

# ANZCCART Australia Conference 2025

## Innovation and Ethics

**PULLMAN HOTEL, BRISBANE • 29 - 31 JULY 2025**



**ANZCCART**

Australian and New Zealand Council for the Care of Animals in Research and Teaching

# Contents

Welcome	1
Notes	7
Conference Program	8
Monday 28 July	8
Tuesday 29 July	8
Wednesday 30 July	10
Thursday 31 July	12
Pre-Conference tours	14
Conference social activities	15
Abstracts Day One	16
Abstracts Day Two	29
Abstracts Day Three	45
Poster presentations	65
Acknowledgements	66
Notes	67

# Welcome



It is my great pleasure to welcome you all to the 2025 ANZCCART Conference in beautiful Brisbane, Queensland. We hope you can join us for what promises to be an engaging and thought-provoking event as we explore the role of animals in research and teaching across Australia and New Zealand.

The program features an array of invited speakers from both interstate and abroad. These experts will be joined by local speakers with a selection of presentations from submitted abstracts. Pre-conference tours include visits to a choice of animal facilities and laboratories.

This conference aims to serve as a neutral forum for the exchange of ideas and perspectives, where we can engage in respectful dialogue, fostering a space where diverse views on these complex issues can be expressed and debated. We encourage all participants to engage thoughtfully and contribute to the enriching discussions that will unfold over the course of the event.

We would also like to extend our sincere thanks to our conference sponsors AAALAC International, Dana Briggs Consulting, EthiQualia, the MAWA Trust and Tecniplast Australia for their generous support.

We look forward to joining you at the conference.

**Alastair Sloan**

*Chair, ANZCCART Australia*



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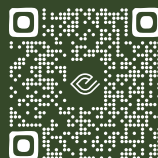
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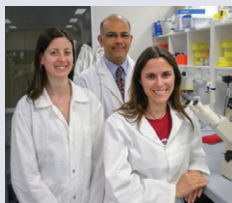
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MEDICAL ADVANCES WITHOUT ANIMALS

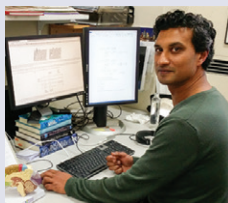
The Medical Advances Without Animals Trust (MAWA) is a registered charity established in 2000. MAWA's aim is to advance medical science and improve human health and therapeutic interventions without using animals or animal products in biomedical research.



University of Sydney



Australian National University



University of Melbourne



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MAWA funds a range of researchers, fellows and scholars from universities and research institutions throughout Australia

MAWA takes a leading role in animal-free science and has developed an impressive and diverse research portfolio by providing funding to universities and research institutions throughout Australia and working closely and productively with the medical research community to facilitate the development and promotion of human-relevant alternative methods and non-animal technologies.

MAWA provides research grants, fellowships, scholarships, travel grants, conference bursaries, sponsorships, and support for additional initiatives with potential to further MAWA's goals. MAWA also facilitates third party funding to increase opportunities for researchers and students.



The Hon Kevin Rozzoli AM  
and ANU Dean Prof Kieran Kirk



ANU's John Curtin School of Medical Research  
(JCSMR)



ANU Dean Prof Aidan Byrne and  
Supportive Academics and Executives

MAWA works in partnership with the Australian National University (ANU) and has established the Replacing Animals in Medical Research Fund (RAMR) at the ANU to provide additional funding.

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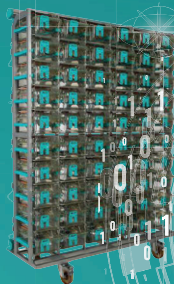
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## Notes

# Conference program

## MONDAY • 28 JULY

AFTERNOON	OPTIONAL FACILITY TOURS
1	QUT Centre for Biomedical Technologies (CBT)
2	Hidden Vale Wildlife Research Centre and bird spotting
3	Translational Research Institute (TRI) Animal Facilities
4.00-5.00	REGISTRATION – CONFERENCE AREA, LEVEL 2

## TUESDAY • 29 JULY

8.00	REGISTRATION
8.45	ALASTAIR SLOAN, Chair, ANZCCART Australia Opening of conference
3RS INITIATIVES CHAIR – ALASTAIR SLOAN	
9.00	KEYNOTE ADDRESS – MEGAN LA FOLLETTE The US 3Rs Collaborative: Advancing Evidence-Based, Practical and Impactful 3Rs Strategies
9.45	WOJCIECH CHRZANOWSKI Non-Animal Technologies Network (NAT-Net) – A Multi-Pillar Strategy for Innovation and Implementation in NSW
10.00	ERNST WOLVETANG Organoids for pre-clinical drug testing (online)
10.15	KAREN BRENNAN The 3Rs Grant Scheme at UNSW Sydney: support for development of novel alternatives
10.30	MORNING TEA

<b>WILDLIFE</b> CHAIR - BRAD SMITH	
11.00	BETTINA DALTON The Evolution of Wildlife Filmmaking
11.30	NICHOLAS LING Promoting the 3Rs outside the lab: non-invasive methods for wildlife research
12.00	KATRINA WHITTING Emerging areas of drone use in animal research
<b>12.30</b>	<b>LUNCH</b>
<b>ETHICAL CHALLENGES</b> CHAIR - MALCOLM FRANCE	
1.45	Breakout session Current ethical controversies
<b>3.30</b>	<b>AFTERNOON TEA</b>
<b>THE UK'S NC3RS AND UPDATE ON NON-ANIMAL MODELS</b> CHAIR - CATHY PITKIN	
4.00	VICKY ROBINSON, Chief Executive, NC3RS (live from UK) A view from the NC3Rs – the role of a National 3Rs Centre
4.30	SHAUN D GREGORY Replacing animal models by using in silico computational fluid dynamics, ex vivo blood circulation loops, and in vitro cardiovascular simulators to evaluate cardiovascular devices
4.45	BILLY J. WILLIAMS-NOONAN Computational Tools for Antimicrobial Resistance: Advancing Non-Animal Research Methods
5.00	WOJCIECH CHRZANOWSKI Multiorgan-On-Chip Models for Replacing Animal Models: Lung-Gut Axis Models to Better Mimic Human Pathophysiological Responses for Testing Safety, Efficacy, and Superiority of New Therapeutics in Lung Disease and Injury Research
5.15	MICHAEL J SIMMONDS Can a human blood waste product replace animal blood in haemocompatibility assessment of medical devices?
5.30	Poster Session
<b>6.00</b>	<b>WELCOME RECEPTION</b>

WEDNESDAY • 30 JULY

CODE REVIEW CHAIR – ALASTAIR SLOAN		
9.00	MARY BATE Review of the ‘Australian code for the care and use of animals for scientific purposes’	
9.15	KRIS DESCOVICH Animal sentience – evidence, assessment, and application to the research environment	
9.30	AMANDA ERRINGTON Ethics in action: social licence in high animal welfare impact studies	
9.45	MALCOLM FRANCE The Australian National Statistics project and the Code	
10.00	Discussion panel	
10.30	MORNING TEA	
	CONCURRENT SESSIONS	
	SESSION ONE (NORFOLK) INDEPENDENT EXTERNAL REVIEWS CHAIR – CORINNE ALBERTHSEN	SESSION TWO (CONNAUGHT) RESEARCH OVERVIEWS CHAIR – MARC RANDS
11.00	DEBRA L. HICKMAN Global Improvement of Laboratory Animal Standards through AAALAC International Accreditation	THOMAS H BURNE Translating animal research from forced versus voluntary participation
11.30	AMANDA ERRINGTON AND ROBIN MATTHEWS Ten years of independent external reviews, lessons, insights and reflections	JAMES ST JOHN Olfactory ensheathing cell nerve bridge transplantation for repairing spinal cord injury – translation from the lab to clinical trial
12.00	AMANDA FERNIE AND KAREN BOUNDY Critical factors in selecting an independent external review panel for your institution	TIM DYKE Ethical acceptability – Balancing whether the potential effects on the wellbeing of the animals involved is justified by the potential benefits – a proposed framework for better AEC decision-making
12.15	Discussion panel	
12.30	LUNCH	



**OPENNESS**

CHAIR – AMANDA FERNIE

1.30	BELLA LEAR Openness on Animal Research: what good looks like
2.00	RACHEL SMITH Are ‘stock responses’ hindering meaningful dialogue and transparency on animal use in research?
2.30	Discussion panel
<b>3.00</b>	<b>AFTERNOON TEA</b>

**VETERINARY AND LIVESTOCK RESEARCH**

CHAIR – ARNJA DALE

3.30	JESSICA HOOPES Working towards ethical animal research in Aboriginal and Torres Strait Islander communities
4.00	BEN SEFTON Livestock Guardian: an animal welfare data platform for online and offline remote field data capture with near real-time reporting and notifications
4.30	DEBRA L. HICKMAN The Future of Research Funding in the US
5.00	Close of Day 2
<b>6.30</b>	<b>CONFERENCE DINNER</b>



