**BAKER INSTITUTE – LA TROBE CARDIOVASCULAR RESEARCH SYMPOSIUM**
**DAY 1**

**PROGRAM**

12:00  **Registration commences**  
Alfred Research Alliance Education Centre, Foyer  
Please help yourself to tea and coffee

13:00  **Welcome and introduction**

13:00  **Tom Marwick, Baker Institute**  
Symposium Opening

13:10  **Shaun Collin, La Trobe University**  
Looking to the future: Harnessing links between La Trobe University and Baker Heart and Diabetes Institute in biomedical sciences

13:30  **Session 1**  
Chairs: Rachel Climie and Leah Wright, Baker Institute

13:30  **Gemma Figtree, Kolling Institute of Medical Research**  
Embedding cardiovascular innovation and translational research into the Australian health ecosystem for improved patient care

14:20  **Andre La Gerche, Baker Institute**  
Exercise and cardiac remodelling

14:35  **Leeanne Carey, La Trobe University**  
Neurorehabilitation and recovery after stroke: discovery and implementation

**TIME**

Sessions: 13:00–17:00
Poster/Mixer: 17:50–19:00

**VENUE**

Alfred Research Alliance Education Centre, Seminar Room
Poster venue: Baker Tower (Level 7)

**CONTACTS**

**David Greening**  
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**Alex Pinto**  
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**Grant Drummond**  
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**Chris Sobey**  
0424 715 321

[baker.edu.au](http://baker.edu.au)  
[www.latrobe.edu.au](http://www.latrobe.edu.au)
14:50
Julian Sacre, Baker Institute
Outcomes of diabetes in cohort studies and data linkages

15:05
Manoj Chandrabose, Baker Institute
Identifying attributes of urban environments harmful to cardiovascular health: insights from AusDiab

15:20 Afternoon Break

16:10 Session 2
Chairs: Laura Osellame, La Trobe University and Yi Wang, Baker Institute

15:50
Neale Cohen, Baker Institute
Developing the artificial pancreas

16:05
Vaughan Macefield, Baker Institute
Identifying the human sympathetic connectome involved in blood pressure regulation

16:20
David Kaye, Baker Institute
Pathophysiology of HFpEF: What target next?

16:35
Thiruma Valavan Arumugam, National University of Singapore
Genetic and epigenetic basis of intermittent fasting: Impact on brain and cardiometabolic resilience

17:05
David Asher, Baker Institute
Application of machine learning to improve personalised health care

17:50 Posters and Refreshments
Level 7, Baker Tower
Posters should be installed prior to the poster session
Poster presenters should be present at their poster

19:00 Close
Session 3

Chair: Alin Rai and Helena Qin, Baker Institute

9:10
Rob Pike, La Trobe University
Towards a multi-disciplinary future in biomedical research at La Trobe University

9:25
Yuning Hong, La Trobe University
An activity-based fluorogen for quantifying intracellular polarity of protein environment

9:40
Belinda Abbott, La Trobe University
Synthesis and biological evaluation of N-Benzylsulfonyl-2-phenylazepanes as potent inhibitors of Bim expression

9:55
Hamsa Puthalakath, La Trobe University
A novel approach to develop drugs for treating cardiomyopathy

10:10
Laura Osellame, La Trobe University
Mechanisms of tumour metabolic reprogramming by Fn14 as a driver of cancer cachexia

10:25
Jacqueline Orian, La Trobe University
Targeting activated platelets for anti-inflammatory and neuroprotective drug delivery in multiple sclerosis

10:40
Morning Break
Session 4
Chairs: Meaghan Smith and Alex Smith, Baker Institute

11:00
Corey Giles, Baker Institute
Multi-omic profiling: A pathway to precision medicine

11:15
Malathi Dona, Baker Institute and La Trobe University
High-dimensional profiling of cellular drivers of tissue dysfunction

11:30
Brian Drew, Baker Institute
Novel "lincs" in Heart Failure

11:45
David Greening, Baker Institute and La Trobe University
Deep-omic approaches to understand secretome signalling

12:00
Bing Wang, Baker Institute
The roles of uremic toxins in cardiorenal syndrome

12:15
Anna Calkin, Baker Institute
Utilising integrative systems biology to identify novel regulators of lipid metabolism

