. Oral.
- Hosking SM, Hyde NK, Beauchamp

A, Brennan-Olsen SL, Williams LJ, Pasco JA. Maternal health literacy and child sun protective behaviours among Australian children.

- Hyde NK, Vuillerman P, Wark JD, Hosking SM, Pasco JA. Maternal vitamin D in pregnancy and the risk of asthma in the offspring: the Vitamin D in Pregnancy study.
- Khan MH, Gentle A, Hanna L, Lam AKC, To CH, Armitage JA. Does mismatch between retinal vascular endowment and eye size suggest that ocular disease can be programmed by an inappropriate predictive adaptive response? Oral.
- Loughman A, Quinn TP, Nation ML, Reichelt A, Moore RJ, Van TTH, Sung V, Tang M. Predicting crying and behavioural outcomes from the microbiota of infants with colic. Poster/Oral.
- Palma-Rigo K, Alves VS, Tofolo L, Saavedra L, Francisco FA, Oliveira AR, Silveira SS, Peres MNC, Santos BG, Gomes RM, Armitage JA, Mathias PCF. High fat diet exposure during adolescence induces cardiometabolic syndrome in adulthood.
- Percival M, Pasco JA, Hosking SM, Williams LJ, Holloway-Kew KL, Hyde NK. Maternal folate in pregnancy and offspring bone health: The Vitamin D in Pregnancy Study.
- Senn E. Early life microbial exposure, child neurocognition and behaviour at years of age: a birth cohort study. Poster.

Sports Medicine Australia Conference. Maroochydore, Queensland, Australia. October 23-26, 2019.

- Olive L, Telford R, Telford RD. Is physical education in Australian primary schools helping or hindering the mental health of young girls? Oral.
- Telford R, Telford RD, Olive L. The

Physical Education and Physical Literacy (PEPL) Approach: a multicomponent primary school intervention targeting physical literacy. Oral.

National Symposium for Infective Endocarditis. Brisbane, Queensland, Australia. October 26, 2019.

- Athan E. Modern challenges in infective endocarditis. Keynote speaker.

Biological Psychiatry Australia (BPA) 9th Annual Scientific Meeting. Melbourne, Australia. October 27-29, 2019.

- Walker AJ, Bortolasci CC, Mohebbi M, Ashton MM, Kanchanatawan B, Singh A, Ng C, Mahli G, Dowling N, Maes M, Walder K, Berk M, Dean OD. Adjunctive minocycline for major depressive disorder: Characterisation of peripheral immune-inflammatory profile. Poster.

12th COGNO (Cooperative Trials Group for Neuro-Oncology Annual Scientific Meeting. Sydney, New South Wales, Australia. October 27-29, 2019.

- Macdonald J, Denoyer D, Burvenich I, Pouliot N, Shigdar S. Targeted drug delivery reduces brain metastases. Oral.

Australian & New Zealand Bone and Mineral Society Annual Scientific Meeting (ANZBMS). Darwin, Northern Territory, Australia. October 27-30, 2019.

- Hosking SM, Holloway KL, Williams LJ, Beauchamp A, Hyde NK, Pasco JA. Associations between health literacy in men and sharing of DXA results with doctors. Poster.
- Anderson KB, Holloway-Kew KL, Williams LJ, Pasco JA. Mood disorders and antidepressant use

are associated with trabecular bone score in women. Poster and mini oral (Nominated for Chris and Margie Nordin award).

- Cleminson JR, Hodge JM, Pasco JA, Collier F, Samarasinghe R, Williams LJ. Potential regulatory role for serotonin in human osteoclastogenesis. Poster.
- Holloway-Kew KL, Rufus-Membere P, Anderson KG, Kotowicz MA, Diez-Perez A, Hyde NK, Pasco JA. Bone material strength index is associated with prior fracture in men with and without moderate to severe chronic kidney disease. Poster.
- Hyde NK, Percival MA, Hosking SM, Holloway-Kew KL, Wark JD, Pasco JA. Glycaemic control in pregnancy and offspring bone measures: The Vitamin D in Pregnancy study. Poster.
- Pasco JA, Holloway-Kew KL, Hyde NK, Williams LJ, Kotowicz MA. Osteosarcopenia in women is associated with low dietary selenium. Poster.
- Rufus-Membere P, Holloway-Kew KL, Diez-Perez A, Kotowicz MA, Pasco JA. Associations between bone material strength index, parameters of calcaneal quantitative ultrasound and bone mineral density in men. Poster.
- Stuart AL, Pasco JA, Berk M, Cowdery SP, Chandrasekaran V, Williams LJ. Falls in community-dwelling women with bipolar disorder. Poster.
- Sui SX, Holloway-Kew KL, Hyde NK, Williams LJ, Tembo MC, Leach S, Pasco JA. Definition-specific prevalence estimates for sarcopenia in older women: the Geelong Osteoporosis Study. Poster.
- Williams LJ, Stuart AL, Berk M, Brennan-Olsen SL, Hodge JA, Chandrasekaran V, Cleminson JR, Kotowicz MA, Pasco JA. Bipolar disorder and bone mineral density

(BMD). Poster.