## THURSDAY • 31 JULY

	CONCURRENT SESSIONS	
	SESSION ONE (NORFOLK) ETHICAL DECISION-MAKING CHAIR – STACEY PARBHU	SESSION TWO (CONNAUGHT) AEC INSIGHTS CHAIR – NATALIE INGRAM
9.00	ROBERT DEMPSTER Replacing animals in the routine quality control testing of veterinary vaccines	SARAH PIRECKI Diversity on Australian Animal Ethics Committees: Age and Gender
9.15		SHIWANTHI RHANASINHA A survey of educational resources for animal ethics committees to empower ethical excellence
9.30		ANNIE HUMPHREYS AEC Engagement and Processes Survey (online)
9.45	ANNE GIBBON Research involving non-human primates	ELENA SCHALLER Evaluating Animal Research Oversight in Australia: A Pathway to Ethical and Scientific Reform
10.15	Discussion panel	Discussion panel
10.30	MORNING TEA	
CARING FOR ANIMALS CHAIR – PAT CRAGG		
11.00	JANE JOHNSON Reporting on a survey of those who care for research animals in Australia	
11.30	MEGAN LAFOLLETTE Refined Mouse Handling: Evidence-Based and Practical Recommendations	
12.00	OLIVIA SPILIOPOULOS Cracking Welfare Concerns in a Novel Aquaculture Species, juvenile Giant Oystercracker (Trachinotous anak)	
12.15	LINDSAY SKYNER Navigating the Challenges of Improving Animal Welfare Standards at Research Institutes	
12.30	LUNCH	

CONCURRENT SESSIONS		
	SESSION ONE (NORFOLK) AEC CHALLENGES CHAIR - SHIWANTHI RANASINHA	SESSION TWO (CONNAUGHT) OPENNESS AND POLICY CHAIR - SASHIKA NAIDOO
1.30	DIANA SKETRIENE Improving AEC efficiency through pre-review: a structured approach to clear and well-prepared applications	ELENA SCHALLER Conscientious Objection to Animal Use in Education: A Policy Framework for Australian Universities
1.45	JOEL HUANG Reviewing the Operations of the AEC: Tick Box Exercise or Powerful Tool?	SUZANNE POPE Mandatory non-technical project summaries to inform the public (online)
2.15	MISTY FISH A brief review of the administrative challenges involving an institutional Animal Ethics Committee	MERINDA MCMULLIN Collaborating Across Domains for Openness
2.30		IAN SALDANHA An update on the New Zealand Openness agreement - 3 years on
2.45	SHARON LIM Beyond Approval: The Post Approval Monitoring program at Peter MacCallum Cancer Centre	MALCOLM FRANCE Australian Openness Agreement update
3.00	CLOSE OF CONFERENCE ALASTAIR SLOAN	



# Pre-conference tours

**MONDAY • 28 JULY • FROM 12.30PM**

## Tour 1 - QUT Centre for Biomedical Technologies (CBT)

This laboratory tour will take participants through world-class medical engineering facilities at QUT's Centre for Biomedical Technologies to see how engineering technologies can be used to replace animal models for advanced testing of medical devices.

## Tour 2 - Hidden Vale Wildlife Research Station and Bird-Spotting

Located about an hour west of Brisbane's CBD, the Hidden Vale Research Station is an innovative teaching, research and community engagement enterprise. The tour will include an overview of the Station's program, a tour of the Wildlife Centre and will conclude with a 1hour bird-spotting walking tour on part of the property's natural habitat.

## Tour 3 - Translational Research Institute (TRI) Animal Facilities

The TRI is dedicated to translating scientific discoveries into applications for medical practice. It supports the work of over 800 researchers and clinicians through partnerships with the University of Queensland, Queensland University of Technology, Mater Research and the Queensland government. The tour will be split into three groups that will rotate through key areas of the TRI's animal facilities. Visit the website for more information.

## CONFERENCE VENUE

Pullman Brisbane King George Square corner of Ann & Roma Streets.  
Phone +61 7 3229 9111.

Plenary presentations (including concurrent sessions) will be delivered in the **Grand Windsor Ballroom, Level 2, Mercure Hotel**.

The **King George Room**, adjacent to the Plenary, will host Sponsorship displays throughout the Conference and an informal poster discussion is scheduled for **Tuesday 29 July at 5.30pm**.

This area will also host daily lunch and tea breaks.



# Conference social activities

## WELCOME RECEPTION

**TUESDAY • 29 JULY • 6.00 TO 8.00PM**



### Sixteen Antlers Rooftop Bar, Level 16, Pullman Hotel

Known as one of Brisbane's most iconic rooftop city bars and located on the 16th floor of the Pullman Hotel, Sixteen Antlers offers uninterrupted city skyline views.

Named for roof branches reminiscent of a deer's antlers, enjoy drinks and canapes while mingling with other delegates.

## CONFERENCE DINNER

**WEDNESDAY • 30 JULY • 6.30 TO 10.00PM**

### The Long Room, Customs House, 339 Queen Street

The Brisbane Customs House is a fine example of Victorian architecture and took three years to build with work commencing in 1886.

Once used as the place for where customs business was transacted, the Long Room is an imposing space and sits beneath the copper dome with a central glazed section.

Enjoy dinner while soaking up the grandeur and history.



# Abstracts Day One




**TUESDAY • 29 JULY**

## 3RS INITIATIVES

CHAIR – ALASTAIR SLOAN

### KEYNOTE ADDRESS

## The US 3Rs Collaborative: Advancing Evidence-Based, Practical and Impactful 3Rs Strategies

 **Megan La Follette**  
 **The 3Rs Collaborative, CO, USA**  
 **[meglafollette@3rc.org](mailto:meglafollette@3rc.org)**

Creating widespread institutional change to advance the 3Rs is a challenging and important task. In the USA, where a particularly large number of research institutions are spread out across the country – making change can be especially difficult.

The 3Rs Collaborative (3RC) is a non-profit whose mission is to promote better science – for both people and animals, by facilitating collaborative 3Rs opportunities.

The 3RC has 3 strategic pillars. To create a research landscape that is knowledgeable and supportive of the 3Rs. To facilitate targeted efforts towards specific, high-impact, evidence-based, and practical 3Rs techniques. And to drive general collaboration with and awareness of 3RC resources and programs.




For the first pillar, the 3RC has created a 3Rs certificate course and extensive resources for both individual and institutional support of compassion fatigue resiliency – with formal evaluation of each. For the second pillar, the 3RC has identified 6 key focus areas: rodent health monitoring, refined mouse handling, non-human primate behavioural management, translational digital biomarkers, microphysiological systems, and in silico technologies. For each focus area, the 3RC fosters collaboration and thought leadership between key stakeholders, works to understand current implementation and barriers, and then supports adoption by creating extensive practical resources.

In conclusion, the 3RC provides key strategic support to the USA and global research arenas. As a result of their efforts, at least 12 institutions have changed key practices in support of the 3Rs. Ultimately, the 3Rs Collaborative is a key player in the world of 3Rs centres.



Dr. Megan LaFollette is Executive Director at The 3Rs Collaborative where she advances better science, for both people and animals. She received her PhD and Master of Science in Animal Behavior & Welfare from Purdue University. She is an expert in advancing implementation of practical, impactful, and evidence-based 3Rs techniques that range from improving human-animal interactions to implementing microphysiological systems and forwarding compassion fatigue resiliency.

# Non-Animal Technologies Network (NAT-Net) – A Multi-Pillar Strategy for Innovation and Implementation in NSW

 Wojciech Chrzanowski  
 The University of Sydney  
 [wojciech.chrzanowski@sydney.edu.au](mailto:wojciech.chrzanowski@sydney.edu.au)

The NSW Non-Animal Technologies Network (NAT-Net) is spearheading a transformative initiative to accelerate the development, validation, and adoption of innovative non-animal research models. This initiative is structured around three strategic pillars: Research, Infrastructure, and Regulatory. Each pillar is designed to address critical barriers and enable sector-wide collaboration.

The Research Pillar will launch four foundational projects in 2025, leveraging existing expertise to foster cross-sector partnerships and drive innovation in non-animal methodologies. Complementing this, a competitive grant program will support emerging research aligned with NAT-Net's mission.

The Infrastructure Pillar focuses on building state-wide capabilities, including the establishment of data standards, biobanking and tissue collection systems, and the integration of outputs into a coordinated pipeline. These efforts aim to modernise biomedical R&D infrastructure to support the implementation of non-animal technologies.




