



THE UNIVERSITY OF  
MELBOURNE

# 2023 MDHS Honours Student Conference

Program  
Wednesday 25th October



## **Acknowledgement of Country**

The Faculty of Medicine, Dentistry and Health Sciences acknowledges the Wurundjeri people of the Kulin Nation and the Yorta Yorta Nation, the Traditional Owners of the lands on which our campuses are situated. We pay our respect to Elders past and present.

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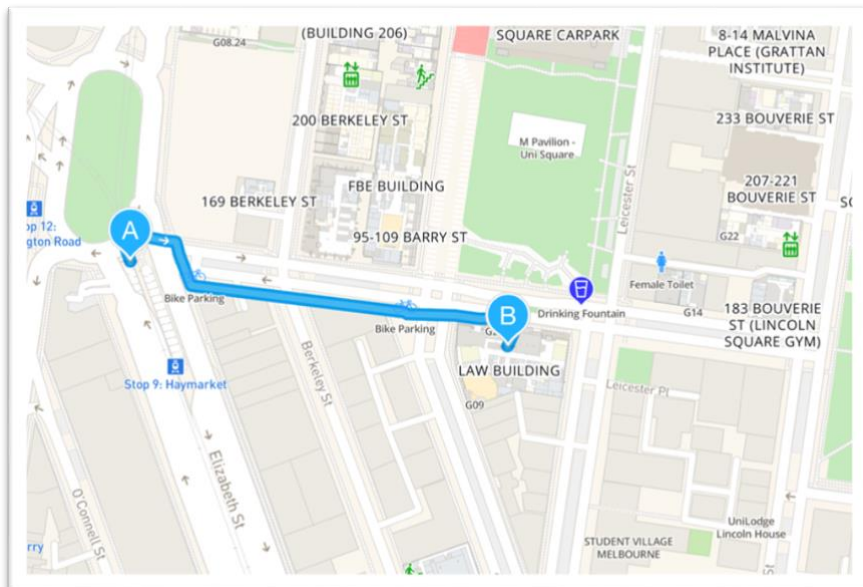
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## Map & Directions

The 2023 Conference is being held at the Melbourne Law School (Building 106), The University of Melbourne, Parkville. The building is located opposite University Square. Entrance is via Pelham Street.



**The Melbourne Law School**



**Map: Stop 9 Haymarket to Law Building entrance (Pelham St)**

# Conference Program

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<b>Date:</b>	Wednesday 25 <sup>th</sup> October 2023	<b>Time:</b>	8:15AM – 3:00PM
<b>Venue:</b>	David P. Derham Theatre, Iv 1 Melbourne Law School, The University of Melbourne, Parkville		
<b>Cost:</b>	FREE	<b>Enquiries:</b>	Mdhs-honoursconference@unimelb.edu.au

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<b>8:15 – 9:00</b>	<b>Registration &amp; Coffee</b>
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9:00 – 9:05	<b>Welcome</b> Associate Professor Chris French, Faculty Honours Program Director
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9:10 – 10:10	<b>3-Minute Thesis Competition</b> Judge – Prof Bang Bui, Dr Simon Bond, Tom Eason
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<b>10:10 – 10:20</b>	<b>10-Minute Break</b>
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10:20 – 11:20	<b>Consumer Engagement Panel</b> Paul Baden, Tom Eason, Michael Haydon. Moderated by Prof Frédéric Hollande.
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<b>11:20 – 11:30</b>	<b>10-Minute Break</b>
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11:30 – 11:40	<b>Keynote Speech</b> Prof Jane Gunn, Dean, MDHS
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11:40 – 12:40	<b>Scientific Presentations</b> Dr Ceecee Britten-Jones, Dr Tahnee Saunders, Dr Forough Habibollahi
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<b>12:40 – 1:40</b>	<b>Lunch + Poster Presentation Competition</b>
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1:40 – 2:40	<b>Careers Panel</b> Dr Bao Nguyen, Cristina Bitzilis, Dr Adelaide Bernard. Moderated by Zoe Whitehouse.
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2:40 – 3:00	<b>Awards and Thank You</b> Lachlan Ferguson
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## Welcome from the Committee