- Bone and Tissue Banking. Deakin Estate, Waurn Ponds, Victoria, Australia. October 28, 2019.
- Page R. Exploring the concept of "attenuation". Oral.

Malaria in Melbourne 2019. Parkville, Victoria, Australia. October 28-29, 2019.

- Edgar R, Counihan N, McGowan S, de Koning-Ward T. Locating and characterising M1 and M17 aminopeptidases in Plasmodium falciparum. Poster.
- Gumal DL, Razook Z, Koleala T, Nate E, Hetzel M, Makita L, Laman M, Robinson L, Barry A. Red flag or false alarm? Molecular Markers of artemisinin resistance in Papua New Guinea. Oral and Poster.
- Mehra S, Razook Z, Utama D, Bahlo M, Barry AE/ Telomere-to-telomere de novo assembly of long read sequencing data unlocks complex variation in the Plasmodium falciparum genome. Oral.
- Naung M, Mehra S, Elijah Martin, Andrew J. Guy, Jacob Munro, Melanie Bahlo, Alyssa E. Barry, Global diversity and natural selection of leading Plasmodium falciparum vaccine candidate antigens. Oral.
- Pitman E, Matthews K, de Koning-Ward. Dissection of the assembly and operation of the Plasmodium export machinery. Poster.
- Razook Z, Mehra S, Gilchrist B, Utama D, Lautu D, Fola A, Munro J, Mueller I, Kazura J, Robinson L, Bahlo M, Barry A. Real-time whole genome sequencing of Plasmodium Field Isolates. Oral.

World of Microbiome Pregnancy, Birth & Infancy. Milan, Italy. October 31-November 02, 2019.

- Dawson SL, Mohebbi M, Craig J,

Clarke G, Tang ML, Jacka FN. Can a perinatal educational dietary intervention alter the diversity of the infant gut microbiome? Preliminary results from a randomised controlled trial. Poster.

Australian Association of Gerontology (AAG). Sydney, New South Wales, Australia. November 05-08, 2019.

- Hosking SM, Page AT, Williams LJ, Holloway-Kew KL, Pasco JA. Health literacy and polypharmacy in older Australian women.

International Surf Therapy Organization (ISTO) Symposium. Los Angeles, California, USA. November 08-10, 2019.

- Olive L. The Ocean Mind Surf Therapy program. Invited presentation.

Looking over your shoulder - GP & Allied Health. Geelong, Victoria, Australia. November 13, 2019.

- Page R. Shoulder arthroplasty and evaluation of patients who are suitable.

International Society of Affective Disorders. London, UK. November 14-16, 2019.

- Agustini B. The association of antihypertensive use and depressive symptoms in a large older population with uncomplicated hypertension living in Australia and the United States: A cross-sectional study.
- Berk M. Translating evidence from nutritional epidemiology to interventions for depression: challenges, results and future perspectives.

Forbes week main academic ID program for Victoria Invited Professor Program Emerging Infections.

November 19-22, 2019.

- Athan E. Convenor.
- Botheras C. Predicting disease presentation in Staphylococcus aureus bacteraemia. Oral.

American Society of Tropical Medicine and Hygiene 2019. Washington DC, USA. November 20-24, 2019.

- Barry A, Lautu-Gumal D, Razook Z, Koleala T, Nate E, Hetzel M, Mueller I, Makita L, Laman M, Robinson L. Red Flag or False Alarm? Molecular markers of Plasmodium falciparum artemisinin resistance in Papua New Guinea. Oral.
- Barry A. Unexpected changes in malaria parasite diversity and population structure with transmission decline and resurgence in Papua New Guinea. Oral.

Biannual Conference on Exercise, Muscle and Metabolism. Melbourne, Australia. November 21, 2019.

- McGee S. Targeting MEF2 for metabolic benefit. Oral.

Australian and New Zealand Society for Sarcopenia and Frailty Research. November 22-23, 2019.