The Regulatory Pillar is engaging with national agencies to develop a robust Australian regulatory framework that supports the use of human cell-based and in silico models. This work is critical to reducing reliance on animal models in the research and development pipeline.

NAT-Net is founded by eight NSW institutions, including the University of New South Wales, Victor Chang Cardiac Research Institute, Children's Medical Research Institute, University of Technology Sydney, University of Wollongong, University of Sydney, University of Newcastle, and Hunter Medical Research Institute. With continued support from the NSW Government, this initiative represents a significant step toward ethical, scientifically advanced, and sustainable medical research.



Professor Wojciech Chrzanowski is the Head of the Nano-Medical Innovations Group at the University of Sydney. His work develops extracellular vesicle-based strategies for treating rare diseases and for tissue repair. Professor Chrzanowski applies and promotes a non-animal innovation research strategy in his work and is also a passionate advocate for global R&D capacity building and international networking.

## Organoids for pre-clinical drug testing

-  Ernst Wolvetang (online)
-  AIBN, The University of Queensland
-  e.wolvetang@uq.edu.au

Drug screening by academia and the biopharmaceutical industry was historically performed in cell or animal models. However, 90% of thus tested therapeutics still fail in Phase 1 human trials. To improve this success rate, speed-up progression of candidate drug testing, and reduce the reliance on animal models (RRR) human organoids are becoming increasingly used. Indeed, going forward the FDA (USA) will accept organoid data as part of the drug approval process and has forecasted that it intends to reduce its reliance on animal models for this purpose. Unsurprisingly, large biopharmaceutical industries are increasingly investing in organoid based screening.

In this presentation I will describe what organoid models are currently available and outline their benefits and limitations. I will argue that organoids are a powerful new tool in the drug testing portfolio, while recognising that such testing will, at least for the foreseeable future, need to be complemented with conventional animal models.






Professor Wolvetang is a leader in the stem cell and organoid field with more than 200 primary research papers that have been 30078 times (H-index=61). He received the 2016 Eureka Prize for Excellence in International Scientific Collaboration (co-recipient). He leads 2 MRFF missions, 2 ARC discovery grants, and 1 NHMRC ideas grant, and initiated and led the Australian Organoid Facility until the start of 2025 when he co-founded and took up the position of chief scientific officer in The Organoid Company (TOC).





## 3Rs Grant Scheme at UNSW Sydney: support for development of novel alternatives

 **Karen Brennan, Professor Grainne Moran**  
 **University of New South Wales**  
 **karen.brennan@unsw.edu.au**

The University of New South Wales (UNSW) is one of Australia's leading academic institutions, with a focus on research in the fields of biotechnology, engineering and medical science. The university's commitment to innovation and responsible progress is evident in their support of novel technologies aiming to replace animal use in research with alternative models and to develop methodologies to reduce the impact of research on wildlife.

Launched in 2019 and funded by the Office of Pro Vice-Chancellor of Research Infrastructure, UNSW's 3Rs grant scheme is unique nationally in providing generous support for the development of new methodologies and innovations by funding future projects. The scheme allocates \$250,000 AUD annually to support proposals from UNSW affiliated researchers which are specifically evaluated on their potential to advance the 3Rs, on scientific merit, expected impact and feasibility. Over the lifespan of the scheme \$1.44 million has now been awarded to sixteen projects whose primary focus is developing the 3Rs in Australia. Funded projects have included development of an open-source virtual nervous system to enhance testing of medical devices, refinement of animal identification and tracking in wildlife studies, development of bioengineered organs and 3D cell culture techniques such as organoids to replace a specific animal model.

This presentation will present the scheme and highlight some of the exciting initiatives that have been supported over the past five years.



Karen's areas of interest have been the creation and analysis of genetically modified mouse models of human disease and the delivery of effective and ethical animal resources and services to the scientific community. She has a passion for the responsible use of animal models and have worked towards this through the use of effective production strategies, the application of ethical principles (3R's), and promoting awareness of issues of reproducibility in animal experimentation.

## The Evolution of Wildlife Filmmaking



**Bettina Dalton**



**WildBear Entertainment, Queensland**



**[bettina.dalton@wildbear.tv](mailto:bettina.dalton@wildbear.tv)**

From David Attenborough's zoo quest in 1956, Walt Disney's True-Life adventures from 1948, to our very own Harry Butler and Steve Irwin. Audiences have been charmed by wildlife and nature stories for decades. But how have the subjects of these films fared, and have audiences been touched enough to ensure their survival and of their habitats. Are they our bit part actors and overnight stars without agents or unions or has wildlife filmmaking evolved to always have the best interests of wildlife and the planet foremost in mind.

Sir David Attenborough's latest film "Ocean" was his self-confessed swansong and global plea for the ocean and an unflinching look at its destruction. After decades of celebrating the wonders and richness of the natural world and seeing far more of our wild planet than almost anyone else alive, his ultimate film was exercise in global democracy partnering with conservation organisation all over the world to ensure the film could be seen by as many as possible for ocean cause driven entities to host Q and A' and events around the world.

The film was almost entirely funded by Philanthropy. Almost all wildlife films and their filmmakers of now strive to have an accompanying impact campaign with outreach and education goals beyond the film itself. While Blue Chip wildlife films traditionally excluded humans from the "picture" to indulge the viewers in a Utopian vision of our world. To the left and right of the frame, there were smokestacks and cities. My octopus Teacher, Playing with Sharks and "every little thing" are documentaries that put us back in the picture. Why do we yearn for this connection and how can we see other sentient beings in a new way? We are nature ourselves.



Bettina Dalton is a documentary producer/director, celebrated as one of the central women who has shaped the face of natural history filmmaking in Australia. Her award-winning content has been seen on National Geographic, ZDF, ARTE, NDR, BBC, PBS and Discovery Channels including Emmy-nominated feature documentary "Playing With Sharks" about the life and legacy of pioneering Australian underwater diver, filmmaker and shark advocate, Valerie Taylor, and "Every Little Thing" about a hummingbird rehabber in Hollywood.



## Promoting the 3Rs outside the lab: non-invasive methods for wildlife research

 Nicholas Ling  
 The University of Waikato, New Zealand  
 [nick.ling@waikato.ac.nz](mailto:nick.ling@waikato.ac.nz)

AECs must now consider the 3Rs in all RTT applications. In wildlife research there have been many innovative technological developments that permit increasingly sophisticated detection and monitoring of animal populations in natural habitats without the need to undertake invasive procedures such as trapping and handling. Such methods should be strongly encouraged to minimise harm to wildlife. There is also increasing understanding that some methods previously thought to have minimal effects on animals, such as bird banding, may cause significant harm.

Acoustic methods can be used for vocalising species and can range in sophistication from simple auditory recording by observers to automated acoustic recorders that can monitor everything from species presence/absence to changes in patterns of activity. Citizen science can greatly increase monitoring effort.

Visual methods increasingly employ remotely triggered cameras (camera traps) that can report multiple species and, in some cases, identify individual animals. Pairing cameras with acoustic or bait lures, e.g. baited remote underwater video, can greatly improve detection rates for rarely encountered species.

Scent detection dogs can indicate species' presence over large areas that would be difficult to saturate with acoustic or camera traps. Dogs can be used to efficiently find nests/dens and scats for chemical analysis.




Environmental DNA (eDNA) is increasingly being used to monitor single species or multispecies assemblages in aquatic and terrestrial habitats, with DNA able to be collected from water, soil and air. eDNA can be used to study diet through analysis of faecal remains more accurately than traditional invasive methods such as stable isotopes, and faeces can also be used to monitor sex, social status and the health of individuals.

In cases where tagging is the only option, a wealth of new miniaturised and low power trackers with extended detection range and improved longevity are contributing to the "Internet of Things" network.



Nick is an associate professor in the Biodiversity, Ecology and Animal Behaviour group at the University of Waikato (UoW), Hamilton, New Zealand. His research interests are primarily in the fields of fish ecology, physiology and ecotoxicology, although his broader interests in comparative physiology and ecology have seen him work with animals from molluscs to mammals. He has been the chair of the UoW Animal Ethics Committee since 2014 and has a keen interest in developing non-invasive approaches such as eDNA to understanding the physiology and ecology of wildlife.

## Emerging areas of drone use in animal research

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Unmanned Aerial Vehicle (UAV or drone) use in animal research is increasing. Initially drones were primarily used for observational studies monitoring wildlife populations, however they are now utilised in a variety of research methods.

Drone modifications and improvements in data collection capabilities, have resulted in UAVs becoming a useful research tool in physiological studies, collecting samples for disease, hormone, genetic and microbiome analysis in some species that have previously been difficult to access. Drones can also be used to assess body condition, biomechanics, behaviour and wildlife health. Additionally, when used in combination with more invasive collection methods, a multi-disciplinary approach may result in improved data accuracy and offer further opportunities for drone use.