Now in its third consecutive year of running, the MDHS Honours Student Conference has for three years provided MDHS Honours students with a platform to share and explore the important research work undertaken during the year. It provides the occasion for students and supervisors to celebrate and reflect on the achievements and hard work over the course of the year. In addition to being a celebration, the conference also focusses on providing an outlook on future pathways and opportunities for post-honours research and study, with a diverse number of stakeholders from all corners of the medical research industry sharing their experiences and advice on a range of topics. On behalf of the organizing committee, we would like to welcome you to the event and hope you gain much from the experience.



**Lachlan Ferguson – Chair**



**Zoe Whitehouse – Deputy Chair**



**Alyssa Henning – Treasurer**



**Devika Prakash – Secretary**

## Sponsors

The 2023 Conference is made possible with the generous support of our sponsors:



CSL is a listed Australian biotechnology company with operations in more than 35 countries, 25,000+ employees globally, and 1,700+ research and development employees. CSL develops and delivers innovative medicines that help people with serious and life-threatening conditions live full lives and protect the health of communities around the world.

The company comprises of CSL Behring, which is a global biotherapeutics business, and CSL Seqirus, which is one of the world's leading influenza vaccine providers.

# The Advanced Genomics Collaboration

## THE BUILDING BLOCKS OF BETTER HEALTH

The Advanced Genomic Collaboration (TAGC) is a partnership between the University of Melbourne and Illumina, with support from Invest Victoria. Together, we are working to accelerate the translation of biomedical research, making genomics more affordable and accessible to improve health for everyone.

TAGC is committed to enabling greater levels of genomics research and advancing precision cancer care procedures throughout the Melbourne Biomedical Precinct by providing our collaborators with access to faster, more affordable genome sequencing, global-scale bioinformatics and health economics resources.

## 3-Minute Thesis

The 3-Minute Thesis (3MT) competition aims to celebrate the research conducted by Honours students. Originally developed by the University of Queensland, the 3MT competition cultivates students' academic, presentation, and research communication skills. The competition hones a researcher's ability to explain their research effectively and succinctly in three minutes, in a language appropriate to a non-specialist audience.

### Judges

The 3MT competition will be adjudicated by the following panelists.



#### **Professor Bang Bui, Department of Optometry and Visual Sciences**

Bang is an optometrist who completed his PhD in 2003, at the University of Melbourne. He spent 2 years at the Devers Eye Institute in Portland Oregon studying the causes of glaucoma. He is currently deputy head of Department of Optometry and Vision Sciences at the University of Melbourne, and his research group undertakes both basic and clinical studies to understand, better detect and to treat retinal neurodegeneration.

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#### **Doctor Simon Bond, Baker Heart and Diabetes Institute**

Dr Simon Bond is a Senior Research Officer within the Molecular Metabolism and Ageing Laboratory at the Baker Heart and Diabetes Institute. Dr Bond completed his BSc (Honours) and PhD in molecular biology at the Metabolic Research Unit, Deakin University. During his PhD Dr Bond successfully demonstrated that reversible acetylation of metabolic enzymes can regulate their activity, which was altered in T2D and obesity. Since completing his PhD, Dr Bond moved to Melbourne to take up a postdoctoral position at the Baker Heart and Diabetes Institute. His current research focuses on understanding the underlying mechanisms of metabolic diseases and whether they can be targeted therapeutically. In particular, how mitochondrial and extracellular vesicle biology in metabolic tissues, such as adipose and liver, is altered in disease settings.

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#### **Tom Eason, PhD candidate, Monash Institute of Pharmaceutical Science**

Tom Eason is a final-year PhD student based at the Monash Institute of Pharmaceutical Sciences in Parkville. For his PhD, Tom is investigating the use of milk-based formulations as a novel drug delivery system for poorly bioavailable drugs. Tom has completed a Bachelor of Pharmaceutical Science (Advanced) with Honours at Monash University, so he is all too familiar with the trials and tribulations of an Honours year. Tom looks forward to hearing about the fantastic work going on at Melbourne University

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## 3-Minute Thesis Presenters

The following Honours students have been shortlisted to deliver a 3MT presentation.