- Davis JA. Diet quality and muscle health: protocol for a systematic review and meta-analysis of observational and intervention data. Poster.
- Pasco JA, Tembo MC, Hyde NK, Anderson KB, Williams LJ, Kotowicz MA, Sui SX, Holloway-Kew KL. Leg muscle mass, strength and quality in relation to high falls risk: Geelong Osteoporosis Study. Poster.
- Sui SX, Holloway-Kew KL, Hyde NK, Williams LJ, Leach S, Pasco JA. Definition-specific prevalence estimates for sarcopenia in an Australian population: the Geelong Osteoporosis Study. Oral/poster.

- Tembo MC, Holloway-Kew KL, Bortolasci CC, Sui SX, Brennan-Olsen SL, Williams LJ, Kotowicz MA and Pasco JA. Association between serum interleukin-6 and frailty in older men. Poster.

Victorian Shoulder and Elbow Society, Melbourne, Victoria, Australia. November 22-23, 2019.

- Page R. International Shoulder Arthroplasty Registry Update. Oral – Plenary.
- Page R. Looking over your shoulder.

6th Annual EMBL Australia Postgraduate Symposium (EAPS19), Melbourne, Victoria, Australia. November 27-29, 2019.

- Basak T. Bovine lactoferrin targets iron overload in human glioblastoma.
- Mazur J. Efficacy of curcumin against brain cancer; natural therapeutic future with nanoparticle technology. Poster.
- Pham CV. Mechanism of interactions between the large extracellular loop of CD81 and aptamers. Poster.

41st SMHR (Society for Mental Health Research), Melbourne, Victoria, Australia. November 27-29, 2019.

- Agustini B. The association of antihypertensive use and depressive symptoms in a large older population with hypertension living in Australia and the United States: A cross-sectional study. Oral.
- Anderson KB, Holloway-Kew KL, Williams LJ, Pasco JA. Mood disorders and antidepressant use are associated with trabecular bone score in women. Oral.
- Ashton MM. Physical activity as a predictor of outcomes in a bipolar disorder clinical trial. Oral.
- Cleminson J, Hodge J, Pasco JA,

Collier F, Samarasinghe R, Williams LJ. Potential regulatory role for serotonin in human bone cell formation. Poster.

- Collins S. Diet and mental health during emerging adulthood: a systematic review. Poster.
- Corney K, Pasco JA, Stuart AL, Sui SX, Williams LJ. Psychotropic medication use and its association with overall cognitive function. Poster.
- Cowdery S, Stuart AL, Pasco JA, Berk M, Campbell D, Bjerkeset O, Williams LJ. Mood disorders and cancer onset in men: exploring lifestyle and sociodemographic mechanisms. Poster.
- Dawson SL, O’Hely M, Ponsonby A-L, Symeonides C, Saffery R, Tang L, Sly P, Ranganathan S, Jacka FN, Vuillermin P and the BIS Investigator Group. Diversity of the prenatal faecal microbiota and offspring behaviour: a birth cohort study. Poster.
- Dean O, Hanstock T, Ratheesh A, Douglas K, Berk L. A showcase of mood-disorder research led by early/mid-career researchers from the Australasian Society for Bipolar and Depressive Disorders (ASBDD).
- Dean O. Symposium Chair: Lifestyle interventions for affective disorders.
- Dean O. Symposium presentation (and Chair): Showcasing research from the ASBDD.
- Dean O. Symposium presentation: N-ICE trial update.
- Hendriks L, Mihalopoulos C, Loo C, Chatterton ML. Cost-Effectiveness of rTMS as add-on therapy to Standard Care for the Treatment of Hallucinations in Schizophrenia. Oral.
- Hosking S, Beauchamp A, Williams LJ, Watt M. A health literacy profile of clients accessing community mental health services. Oral.
- Jacka F. Diet and mental health.