The use of UAVs as a non-invasive method of data collection provides an excellent opportunity for 'refinement' in wildlife projects. However, it is also important to note the Code when considering drone study applications, in that "Projects that are not scientifically valid must not be performed, no matter how mild the impact on the wellbeing of the animals".






Katrina Whitting graduated with first class honours from the University of Sydney in 1991. She was the facility veterinarian at QUT's Medical Engineering Research Facility (MERF) from 2009 to 2018 and has been the QUT Animal Welfare and Ethics Coordinator since 2018. Katrina has also served on the Queensland Animal Welfare Advisory Board, as the representative of organisations involved in using animals in research and teaching.

### ETHICAL CHALLENGES CHAIR - MALCOLM FRANCE

## Breakout session Current ethical considerations

## A view from the NC3Rs – the role of a national 3Rs Centre

-  Vicky Robinson, Chief Executive (online from UK)
-  National Centre for the Replacement Refinement and Reduction of Animals in Research (NC3Rs) UK
-  [vicky.robinson@nc3rs.org.uk](mailto:vicky.robinson@nc3rs.org.uk)

The NC3Rs was established as the UK's national 3Rs centre in 2004. The last 20 years have seen significant changes in animal use and opportunities to implement the 3Rs. This presentation will describe the role of the NC3Rs and the benefits of having a 3Rs centre, our current priority areas and lessons learnt from key successes with examples from each 'R'. It will conclude with a look to the future on the challenges ahead.



Vicky has a PhD in developmental biology and subsequently spent five years working on the development of the vertebrate hindbrain using a range of model organisms. For the last 20 years, she has worked in science policy, including at the Royal Society for the Prevention of Cruelty to Animals and the MRC's Centre for Best Practice for Animals in Research.



# Replacing animal models by using in silico computational fluid dynamics, ex vivo blood circulation loops, and in vitro cardiovascular simulators to evaluate cardiovascular devices



Shaun D Gregory



Queensland University of Technology



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Shaun D. Gregory

Avishka Wickramarachchi, Mehrdad Khamooshi, Andrew F. Stephens

Cardiovascular and respiratory diseases are the leading causes of death worldwide. Patients suffering severe cardiac or cardiorespiratory failure may require implantation of devices such as stents, heart failures, ventricular assist devices (VADs), extracorporeal membrane oxygenation (ECMO), or total artificial hearts (TAH). Optimal device designs and operation strategies are vital in ensuring best-possible patient outcomes. The medical device development pathway often requires extensive animal experimentation to develop and enhance the performance of these devices. Our research focuses on the development of high-fidelity computational fluid dynamics (CFD) simulations, physiologically representative mock circulatory loops (MCLs), and ex vivo blood circulation loops (BCLs) to reduce or replace the need for animal studies.

Early-stage device development and evaluation can occur using CFD simulations, computer simulations of blood flow through devices and the vasculature. Our sophisticated models have been developed to simulate blood clotting (thrombosis – via bulk flow dynamics and biochemistry models) and blood cell rupture (hemolysis) which we have used to optimise devices prior to animal experimentation.

Physical device evaluation can occur using MCLs to investigate their haemodynamic performance in a realistic benchtop simulator of a patient. Our world-class models include the four heart chambers with Starling-responsive ventricles and atria while the vasculature is modelled in systemic and pulmonary circulations with arterial and venous compliance and resistance, alongside biphasic and autoregulatory coronary and cerebral circulations. Almost any cardiovascular device can be simply inserted into the MCL prior to extensive and rapid characterisation and ultimately optimisation.





Hemocompatibility can be evaluated using benchtop BCLs which mimic a small-volume replica of a patient with a device inserted. Fresh whole human blood is circulated around the BCL and through the device to compare blood compatibility with a clinical standard. This system allows for high resolution assessment of a device's potential to clot or damage blood cells including markers such as hemolysis, platelet activation, cell counts, and von-Willebrand Factor degradation.

Overall, our use of CFD, in vitro MCLs, and ex vivo BCLs have provided an extensive and reliable suite of technologies to reduce and replace the need for animal models when developing cardiovascular devices. The outcomes from these platforms demonstrate the value of cardiovascular animal replacement models towards improving clinical practice and device optimization, and ultimately, achieving better patient outcomes.



Prof Shaun Gregory is the Director of the QUT Centre for Biomedical Technologies, Co-Director of the Artificial Heart Frontiers Program, Founder and Director of the Heart Hackathon student team competition, Director of the CardioRespiratory Engineering and Technology Laboratory, and President of the International Society for Mechanical Circulatory Support. He holds both NHMRC and Heart Foundation fellowships. Prof Gregory's research applies a translational approach to cardiovascular engineering with a particular focus on devices used to support or replace the heart.

# Computational Tools for Antimicrobial Resistance: Advancing Non-Animal Research Methods

 Billy J. Williams-Noonan  
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 b.williamsnoonan@uq.edu.au  
 Billy J. Williams-Noonan  
Patrick Sutton, Megan O'Mara

Antimicrobial resistance presents one of the most pressing ethical and scientific challenges in healthcare today. With bacterial infections becoming increasingly resistant to treatment, resulting in approximately 1.27 million deaths annually from untreatable infections, there is an urgent need for innovative research approaches that align with modern ethical standards around animal use.

Our research presented herein employs sophisticated computational modelling as an alternative to animal experimentation in understanding resistance mechanisms. Using computer simulation methods, we investigate a putative drug target for treatment of golden staph infection, a rash caused by bacterial infection.

The computational techniques we have developed allow researchers to visualise the mechanisms by which bacteria expel drugs and stop them from working; processes that would be impossible to observe through conventional means, whether animal-based or in vitro.





By identifying potential targets for golden staph treatment, our research contributes to addressing antimicrobial resistance while demonstrating a pathway toward reducing animal use in research.

The findings described herein highlight the significant potential for computational methods to advance both scientific knowledge and animal welfare in antimicrobial research, supporting the broader shift toward more ethical and technologically advanced research methodologies.



Dr Billy Williams-Noonan is a postdoctoral researcher at the University of Queensland's Australian Institute for Bioengineering and Nanotechnology (AIBN), specialising in computer simulation methods to advance medicinal and biotechnology research. He is currently contributing to an NHMRC-funded (government-funded) project focused on combating antibacterial resistance. There is great potential for such computer simulation methods to replace unnecessary animal research, specifically drug testing on animals.

# Multiorgan-On-Chip Models for Replacing Animal Models: Lung-Gut Axis Models to Better Mimic Human Pathophysiological Responses for Testing Safety, Efficacy, and Superiority of New Therapeutics in Lung Disease and Injury Research

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 Wojciech Chrzanowski  
Qingyu Lei, Than Huyen Phan

Organ crosstalk is fundamental to physiology and pathophysiology, making multi-organ animal replacement systems essential for evaluating the safety and efficacy of drugs, chemicals, and nanomedicines.

For example, chronic obstructive pulmonary disease (COPD), the third leading cause of death worldwide, has treatments that are largely supportive. Developing reparative lung treatments requires reliable models that mimic human pathophysiology. Communication along the lung-gut axis is crucial for maintaining and controlling organ functions, making combined lung-gut models essential. Given COPD's link to inflammation and the gut's critical role in immunity modulation, integrating gut and immune system models with lung models is necessary.

We established two classes of lung-mimicking models: healthy and diseased lungs (COPD). The COPD model emulates human disease characteristics, including dysfunctional cellular barrier function, depletion of ciliated cells, and overproduction of goblet cells. These models offer competitive advantages over existing in vitro lung models, such as using patient-derived cells for personalized medicine, an extracellular matrix protein interface for physiological cell adhesion and differentiation, and media microcirculation to mimic dynamic lung conditions. Additionally, these models enable the use of inhalation/aerosol devices used in human clinical trials, facilitating research translation.

Our gut model employs an intestinal triple culture system, incorporating Caco-2 and HT29-MTX-E12 cell lines with fluidic flow to simulate physiological conditions. Impedance and transepithelial electrical resistance measurements evaluate barrier formation and integrity. The model is further developed into healthy and inflamed states by incorporating differentiated THP-1 macrophages with and without inflammatory stimuli. This model assesses drug effects on gut health and their downstream effects on lung function.

The final model assembles both lung and gut systems, providing a comprehensive platform for testing new therapeutics and understanding complex organ interactions.



Professor Wojciech Chrzanowski is the Head of the Nano-Medical Innovations Group at the University of Sydney. His work develops extracellular vesicle-based strategies for treating rare diseases and for tissue repair. Professor Chrzanowski applies and promotes a non-animal innovation research strategy in his work and is also a passionate advocate for global R&D capacity building and international networking.