Name	Presentation Title
Apapist Panichewa	Exploring the roles of HOXA9 isoforms during normal haematopoietic development.
Delaram Babaei	Lifting the Break: Regulation of Programmed Death-Ligand 1 in Dendritic Cells
Jen Xin Fach	Investigating the role of Trim28 in the neuronal regulation of metabolism
Dominika Michalek	Investigating the role of RIPK1's kinase activity in cell death, inflammation and the cell cycle
Jackson Lee	Exploring neuroanatomical changes in professional Australian rules footballers' postconcussion
Zhuyuan Yang	Sensing tumour cells by engineered gamma-delta T cells
Lucy Zhou	Scar wars: investigating novel regulators of NASH-associated fibrosis
Michelle Dang	The Functional Role of VEZT in the Endocannabinoid Pathways of Endometriosis
Maxwell Alder	Exploring the relationship between helicity and activity in relaxin family peptides: A novel host-guest approach
Zachariah Soulaiman	Exploring the Acceptability of Implementing the Kidney Failure Risk Equation into Australian General Practice
Li Li	Treating cardiac vascular dysfunction in Friedreich ataxia using human induced pluripotent stem cell derived vascular cells.

The 3-Minute Thesis competition is proudly sponsored by:



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## Consumer Engagement Panel

Consumers are an important stakeholder within the healthcare and research ecosystem. Healthcare consumers can be defined as individuals with an interest in the development of accessible and effective healthcare, including patients, their friends and families, and members of the public.

In this discussion session, which is led by Professor Frédéric Hollande, three consumers share their personal stories and highlight the important role of research in healthcare.

### Consumers Panelists

#### **Mr. Paul Baden – Consumer Advocate/representative**

Pauls' professional career was in hospitality recruitment, human services and business mentoring, running a successful business for over 25 years. Paul was diagnosed with Non-Hodgkin's Mantle cell Lymphoma in 2005 and subsequently underwent an Allogeneic Bone Marrow Transplant in Dec 2005 at The Royal Melbourne Hospital.



Paul has a long history in consumer representation including membership of the Royal Melbourne Hospital Consumer Advisory Committee (2010-2016), a Cancer Connect Volunteer for Cancer Council Victoria since 2010 and a member of the Royal Melbourne Hospital Respect and Partnership in Care Committee. Paul was a member of the Victorian Comprehensive Cancer Centre (VCCC) Strategic Planning Committee (2013-2015) and is currently a member of the VCCC Cancer Consumer Advisory Committee (CCAC). Paul also serves as a member of the VCCC Cancer Education and Training Advisory Committee, the VCCC Data Driven Research Steering Committee, the VCCC Teletrials Steering Committee, the VCCC Clinical Trials Awareness Programme, and the VCCC Cancer in the Older Person MOOC working group.

Paul was a collaborator for the - 'The Older and Wiser' project -Development of a co-designed, online, supportive care resource for older adults affected by cancer. A project, funded by a Cancer Australia Grant (2018-2021).



#### **Tom Eason, PhD candidate, Monash Institute of Pharmaceutical Science**

Tom Eason is a final-year PhD student who lives with Stargardt's disease, a degenerative retinal condition that causes a loss of central vision. Tom was born with full sight, only noticing the effects of Stargardt's in 2019. Since then, Tom's vision has deteriorated to legal blindness. Tom completed an Honours degree in 2019 and is now doing his PhD on pharmaceutical formulations at Monash University. Outside the lab, Tom enjoys catching up with mates, listening to audiobooks and running.