Lunch Break

Session 5
Chairs: Graeme Lancaster and Kevin Huynh, Baker Institute

13:15
Antony Vinh, La Trobe University
Immunity, inflammation and hypertensive disease

13:30
Judy De Hann, Baker Institute
Effect of Nrf2 activation on the nlrp3-inflammasome, macrophage cytokine production and vascular inflammation in diabetic mice: therapeutic and genetic studies

13:45
Maria Jelinic, La Trobe University
Para- and perirenal adipose inflammation precedes renal inflammation in obesity

Session 6
Chairs: Graeme Lancaster and Kevin Huynh, Baker Institute

14:00
Lokman Pang, La Trobe University
Investigating the role of STAT3 signalling in intestinal barrier function
Jennifer Huynh, La Trobe University
An immunomodulatory role for IL-11 in colon cancer

Aowen Zhuang, Baker Institute
Cardiac-specific IDOL is associated with improved cardiac function in a high fat diet environment

Youwen Qin, Baker Institute
Genomics of plasma metabolome suggests causal links between heart and liver diseases

Jordyn Thomas, La Trobe University
Inflammation and elevated blood pressure

Ruqaya Malik, La Trobe University
Are nanomedicines being under-utilised in the clinic for treatment of triple-negative breast cancer?

Simon Bond, Baker Institute
Deletion of Trim28 in committed adipocytes promotes obesity but preserves metabolic health

Charlie Cohen, Baker Institute
Type-2 diabetes induces remodelling of the cardiac cellular landscape

Quynh Nhu Dinh, La Trobe
Hypertensive stimuli promote brain inflammation and cognitive impairment in a pressure-dependent manner

Alison Cheong, La Trobe
Switch in mechanism of action prevents doxorubicin-mediated cardiotoxicity

Afternoon Break

Session 7
Chairs: Chris Sobey

Amrita Ahluwalia, William Harvey Research Institute
Editor-In-Chief, British Journal of Pharmacology
The non-canonical pathway for NO generation: nitrate to nitrite to NO

Tom Marwick, Baker Institute
Grant Drummond, La Trobe University
Prize Awarding
Keynote speakers

Amrita Ahluwalia

Amrita Ahluwalia is Professor of Vascular Pharmacology and Co-Director of The William Harvey Research Institute, Barts and the London School of Medicine and Dentistry at QMUL. Her research focuses on enhancing understanding of the inflammatory processes involved in diseases of the cardiovascular system and in this way identifying novel therapeutic targets. A major research focus of her group is the study of the bioactivity of the reductive nitrate-to nitrite to NO pathway, often dubbed the enterosalivary circuit of inorganic nitrate. Prof Ahluwalia’s group made seminal discoveries in the field not least the cardioprotective actions of nitrite and the blood pressure lowering efficacy of dietary nitrate. Prof Ahluwalia also plays an active role in research dissemination in her capacity as EiC of The British Journal of Pharmacology and plays an active role in initiatives seeking to engender equality in the workplace.

Professor Gemma A Figtree
MB BS, DPhil (Oxon), FRACP, FCSANZ, FAHA

Gemma Figtree is a Professor in Medicine at the University of Sydney. She co-leads the Cardiovascular Theme for Sydney Health Partners, a NHMRC Advanced Health Research and Translation Centre and is the Chair of the University of Sydney’s multi-disciplinary Cardiovascular Initiative. Gemma completed her DPhil at Oxford University in 2002 supported by a Rhodes Scholarship making fundamental discoveries regarding estrogen’s actions and factors regulating NO/redox balance in the cardiovascular system. She is committed to improving the care for heart attack patients- using her knowledge of molecular and cellular biology to develop methods of identifying those at highest risk of adverse outcome, and discovering novel therapies to prevent and treat events, inspired by her clinical work as an interventional cardiologist. She has dedicated herself throughout her career to unravelling key mechanisms underlying susceptibility and response to heart attack, with studies extending from the bench to large cohort studies and clinical trials. Discoveries in her Laboratory have been published in leading journals Circulation, JACC and European Heart Journal, with > 140 publications.