# Can a human blood waste product replace animal blood in haemocompatibility assessment of medical devices?



Michael J Simmonds



Griffith University



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Michael Simmonds

Antony McNamee, Mark Wearn, Lasse Strudthoff, Shantel Van Walle

Mechanical Circulatory Support (MCS) can supplement or completely replace the functions of the heart and/or lungs and may be used acutely to assist medical procedures (e.g., valve repair) or chronically in those with organ failure. Current approaches to regulatory approval of such technologies involve extensive pre-clinical evaluation of the safety and efficacy of novel devices, especially for implantable devices such as total artificial hearts. The consequences of poor haemocompatibility and biocompatibility account for the majority of fatal complications.

Haemocompatibility assessment of MCS components is currently guided by international regulatory standards, among others, which provide the approaches to evaluation practices and reporting requirements. In prior standards, it was identified that human blood was preferable for use in testing, although recent revisions acknowledge that while blood sources may differ in blood trauma sensitivity, the donor source should simply be recorded; sourcing blood from humans is no longer recommended. International groups cite a preference for using large mammal donors for various pragmatic reasons:

- i) in some countries, access to human blood is highly regulated and limited
- ii) the volume of blood required (typically >800 mL) is too large for a single human donor, and
- iii) ethical concerns given human blood is a waste of a lifegiving resource. To overcome these limitations, we have explored the opportunity to use a waste product – venesections from patients with haemochromatosis – to replace the use of animal blood in the pre-clinical assessment of MCS devices.

Haemochromatosis is a hereditary iron overload disorder that affects up to one in two hundred individuals of European descent. Excessive iron within the body results in various complications that could be easily managed: regular bloodletting (venesections) of up to 900 mL directly removes iron from the organism, while the depleted blood cell levels stimulate iron-intensive processes such as erythropoiesis. While it is ethically impermissible to take such large samples from healthy individuals, the venesections in haemochromatosis are a therapeutic necessity. We can utilise this, provided the blood has unchanged hemocompatibility characteristics.

We have demonstrated that upon first diagnosis, where blood iron levels are high, the cells in venesections are rigid and excessively cluster together (aggregate) and thus do not reflect blood from healthy donors. However, we also observe that upon successive venesections, cell rigidity returns to levels typical of normal health and the tendency for cells to aggregate significantly decreases. While the blood collected from those who are newly diagnosed with haemochromatosis may not be suitable for pre-clinical assessment of medical devices, blood from those with well-maintained iron levels represent a valuable resource to replace animal products. Indeed, we demonstrated that the mechanical sensitivity of blood cells from those with regular venesections reflect those of normal healthy donors.

These results will be presented in concert with new findings from pre-clinical evaluation testing of clinically approved MCS devices. Discussion will focus on the validity of using human blood in pre-clinical assessment of MCS, and the opportunity to influence relevant international standards to promote the replacement of animal blood with a human waste product.



Professor Michael Simmonds leads the Mechanobiology Research Laboratory at Griffith University, specialising in the interface between blood rheology and biomedical engineering. His research aims to reduce blood trauma in mechanical circulatory support devices, improving outcomes for patients undergoing cardiothoracic procedures. In collaboration with industry partners such as BiVACOR, he contributes to the development of blood-compatible artificial hearts. Professor Simmonds has been recognised internationally, receiving awards including the Rising Star Award from the International Society for Biorheology.



# Abstracts Day Two

**WEDNESDAY • 30 JULY**

## CODE REVIEW

CHAIR – ALASTAIR SLOAN

### Review of the ‘Australian code for the care and use of animals for scientific purposes’



Mary Bate



National Health and Medical Research Council, ACT



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The Australian code for the care and use of animals for scientific purposes provides a framework for the ethical, humane and responsible care and use of animals used for scientific purposes. Since it was first published in 1969 by the National Health and Medical Research Council (NHMRC), the Code has been periodically reviewed, with the 8th edition published in 2013. A new section about the use of animals in cosmetic testing was added in 2021.

The status of the Code has changed since 1969. In Australia, the state and territory governments are responsible for the regulation of animal welfare, including the use of animals for scientific purposes. The Code is now adopted under legislation in all states and territories.

In February 2025, following consultation with state and territory governments, relevant Commonwealth Departments, and co-endorsers of the Code, NHMRC announced it would conduct a review of the Code. The review seeks to ensure that the Code:

- more fully reflects scientific advances in our understanding of animal sentience, animal wellbeing and welfare, and advances in technology
- continues to reflect changes in public attitudes, and
- to remove potential ambiguity in some current language in the Code.

This presentation will outline the process for the review of the Code, which will include consultation with stakeholders and the Australian community, and the key issues expected to be addressed during the review. It will also highlight how the Code fits with other major work being undertaken by NHMRC to improve research quality, including the quality of animal-based studies.



Mary is an experienced veterinarian, who completed her graduate training at the University of Queensland. She has extensive experience with animal ethics and welfare, and veterinary medicine and surgery. She joined the NHMRC in 2010 and leads the development and review of animal ethics and welfare guidelines, including the review of the *Australian code for the care and use of animals for scientific purposes*. She is also the project lead for NHMRC's research quality work.

# Animal sentience – evidence, assessment, and application to the research environment



Kris Descovich



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Animal sentience is one of the most important considerations for scientists and academics who use animals in research and teaching. As evidence emerges for sentience in different species, an informed and progressive approach will be required at the individual, institutional, and regulatory level to ensure experimental animals have a high level of welfare and that such research remains ethical, biologically valid, and accepted by wider society.

This presentation aims to provide an overview of animal sentience for researchers, technicians, and educators. Concepts to be discussed include:

1. Defining and understanding sentience
2. Key approaches used to provide insight into the sentience of animals
3. An overview of current evidence for sentience across taxonomic groups
4. Practical implementation of sentience-informed research and education, and use of the precautionary principle
5. Sentience within the 3Rs framework.




Sentience is assessed using a multi-modal approach, often incorporating anatomical, physiological, behavioural, and cognitive assessments. Much of the experimental research on sentience focuses on the capacity to feel pain, which is of key importance to animal-based research but comprises only part of an animal's experience. There is sufficient evidence that many species are sentient with the capacity to, for example, respond to pain, make choices that avoid painful experiences, and seek pain relief.

A sentience-informed approach to animal use will help safeguard animal welfare and protect against invalid and unreliable data, as poor welfare states can affect experimental outcomes. Consideration for sentience forms part of existing 3Rs assessments and its implementation should extend past the capacity to feel pain to also consider other negative states as well as positive experiences. Sentient species must have adequate regulatory protection for their welfare, but significant responsibility lies with individual researchers to ensure they understand and meet the needs of the animals they choose to use.



Dr Descovich is an animal welfare specialist working with RSPCA Australia as a Senior Scientific Officer, and The University of Queensland as an Adjunct Fellow. She has worked in the field of animal behaviour, management and welfare for more than 20 years, and her work has spanned a wide array of applied contexts including bioscience, livestock production, zoo animal management, wildlife rehabilitation, and companion animal sheltering. Her primary focus is on understanding and improving animal welfare states.

## Ethics in action: social licence in high animal welfare impact studies

 Amanda Errington  
 EthiQualia, Melbourne  
 Mandy@ethiqualia.com.au

Recently, ethical decisions made by Animal Ethics Committees (AECs) about high-impact animal studies have been discussed in the media and Parliament.

This short presentation will explore how we can communicate and engage in constructive discussions about challenging ethical issues.

Animals do not volunteer; their use is inherently anthropocentric. The Australian code describes outcomes-based principles underpinned by respect for animals. It establishes a utilitarian framework and cost (harm to the animals) benefit (of the research) analysis is required.

Ethical decisions are a judgment, and should be supported by open, candid and respectful debate. By challenging ourselves to engage in this debate we can contribute to enhanced ethical oversight of animal use, and better support implementation of the 3Rs.

Should we be thinking more broadly about risk, ethics and social licence? Understanding the (somewhat intangible) conditions imposed by the community regarding the social license for animal use is essential.

We are familiar with the rules and have read the Australian Code. Many organisations using animals will have regulatory compliance in their risk management framework. Respect for animals forms the foundation of the governing principles outlined in the Australian Code, this is the basis for the public's acceptance of animal use in research.

Should organisations embed the social licence conditions into their risk framework and consider their risk appetite?

What is an acceptable limit of harm beyond which a procedure, or a type of animal research should not take place?

How can we determine this limit, and how can we make a judgment against the anticipated benefit?




Is prohibition of certain activities the solution?

This presentation will encourage attendees to reflect on their ethical viewpoint and their role in ensuring that if animals must be used for research, such use is ethical.