## Michael Haydon – Consumer Representative

Michael Heydon was employed as a youth worker in juvenile justice for 22 years. He worked at Hurstbridge Farm, which houses some of the most severely at-risk youth in Victoria. He suffered several concussions at work, one of them resulting in a diagnosed brain injury. Shortly after, in 2018, Michael started experiencing a wide range of symptoms, including seizures, collapses, shakes and difficulty walking. Due to his shaking symptoms and difficulty walking, doctors thought that he had Parkinson’s Disease. It took 3 to 4 years for him to be accurately diagnosed with Functional Neurological Disorder. Michael has since experienced significant improvement in his symptoms, although they do worsen when he is fatigued or under stress. At the age of 64, Michael has agreed to participate in this Consumer Engagement Panel to share his story and bring awareness to Functional Neurological Disorder

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## Panel Moderator

### Professor Frédéric Hollande



Professor Hollande is currently the Head of the Department of Clinical Pathology at the University of Melbourne.

He obtained his PhD from the University of Montpellier (France) and first came to Australia in 1994 to work as a post-doc at the Ludwig Institute for Cancer Research, then at the University of Melbourne Department of Surgery. Professor Hollande worked for several years as a senior research fellow with the National Centre for Scientific Research in Montpellier, France, where he also co-founded a start-up company to enable the translation of some of his research findings towards clinical applications. He then moved to Australia in 2012 to take up a position at the University of Melbourne.

His group has made substantial contributions to the analysis of cell–cell communication and cell signalling during tumour progression. He is also recognised for his work in the analysis of mechanisms that regulate cancer stem cells and that underpin tumour heterogeneity and treatment resistance in solid tumours. Professor Hollande’s research group develops innovative and clinically relevant disease models using patient-derived tumour samples, combining phenotypic and molecular analyses of these samples to advance knowledge of complex tumours and to identify novel biomarkers and treatment targets for colorectal and pancreatic cancers.

Professor Hollande also has an extensive experience in teaching curriculum development, student mentoring and Research Training, through various roles as Subject coordinator and Academic Program coordinator in the Department, and as Academic lead of an International Research Training Group within our University.

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# Keynote Address

## **Professor Jane Gunn AO, Dean; Faculty of Medicine, Dentistry & Health Sciences**

Professor Jane Gunn AO is a medical practitioner, PhD graduate, member of the Australian Institute of Company Directors, Fellow of the Australian Academy of Health and Medical Sciences, and Fellow of the Royal Australian College of General Practitioners



She holds the inaugural Chair of Primary Care research at the University of Melbourne and is recognised for her leadership in traversing the research-practice gap.

Her research program in primary care mental health has twice been included in the National Health and Medical Research Council (NHMRC) Ten of the best collection. She is a member of the NHMRC Council and has served two terms on NHMRC Research Committee as well as chairing numerous grant review panels.

Jane is also on the boards of the Eastern Melbourne Primary Health Network, Walter and Eliza Hall Research Institute, the Florey Institute of Neuroscience and Mental Health, the Murdoch Children's Research Institute and the Melbourne Academic Centre for Health

Jane was instrumental in guiding the University of Melbourne through the COVID-19 pandemic in her role as Chief Public Health Adviser on its leadership team for the pandemic response.

Jane was appointed Dean of the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne in 2021. Jane was appointed to the RMH Board in 2021.

## Scientific Presentations

Behind every intriguing research paper there is an even more intriguing story regarding the journey the researcher took to arrive at their conclusions. In this section of the conference, we will hear from three distinguished and unique researchers recount the path they have taken in their careers and present a current piece of their own research.

The following people will present their research.



### **Doctor Alexis Ceecee Britten-Jones, Department of Optometry and Visual Sciences**

Dr Ceecee Britten-Jones is a Research Fellow in the Department of Optometry of Vision Sciences, University of Melbourne, and at Centre for Eye Research Australia. Ceecee's research foci are investigating the genetic characteristics of rare inherited retinal diseases, identifying new imaging outcomes for gene therapy clinical trials, and understanding patient perspectives of early vision loss.