- Kavanagh BE, Ashton MM, Cowdery S, Dean OM, Turner A, Berk M, Brennan-Olsen SL, Koivumaa-Honkanen H, Williams LJ. The Role of Personality Disorder in Randomised Controlled Trials of Pharmacological Interventions for Adults with Mood Disorders: A Systematic Review and Meta-Analysis. Oral.
- Manavi BA, Stuart AL, Pasco JA, Hodge J, Williams LJ. Antipsychotic medication and its relationship with bone mineral density. Poster.
- Mazza C. MyMAPS: protocol for an innovative, blended face-to-face mobile application psychosocial intervention. Poster.
- Mihalopoulos C, Chatterton ML, Engel L, Lee YY. Introduction to Economic Evaluation in Mental Health. 1/2 day workshop.
- Mihalopoulos C, Shih S, Le LKD, Richards-Jones S, Lawrence D, Engel L, Chatterton ML. The health care costs of mental disorders in children and adolescent. Oral.
- O’Neil A, Sojo V, Scovelle AJ, Poval P, Koehler T, Olsen J. Using ecological momentary assessment and wearable sensors to examine the relationship between stress and cardiovascular risk markers in Australian workers. Oral.
- Olive L, Abhayaratna W, Telford RM, Berk M, Telford RD. The role of childhood depressive symptoms in the risk for cardiovascular disease: the LOOK Study. Oral.
- Russell S. Mixed methods analysis of mitochondrial agents in bipolar depression. Poster.
- Stuart AL, Pasco JA, Berk M, Cowdery SP, Chandrasekaran V, Williams LJ. Falls in community-dwelling women with bipolar disorder. Poster.
- Sui SX, Williams LJ, Holloway-Kew KL, Hyde NK, Leach S, Pasco JA. Muscle

strength and function rather than muscle mass are better indicators for poor cognitive performance in older men: a cross-sectional data from the Geelong Osteoporosis Study. Poster.

- Turner A, Baker AL, Borland R, Bonevski B, Segan C, Brophy L, McCarter K, Kelly PJ, Williams JM, Baird D, Attia J, Sweeney R, White SL, Folia S, Castle D. Protocol for a randomised controlled trial of Quitlink: Peer worker facilitated Quitline support for smokers receiving mental health services. Poster.
- Walker AJ, Price JB, Russ J, He C, Sutor SL, McGillivray JA, Frye MA, Tye SJ. Antidepressant-like effects of ketamine in a rodent model of antidepressant-resistance: Insulin-mediated mTOR signalling as a potential biological correlate. Oral.
- Williams LJ, Stuart AL, Pasco JA, Brennan-Olsen SL, Hodge JM, Chandrasekaran V, Cleminson JR, Kotowicz MA, Berk M. Bipolar disorder and bone health. Poster.

Geelong Orthopaedic Society, Geelong, Victoria, Australia. November 29, 2019.

- Gill SD. Bilateral knee replacement surgery - the state of the nation. Podium presentation.
- Page R. From joints to genes – current B-CORE research.

World Congress of Paediatric & Adolescent Gynaecology 2019, Melbourne, Victoria, Australia. November 30-December 03, 2019.

- Loughman A. Microbiome, mood, brain and pain: the science and promise of the gut-brain axis. Invited presentation.

International Congress of Diabetes, Busan, South Korea, December 02-05, 2019.

- O’Neil A. The association between diet and depression in patients with and at risk of cardiovascular disease and diabetes. Oral invited plenary.

Nutrition Society of Australia 43rd Annual Scientific Meeting, Newcastle, New South Wales, Australia. December 02-05, 2019.

- Davis JA. Relationship of the commensal bacteria Akkermansia Muciniphila with obesity status in Australian men. Oral.
- Lane, M. The effect of very-low calorie diets based on ultra-processed food on gut microbiota and metabolic outcomes in obese individuals: A systematic review. Poster.

Epidemics7 – Seventh International Conference on Infectious Disease Dynamics, Charleston, South Carolina, USA. December 03-06, 2019.

- Mehra S, Harrison GL, Hetzel M, Siba P, Mueller I, Bahlo M, Barry AE. Measuring Plasmodium falciparum relatedness and population connectivity in high transmission settings. Poster.

Wild and Comparative Immunology (WACI), Melbourne, Victoria, Australia. December 04-05, 2019.

- Shigdar S. Can aptamers fill the gap? Their potential for WACI. Oral.

Mind, Body, Balance, Brisbane, Queensland, Australia. December 05, 2019.

- Jacka F. Diet and mental health.

2nd Body Image & Related Disorders (BIRD) Conference, Melbourne, Victoria, Australia. December 06, 2019.

- Rocks T. Gut microbiome in anorexia nervosa: relevance for nutritional rehabilitation. Invited Speaker.

Australian Bioinformatics and Computational Biology Society Annual Conference, Sydney, New South Wales, Australia. December 09-11, 2019.

- Gao Y. The relationship between maternal gut microbiota during pregnancy and the offspring immune phenotype: a birth cohort study. Poster.
- O’Hely M. Evaluating evidence of maternal-to-infant transmission of gut microbiota during birth. Poster.

Publications

Publications

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