Mandy is the Principal of EthiQualia, promoting the welfare of animals used for scientific purposes through risk evaluation and analysis. She has served on multiple AECs, worked as an animal welfare officer at various research institutions, as well as within the Animal Welfare Victoria regulatory team. Mandy is an animal welfare and laboratory animal veterinarian, currently undertaking a Master of Science in International Animal Welfare Ethics and Law at the University of Edinburgh.

## The Australian National Statistics project and the Code

-  **Malcolm France**
-  **Project Officer, ANZCCART**
-  **malcolm.p.france@gmail.com**

National statistics on animals used for research or teaching can provide important guidance for policy-making and resource allocation, and can support informed ethical discussion and public expectations of transparency.

However unlike countries such as New Zealand, the EU states, the UK and the USA, Australia has never had a process for compiling and reporting national statistics on animal use. While most Australian states and territories collect their own statistics, not all make this information publicly available and there are inconsistencies between jurisdictions.

ANZCCART therefore commenced a project to explore options for national reporting. After two rounds of public consultation in 2024, the project is now turning to more detailed considerations including potential constraints within current regulatory frameworks. This presentation will look at the potential role of revisions to the Code review in facilitating the harmonisation of national reporting across all jurisdictions






Malcolm France is project officer for ANZCCART Australia where he manages the Australian openness agreement and the national statistics project. He has worked as a lecturer in veterinary pathology and animal facility director, and has served as Animal Ethics Committee chair and in several honorary roles for industry bodies and as a journal reviewer.



**SESSION ONE (NORFOLK)**  
**ETHICAL DECISION-MAKING**  
CHAIR – CORINNE ALBERTHSEN

## Global Improvement of Laboratory Animal Standards through AAALAC International Accreditation

-  Debra L. Hickman
-  AAALAC International
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The globalization of the biomedical research enterprise is occurring at an accelerating pace. Increasingly, scientific collaborations and contracts cross national borders. Bridging these international interactions is a clear scientific imperative for reproducibility of results and statistic validity of data and necessary to ensure high quality research animal welfare. By putting into place standards that promote harmonization, some assurance of quality animal care and use is achieved.

AAALAC International is a private, nonprofit organization that promotes humane treatment of animals in science through a global voluntary accreditation program. AAALAC International is in a unique position to harmonize animal care and use programs. More than 1,100 institutions in 50 countries around the world have earned AAALAC International accreditation.

The AAALAC International Council on Accreditation evaluates the overall performance and all aspects of an animal care and use program, involving an in-depth, multilayered, and confidential peer-review process. The evaluators (site visitors) consider compliance with applicable legislation of the particular country and institutional policies, and use a customized approach for evaluating overall program performance applying the *Guide for the Care and Use of Laboratory Animals* and other standards adopted by AAALAC [www.aaalac.org/accreditation/resources.cfm](http://www.aaalac.org/accreditation/resources.cfm), as applicable. This evaluation includes topics including promotion of animal welfare (from an ethical and administrative perspective), occupational health and safety, personnel training, implementation of the 3R's, and more.




This year marks the 60th Anniversary of AAALAC International, a milestone which prompts reflection on the improvements in animal care and use programs and the increasing success of institutions in meeting AAALAC's global standard of excellence.


This presentation will provide attendees with an opportunity to learn more about AAALAC International and the accreditation process.



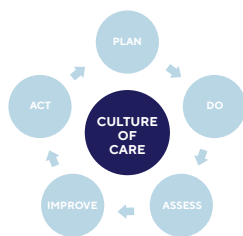
Dr. Hickman, a graduate of the University of Illinois College of Veterinary Medicine, currently serves as the Chief Accreditation Officer for AAALAC International, a private, nonprofit organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment programs. Previously, she served as the associate vice president of animal resources and attending veterinarian at Purdue University, while also teaching courses as clinical professor in Purdue's College of Veterinary Medicine.

# Ten years of independent external reviews, lessons, insights and reflections

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In 2013, the 8th edition of the Australian code for the care and use of animals for scientific purposes introduced a requirement for all organisations to monitor for compliance by ensuring an independent external review at least every four years. Ten years on, what have we learnt? Drawing on over a decade of experience in conducting these reviews throughout Australia this presentation will consider the opportunities that arise from this review process. Organisations using animals must promote, monitor and review compliance, and the primary responsibility of the AEC is to ensure all activities relating to the care and use of animals are conducted in compliance with the Australian code. Additionally, the law in each Australian jurisdiction specifies mandatory obligations to protect the welfare of research animals. The independent review process is integral to effective compliance management systems. Providing confidence that respect for animals underpins all activities and assurance of a Culture of Care.



**Figure one. Connecting to a Culture of Care**

*Adapted from: Compliance management systems – requirements with guidance for use International Standard ISO 37301.*

The saying “common things happen commonly” certainly holds true. There is a lot that is going well in meeting the many, complex and intertwined outcomes specified within the Australian code. An independent review should not only recognise what is going well but also identify opportunities to enhance efficiency and better support compliance.

A de-identified overview of the key findings from these reviews provides valuable insights into areas that require additional attention to protect animals, preserve reputations, and support public confidence. Whether you are preparing for your next independent review, advocating for change within your organisation, or readying for consultation on the code revision, let’s reflect on what we have learned and where we are headed.



Mandy is the Principal of EthiQualia, promoting the welfare of animals used for scientific purposes through risk evaluation and analysis. She has served on multiple AECs, worked as an animal welfare officer at various research institutions, as well as within the Animal Welfare Victoria regulatory team. Mandy is an animal welfare and laboratory animal veterinarian, currently undertaking a Master of Science in International Animal Welfare Ethics and Law at the University of Edinburgh.



Robin is a Senior Associate, EthiQualia and a member of the NHMRC Animal Welfare Committee and a Category D member of a University AEC. Animal welfare is a particular interest, especially the promotion of the 3R’s in teaching and research. As a consultant, Robin focuses on governance, policy development, and strategic planning. Her professional experience includes advising at the Ministerial level on education and training in local and state government.



## Critical factors in selecting an independent external review panel for your institution



Amanda Fernie



Advisory Services Australia



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Karen Boundy



Advisory Services Australia



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Institutions must have their compliance with the Australian code for the care and use of animals for scientific purposes assessed at least every four years. Ensuring a meaningful and effective review depends on selecting independent, qualified professionals capable of delivering a rigorous evaluation. In this session, we will share our insights gained from both engaging review panels and serving as independent external reviewers. We will outline critical factors in short-listing independent external review providers, including strategies to maintain an unbiased evaluation, engage reviewers with relevant expertise, and verify their credibility. Additionally, we will explore how to structure the review process effectively – tailoring panel composition for your institution, expectations for communication and report delivery, budgeting considerations, scheduling constraints and key legal aspects such as confidentiality and indemnity.

Through this discussion, participants will gain the tools needed to identify review panel providers who can deliver a clear, accurate and fit-for-purpose evaluation of their institution's animal ethics system performance and support your institution to achieve the highest standards of animal care and use for scientific purposes.



Dr Amanda Fernie is the founder and director of Advisory Services Australia. She is an experienced research ethics manager with research experience in primate behaviour, care and welfare. Advisory Services Australia's team of professionals have extensive expertise in animal ethics systems and its regulation. We deliver tailored consulting services to institutions to achieve and maintain regulatory compliance and continually improve practice across all aspects of their animal care and use program.



Karen Boundy has extensive experience in animal research, the regulation of animal ethics systems and the provision of specialist auditing services. Karen is a qualified auditor, holding credentials in quality systems auditing (SAI Global) and compliance audits (NATA). She founded and directed Scientific Advisory Services in 2013, leading and delivering independent external review panels for Institutions and government organisations across Australia. She joined Advisory Services Australia as a review panel member in 2024.

## Translating animal research from forced versus voluntary participation



Thomas H Burne



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Translational neuroscience faces a critical challenge in bridging the gap between preclinical animal models and human neuropsychiatric disorders. A key factor influencing this translational validity is the nature of participation in experimental paradigms—specifically, whether behaviours are elicited through forced or voluntary engagement.

I will explore the implications of forced versus voluntary participation in animal research, with a focus on how these paradigms impact the interpretation and applicability of findings to human conditions such as schizophrenia, depression, anxiety, and addiction.

In some tests, animals are placed in stressful situations they can't avoid, which we call "forced" tests. While these can help researchers control the experiment, they might not reflect how people experience mental health challenges. On the other hand, "voluntary" tests let animals choose to take part, like running on a wheel or pressing a lever for a reward.

These may better reflect real-life behaviour but can be harder to control scientifically. I will discuss commonly used behavioural models in rodents, including the forced swim test, wheel running, and operant conditioning paradigms, highlighting their respective strengths and limitations in modelling human psychopathology.