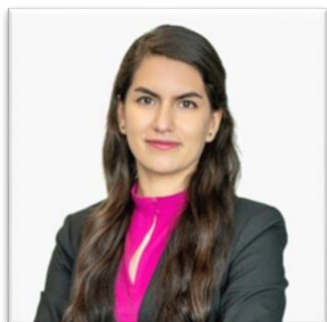
Ceecee practices at the Australian College of Optometry and is involved in teaching the University of Melbourne Doctor of Optometry Courses. She is a Melbourne Postdoctoral Research Fellow, Association for Research in Vision and Ophthalmology Science Communication Fellow, veski Victoria Fellow, and was awarded the 2023 OVSA Rising Star in Optometry award.



### **Doctor Tahnee Saunders, Walter and Eliza Hall Research Institute**

Dr Tahnee Saunders is a postdoctoral research scientist studying a novel mitochondrial quality control pathway, its regulation and importance, in Parkinson's Disease. Tahnee utilises advanced imaging techniques to understand mechanisms of key pathways in cellular health and has experience in the design and execution of pooled and arrayed CRISPR screens. Tahnee has a vast knowledge of mitochondrial biology and inflammatory signaling pathways, and their contribution to disease pathologies.

Tahnee is also passionate about science communication to a range of audiences, with the special ability to communicate complex scientific ideas in a digestible and approachable manner. Core to Tahnee's beliefs is that doing science is just one part of the job of a scientist, and that sharing it with the world is just as important as making discoveries.



### **Doctor Forough Habibollahi, Cortical Labs**

Forough Habibollahi is a postdoctoral researcher at Cortical Labs, studying the underlying mechanisms of learning and intelligence within in vitro cortical cells embedded in simulated game environments. Forough also collaborates closely with the Turner Institute for Brain and Mental Health. Prior to this, Forough completed her PhD in Biomedical Engineering at Melbourne Brain Centre, working on Miniscope recordings from freely behaving mice to study population activity in different cognitive states. Forough began her academic career as an electrical engineer specialising in Bioelectronics at Sharif University, Tehran, including a research internship at SUTD-MIT, Singapore. The experience led Forough to pursue a Master's in Bioengineering at EPFL, Lausanne, Switzerland.

## Poster Presentations

Written communication is equally as important as oral communication in science. Researchers frequently present their research findings in written form, for example, as a scientific paper, and writing skills are critical for successful grant applications, amongst other things. Like an oral presentation, scientific posters are intended to be standalone displays that summarise a research project, typically with the aid of figures, graphs and or tables.

The following Honours students have been selected to present their scientific posters. Participants are encouraged to engage with the poster presenters during the poster presentation segment in the afternoon. Posters will be on display throughout the day from the morning of the Conference.

### Presenters

	<b>Name</b>	<b>Presentation Title</b>
1	<b>Rose Freemantle</b>	Purinergic signalling in the human placenta; investigating the functional role of purinoceptors P1A1, P1A2A, and P2Y6
2	<b>Jacky Mai</b>	Biventricular Repair in Neonatal Cardiac Surgery
3	<b>Chloe Miles</b>	Characterisation of Complement Effectors in the Placenta and an Insight into Eculizumab in Preeclampsia
4	<b>Cooper Bowring</b>	Identification of novel protein zc3hav1 in regulating hepatic lipid metabolism in mice
5	<b>Lea Lim</b>	Investigating the effects of antiseizure medications on visual function in a mouse model of epilepsy
6	<b>Qing (Grace) Lin</b>	Gene replacement therapy as a potential treatment strategy for kif1a-associated neurological disorders
7	<b>Natalie Choy</b>	Capturing genome-wide dynamics of bivalent chromatin in breast cancer
8	<b>Joshua King</b>	Investigating CDK11-dependent regulation of CDK9 in human blood cancer
9	<b>Alexandra Blejusca</b>	Comparative genomics to characterise Burkholderia from Victoria, Australia in a global context
10	<b>Eleanor Gillies</b>	Creating chimeric receptors to interrogate the link between neural circuits, disease and behaviour
11	<b>Naimisha Talluri</b>	Iron Dyshomeostasis: The connection between Schizophrenia and Frontotemporal dementia
12	<b>Hisham Hussain</b>	Interrogating the mr1-antigen presentation axis by mr1-targetting nanobodies
13	<b>Rebekka Krishtul</b>	Understanding the architecture and assembly of the KAT6A/B complex and functional analysis of its individual subunits
14	<b>Allegra Micomonaco</b>	Evaluation and Comparison of a Brief List-Learning Test for Assessing Verbal Memory in Bipolar Disorder
15	<b>Jessica Nguyễn</b>	Novel regulators of menstruation and their potential roles in abnormal uterine bleeding