Gemma is a principal investigator on grants >$8 mill. Having recently completed a co-funded NHMRC CDF and Heart Foundation Future Leader Fellowship, she was awarded a National Health and Medical Research Council (NHMRC) Excellence Award for Top Ranked Practitioner Fellow (Australia), commencing in 2018. In 2019 she received the prestigious NSW Ministerial Award for Cardiovascular Research Excellence. Gemma is committed to the advancement of her field and serves as a member of the Editorial Board of leading international cardiovascular journals Circulation and Cardiovascular Research, as well as being a founding editorial board member for Redox Biology, and an Associate Editor for Heart, Lung and Circulation. Her research and clinical perspective and leadership are recognised by her membership of the Scientific Board of Cardiac Society of Australia and New Zealand (responsible for International Relations), and her appointment to the Expert Advisory Panel for NHMRC Structural Review of Grants Program (2016-17), and as well as the Clinical Committee of the Heart Foundation. She is committed to the promotion and advocacy of cardiovascular research, working as President of the Australian Cardiovascular Alliance with a national team to secure $220 Million Federal funding for the Mission for Cardiovascular Health, as well as a member of the NSW CVD Advisory Committee. She now chairs the Mission (CV) Expert Advisory Panel. She is a graduate of the Australian Institute of Company Directors and serves/has served as a non-executive Director on multiple community Boards.
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<td>Alexander Smith</td>
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<td>Omics characterization of mimetic-nanovesicles reveals their relevance as a therapeutic modality</td>
<td>Amirmohammad Nasiri Kenari</td>
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<td>Challenges in exosomes isolation from primary biological samples</td>
<td>Antonia Reale</td>
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<td>Comparison of non-myocyte cell isolation protocols for single cell studies</td>
<td>Gabriella Farrugia</td>
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<td>Correcting index databases can improve clinical and environmental metagenomics studies</td>
<td>Guillaume Meric</td>
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<td>Exosomes orchestrate fibroblast-led invasion of cancer cells</td>
<td>Alin Rai</td>
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<td>Deep learning for polygenic scores of complex human traits</td>
<td>Jason Grealey</td>
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<td>Multi-Omics’ separates the signatures of unstable from stable atherosclerotic plaques and identifies novel targets for plaque stabilisation</td>
<td>Meaghan Smith</td>
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<td>Genomic risk scores for predicting juvenile idiopathic arthritis</td>
<td>Rodrigo Canovas</td>
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<td>Comparison of two mice models of non-alcoholic steatohepatitis</td>
<td>Selena Peng</td>
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<td>An AIE-active molecular reporter for protein carbonylation</td>
<td>Siyang Ding</td>
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<td>Talking before birth: Understanding how an embryo communicates during implantation</td>
<td>Qi Hui Poh</td>
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<td>Macrophage lipid metabolism is altered by polarisation state</td>
<td>Pooranee Morgan</td>
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<td>Platelets as killers of neurons in multiple sclerosis</td>
<td>Nuzhat Tabassum</td>
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<td>Renal microvascular rarefaction accompanies interstitial fibrosis and tubular damage in one kidney-deoxyxorticosterone scetate-dalt (1K/DOCA/salt)-dependent hypertension</td>
<td>Narbada Saini</td>
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<td>IDOL enhances glucose metabolism in skeletal muscle</td>
<td>Yi Wang</td>
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<td>Prediction of incident liver disease using gut metagenomics and patient metadata with machine learning</td>
<td>Yang Liu</td>
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<td>Implementation and evaluation of a nurse-led atrial fibrillation education program</td>
<td>Sonia Azzopardi</td>
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<td>Investigating the role of the inflammatory enzyme heparanase in early stage atherosclerosis</td>
<td>Tien Nguyen</td>
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<td>Selectively targeting the NLRP3 inflammasome to attenuate diabetes-associated atherosclerosis</td>
<td>Judy Choi</td>
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<td>Platelets are a novel multiple sclerosis therapeutic target</td>
<td>Jing Ting Vernise Lim</td>
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<td>Sex-based differences in obesity, gut dysbiosis and inflammation in high-fat diet mice.</td>
<td>Holly Brettle</td>
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<td>AXMAP – the Australian pdX MelanomA Project</td>
<td>Jen Cheung</td>
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