I will also consider the ethical and methodological implications, including animal welfare concerns and the influence of stress on neurobiological outcomes. We argue that a nuanced understanding of the trade-offs between forced and voluntary models is essential for improving the translational relevance of preclinical research.

By comparing these two types of research methods, we hope to improve how animal studies are used to understand human mental health. This could lead to better treatments and a deeper understanding of how the brain works in people with mental health conditions.





Professor Thomas Burne is a neurobiologist working in the field of biological psychiatry, with a strong interdisciplinary background in behavioural neuroscience and expertise in animal models of neuropsychiatric disorders. He currently holds multiple senior research appointments, including Professorial Research Fellow at the University of Queensland, a group leader at the Queensland Brain Institute (QBI), and a Principal Research Fellow at the Queensland Centre for Mental Health Research. Professor Burne has authored over 150 peer-reviewed publications, with more than 10,000 citations, and in collaboration with national and international partners, he has secured over \$8 million in competitive research funding, with continuous funding from the NHMRC from 2007-2028. Since 2003, his research program focuses on understanding the biological mechanisms underlying neurodevelopmental and neuropsychiatric disorders, particularly schizophrenia and autism. His group investigates both genetic and environmental risk factors, during developmental and in adulthood, and he has played a pivotal role in establishing state-of-the-art behavioural testing infrastructure at QBI, enabling high-throughput, automated operant-based cognitive assessments in rodents. In addition to his research leadership, Professor Burne has held several prominent service roles. He is a former President of Biological Psychiatry Australia, the Queensland representative for the Australasian Neuroscience Society, a current member of the NHMRC Animal Welfare Committee and Head of Brain Sciences for the Rebecca L Cooper Foundation.



# Olfactory ensheathing cell nerve bridge transplantation for repairing spinal cord injury – translation from the lab to clinical trial



James St John<sup>1,2</sup>



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James St John<sup>1,2</sup>

Ronak Reshamwala<sup>1,2</sup>, Mariyam Murtaza<sup>1,2</sup>, Andrew Rayfield<sup>1,2</sup>, Brent McMonagle<sup>2,3</sup>  
Wayne Ng<sup>3</sup>

The Spinal Injury Project at Griffith University is conducting a world-first Phase I human clinical trial to test a cell transplantation therapy for repairing acquired spinal cord injury. The therapy uses olfactory ensheathing cells (OECs) which are supporting cells of the olfactory (sense of smell) nerve. These cells have multiple mechanisms for stimulating neural repair including removal of cell debris, secretion of growth factors, and ensheathment and maintenance of nerve cells.

The safety and efficacy of OEC transplantation has been previously tested by other research groups, but the results have been inconsistent, and transplantation of the cells has been difficult. To overcome these previous limitations, the research team has invented an innovative technology in which the OECs are formulated into three-dimensional nerve bridges. The 3D nerve bridges allow the cells to form stable connections with each other and are easily handled by surgeons to facilitate implantation into the injury site.

The efficacy of the nerve bridges has been extensively tested using a combination of in vitro cell studies and in vivo animal (mouse) models of spinal cord injury to assess motor, sensory and autonomic recovery. To improve the surgical approach and enhance animal welfare, animal surgery was conducted by a medically trained researcher with clinical surgical experience, which dramatically reduced adverse events and improved consistency of the spinal cord injury model. Due to the complexity of sensory functions, animal models of spinal cord injury are often quite limited. To address this, clinically relevant assessments of sensory function were used to develop a new suite of sensory tests for the animal models.

Together, the improved surgical approach and extensive suite of motor, sensory and autonomic tests increased the reliability of the data of the animal models and were the driving force behind the translation of the research to human clinical trial.



Professor James St John is Head of the Clem Jones Centre for Neurobiology and Stem Cell Research at Griffith University. James was awarded the 2025 NHMRC Consumer Involvement award for the community co-design of the trial and was awarded the 2019 NHMRC Marshall and Warren Innovation Award for the potentially transformative power of these olfactory nerve bridges. James is the responsible investigator for the Sponsor (Griffith University) for the clinical trial.

## Ethical acceptability – Balancing whether the potential effects on the wellbeing of the animals involved is justified by the potential benefits – a proposed framework for better AEC decision-making



Tim Dyke



OmniAdvisory



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Tim Dyke

Gordon McGurk

AECs lack frameworks to properly consider and document considerations of whether the potential effects on the wellbeing of the animals involved are justified by the potential benefits. Are potential wellbeing effects and potential benefits quantifiable? Would a matrix assist AEC decision-making? How can ECs better document their consideration of ethical acceptability?

The presentation will propose a framework for improved AEC decision-making through more informed discussion about potential wellbeing effects and potential benefits, based on risk assessment and management principles.

## Openness on Animal Research: what good looks like

-  **Bella Lear**
-  **Understanding Animal Research Oceania, VIC**
-  **[ajlear@uaroceania.org](mailto:ajlear@uaroceania.org)**

This session will look at what is possible under openness, through the lens of recent leading practices overseas, why they represent important steps and how they were achieved.

Since launching in 2014, the UK's Concordat on Openness on Animal Research has helped research institutions be more transparent about their work with animals. Over 120 UK organisations, including universities, pharmaceutical companies, government agencies and research charities have signed the agreement to commit to clear communication practices about how and why animals are used in research.

The agreement was designed to include as many research organisations as possible, enabling them to begin their new approach to communicating animal research with small simple steps. Within a few years, good practices had begun to emerge among signatories who became the first to take bolder steps around the information that they shared with public.

Dedicated websites were created and populated with research summaries, case studies, and videos explaining how and why animals are used. Some organisations offered tours of their animal facilities to journalists, policymakers, and even members of the public, while others ran public talks and engaged with media to encourage open discussions. Facilities were refitted with openness in mind, and where that was not possible, innovative methods of delivering virtual tours were developed.

Throughout these changes, balancing the communication of harms and benefits, dealing with concerns without diminishing them has been a constant challenge for research organisations.



Built on the Concordat on Openness, and practices adopted in the UK, the Openness Agreements on Animal Research and Teaching in New Zealand (2021) and Australia (2023), have come a long way in a short time, strengthening transparency, improving understanding and developing meaningful conversations about animal research, while following and celebrating the unique research cultures of New Zealand and Australia.

This session will consider key openness practices that are recognised as aspirational or leading in the UK, outlining what they have achieved, why they have been important for moving the conversation forward and some of the underlying steps that made those practices possible. These examples will paint a picture of what openness can achieve and why these aspirational initiatives are worth the trouble.



Bella is Chief Executive of Understanding Animal Research Oceania, communicating how animal research benefits society across Oceania and the Pacific Rim. A science communicator, with over 20 years' experience creating social change to support the impact of science, Bella was an architect and then strategic lead of the Concordat on Openness on Animal Research in the UK. Now based in Victoria, she works with research institutions, to build better understanding and representation for animal-based research.

## Are 'stock responses' hindering meaningful dialogue and transparency on animal use in research?

 Rachel Smith  
 Animal-Free Science Advocacy (AFSA), VIC  
 [rachelsmith@animalfreesci.org.au](mailto:rachelsmith@animalfreesci.org.au)

Regulatory bodies, politicians, animal ethics committees, research institutes and animal research organisations are frequently asked to respond to direct questions or provide comments to the media regarding animal research practices. In many cases, this results in the issuing of a 'stock response'—a standardised, predictable, and often superficial reply. While stock responses can serve a purpose, they risk appearing impersonal, dismissive and lacking genuine engagement.

This presentation will review recent examples of stock responses issued in response to concerns, complaints and inquiries raised by AFSA, the media and political representatives. It will explore the reasons why stock responses are commonly used, the potential barriers to providing more detailed and transparent communication and the broader consequences of this approach—particularly the erosion of public trust in the oversight of animal research. Finally, the presentation will propose strategies to encourage more constructive and transparent communication, better aligning responses with growing public expectations for openness and accountability in animal research.



Rachel is the CEO at Animal-Free Science Advocacy. She holds a MSc in Animal Welfare Science, Ethics and Law and has worked in the animal protection and Government sectors for 20 years.



## Working towards ethical animal research in Aboriginal and Torres Strait Islander communities



Jessica Hoopes



Animal Management in Rural and Remote Indigenous Communities, Northern Territory, Australia



Jessica.Hoopes@amrric.org



Jessica Hoopes

Bonny Cumming

In recent years, growing recognition of the interdependence between the health of humans, animals and their shared environment has led to an increase in One Health-focused research. Free-roaming dog and cat populations, often prevalent in underserved communities in rural and remote areas, provide an ideal focus for investigations into the infectious disease ecology and factors influencing the potential for zoonotic disease transmission. These companion animal populations are impacted by similar social determinants to those influencing human health outcomes and have an expanded interface with wildlife and the environment compared to their urban counterparts, highlighting the need for research that informs One Health activities.