<b>16 Alexander Thompson</b>	Investigating Adolescent Temperament as a Risk or Resilience Factor, Mediating the Relationship Between Psychotic-Like Experiences and Family Environment.
<b>17 Ann Xia</b>	Validating a mouse model to investigate adipocyte-derived extracellular vesicles
<b>18 Michelle Jahja</b>	Does the cell cycle status of a tumour cell affect its sensitivity to the anti-cancer agent venetoclax?
<b>19 Sam McNeil</b>	Interleukin-21: A Perpetuator of Type I Diabetes Autoimmunity

The poster presentation competition is proudly sponsored by:



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## Careers Panel

Where to next? What to do post-Honours? The careers panel attempts to answer some of these questions that you may have about life after the Honours year. Three panelists will share their experiences as an Honours student and what they have been up to since completing the program. The panel is designed to be interactive, with an opportunity for questions at the end.

### Career Panelists



#### **Doctor Bao Nguyen, Department of Optometry and Visual Sciences, Department of Biomedical Engineering**

Dr Bao Nguyen is an optometrist, researcher, and educator at The University of Melbourne. She holds a Bachelor of Optometry (2008), PhD (2014) and Graduate Certificate in Adolescent Health and Wellbeing (2021) from The University of Melbourne. Her research expertise is in applied human visual neuroscience, exploring the eye and brain in healthy development and ageing, neurodegeneration, and neurological disorders. As a collaborative research fellow across two faculties/disciplines (MDHS Optometry and Vision Sciences and FEIT Biomedical Engineering), she currently supervises research students and is the project manager for an interdisciplinary project funded by the Victorian government, philanthropy and The University of Melbourne commercialisation and proof-of-concept funds to deliver a prototype device using eye imaging to provide peace-of-mind about raised intracranial pressure with head injury.

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#### **Cristina Bitzilis, Account Manager, Clinical Genomics division, Illumina**



Cristina Bitzilis is an Account Manager for the Clinical Genomics division of Illumina, ensuring that researchers and clinicians across Australia and New Zealand keep up to date with the latest sequencing technologies.

Cristina joined the company Genomic Diagnostics as a Medical Laboratory Scientist before moving into commercial sales at Illumina. She began as an Inside Sales Account Manager and after two years, moved into a Clinical Territory Account Manager position. She works closely with molecular sequencing labs to drive adoption of new next-generation sequencing applications.

Cristina has a great curiosity for technology and innovation. As a student, she was interested in health and the human body, and now works alongside researchers and Clinicians who implement new diagnostic procedures for patients to receive the best possible care.

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#### **Adélaïde Bernard, Baker Heart and Diabetes Institute**



Adélaïde is a junior postdoctoral scholar in the Molecular Metabolism and Ageing Laboratory at the Baker Heart and Diabetes Institute. Under the guidance of Dr Yi Wang and Associate Professor Brian Drew, she continues to explore novel brain circuits that play a role in controlling long-term energy balance.

Adélaïde possesses significant experience in the management of transgenic murine colonies and conducting metabolic phenotyping on rodents. She is a certified rodent surgery instructor, specialising in stereotaxic surgery.

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## Special Acknowledgments

The committee would like to thank the [MDHS Honours Team](#) for making this conference possible through their excellent support and guidance.

### Thank You!

We would love to hear your feedback on the conference.



<https://forms.gle/aCxocPrLKgpQfwtN8>