Given their distinctive relationships with humans and other animals, free-roaming cats and dogs have drawn the attention of the research community, resulting in more requests for research collaboration with organisations involved in animal health and management. While this research has can address critical knowledge gaps and generate long-term benefits across health disciplines, it also presents ethical challenges. Often, research agendas are often externally motivated, offering little tangible benefit for participating communities or animal owners, perpetuating the lasting impacts of colonial research practices that prioritised knowledge generation over local agency and community wellbeing. These dynamics underscore the need for research approaches that are culturally safe, ethically sound and founded on the principles of respect and reciprocity.

Animal Management in Rural and Remote Indigenous Communities often acts as an intermediary between researchers and remote Indigenous communities. In this capacity, we have developed a framework for ethical research engagement that emphasizes community engagement, alignment with local priorities and the integration of effective knowledge translation and local capacity building. This presentation outlines our approach to supporting research partnerships that advance One Health knowledge while supporting the health and wellbeing of communities and their companion animals.



Dr. Jessica Hoopes is a registered veterinarian in Queensland with over 10 years of experience working in small animal medicine, companion animal population management, and One Health-focused research. Her career spans diverse cultural and socioeconomic landscapes in Canada, Australia and the Pacific region. As the One Health Research Coordinator for AMRRIC, she fosters ethical and respectful collaboration between researchers and Indigenous communities to enhance the One Health knowledge base and support community health and wellbeing.



## Livestock Guardian: an animal welfare data platform for online and offline remote field data capture with near real-time reporting and notifications



**Ben Sefton**



**NSW Department of Primary Industries & Regional Development, Orange**



**ben.sefton@dpi.nsw.gov.au**



**Ben Sefton**

**Allen Benter, Liette Vandine, David Taylor**

The NSW Department of Primary Industries and Regional Development (NSW DPIRD) manages a diverse and complex research and development program covering Agriculture, Biosecurity and Fisheries. Increasing project complexity and size, coupled with broadscale collaboration across 24 research sites created a need for a digital animal care and welfare monitoring system.

Historically, multiple paper-based systems were used to track animal movements, monitoring, welfare and husbandry data. This approach proved inadequate, time consuming, delayed notification of animal welfare risks and limited the ability to accurately and quickly generate holistic animal care, welfare and husbandry reports.




Livestock Guardian has been developed by the NSW DPIRD Climate Digital Agriculture team to monitor and record animal movement, welfare monitoring and routine care and husbandry. The system comprehensively manages various aspects of welfare checks, such as recording the date and person involved, tracking paddock locations, monitoring feed allocations, and documenting mob movements. The system enables field staff to capture animal welfare issues in real-time, including photographs, and escalate concerns for Principal Investigator or R&D Station Managers. When issues are identified, such as animal welfare concerns or paddock damage, the system promptly notifies the appropriate individuals. Identified issues are flagged for future checks if required and until resolved, at which point they are documented as resolved and removed from further follow-up.

A daily report is automatically generated for Principal Investigators and Station Managers summarising completed checks, identified issues and follow ups on previously raised issues. To date Livestock Guardian has captured 10,720 (16/6/24 to 12/2/25) animal welfare checks across 8 sites; sent 584 SMS notifications and 304 email notifications for welfare issues. Livestock Guardian has provided a more robust and reliable system to enhance animal welfare, management and compliance. The system is adaptable and will be used for laboratory animals and breeding colonies.



Ben is a software engineer driven by a passion for applying technology to real-world agricultural challenges. Ben specializes in developing innovative solutions for climate change research and data management. His expertise spans programming languages like Python and C, IoT sensor technologies, drone mapping, and remote sensing applications. Within the DPIRD Climate & Natural Resources, Digital Agriculture Team, Ben has spearheaded major projects such as the Livestock Guardian record system and Climate Smart Pilots. He excels at translating complex scientific concepts into user-friendly tools that empower farmers and researchers with valuable insights.

## The Future of Research Funding in the US

-  Debra L. Hickman
-  AAALAC International
-  dhickman@aaalac.org

Proposed changes to US government funding policies have important implications for the scientific research community. These are currently bringing a degree of uncertainty to a range of research programs, some of which include international collaborations with Australia.

This presentation will briefly outline potential implications for animal-based research followed by an opportunity for questions and discussion.



Dr. Hickman, a graduate of the University of Illinois College of Veterinary Medicine, currently serves as the Chief Accreditation Officer for AAALAC International, a private, nonprofit organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment programs. Previously, she served as the associate vice president of animal resources and attending veterinarian at Purdue University, while also teaching courses as clinical professor in Purdue's College of Veterinary Medicine.






# Abstracts Day Three

**THURSDAY • 31 JULY**

**SESSION ONE (NORFOLK)**  
**ETHICAL DECISION MAKING**  
CHAIR – STACEY PARBHU

## Replacing animals in the routine quality control testing of veterinary vaccines

 **Robert Dempster**  
 **Private consultant and AEC chair**  
 **Robert.p.dempster@gmail.com**

Each batch of vaccine intended for animals or humans undergoes testing prior to release for sale. Inactivated veterinary vaccines often require testing involving laboratory animals such as rabbits, mice, rats, hamsters, and guinea pigs. These animals are used to assess the vaccine's efficacy, and they are also involved in various in-process tests to ensure the manufacturing process meets specifications.

Test methods using laboratory animals are expensive, variable in response, generate invalid results, have long lead times and create ethical dilemmas. If cost-effective, validated and registered in-vitro tests were available all manufacturers would cease the use of animals immediately.

Vaccine manufacturing and registration are strictly regulated worldwide. The European Pharmacopoeia and United States Pharmacopeia set testing standards, influencing Australian and NZ veterinary regulators (APVMA and ACVM). Local regulators also have their own guidelines. Manufacturers must adhere to these rules. Recently, global regulators have permitted manufacturers to submit alternative validated in-vitro test methods.

Traditional testing methods were often established many years ago, and although internationally standardised antisera may still be available the original validation data is not. Nevertheless, conservative regulators continue to rely on and trust these historical methods. For vaccine manufacturers that export the challenge is even higher as regulators in different countries have different policies and are directed by national legislation.

New test methods must meet tougher validation standards and demonstrate relevance, robustness, reproducibility, accuracy, and linearity. Reagents need to be stable and sustainable. Often, the correlation between old *in-vivo* tests and new *in-vitro* tests is suboptimal due to flaws in older tests. Additionally, mimicking animal responses to an inactivated vaccine with an adjuvant is challenging.




Global progress is slow, and full *in-vitro* testing for batch release of many vaccines remains unlikely.



Robert has 39 years' experience working for 8 animal health organisations on either side of the Tasman Sea. He has worked in R&D, project and portfolio management, product development, registration and GMP manufacture of veterinary products, especially vaccines.

He briefly served on the NZ National Animal Ethics Committee. Robert retired from Virbac in March 2025 but remains the chair of their AEC.

## Research involving non-human primates

-  Anne Gibbon
-  University of Queensland
-  gibbon.anne83@gmail.com

This presentation will discuss in general the types of research involving non-human primates performed in Australia and some of the procedures that may be involved. The potential impact upon the animals and some of the ethical challenges that may be faced by AEC members will be introduced to allow further discussion with the panel.



Anne first sat on an AEC in 1998 as a Category A member and since then has sat on 8 different University AECs. In 2007, she started work as a University Laboratory Animal Veterinarian. Over the next 17 years, she developed a special interest in non-human primates, specifically macaques and marmosets, caring for the health of breeding colonies and research NHPs, plus performing veterinary procedures to assist in research projects. Her roles include Senior Veterinarian, Training Team Leader, AEC Chair, GLP Study Director, Divisional Head of Large Animals and Chief Investigator for multiple studies, including two NHP breeding colonies.



## SESSION TWO (CONNAUGHT)

### AEC INSIGHTS

CHAIR – NATALIE INGRAM

## Diversity on Australian Animal Ethics Committees: Age and Gender



Sarah Pirecki



CSIRO (Brisbane, Australia)



[Sarah.Pirecki@csiro.au](mailto:Sarah.Pirecki@csiro.au)



Sarah Pirecki

Corinne Alberthsen

Diversity strengthens a committee's ability to make ethical, fair, and socially responsible decisions. Are we doing enough to promote diversity within our AECs?

This presentation will highlight the results of a survey circulated to AEC members across Australia, which investigates gender and age diversity to provide insight into the composition of AECs and identify any patterns or gaps in representation.

There is currently no guidance or mention in the Australian Code for the care and use of animals for scientific purposes code which encourages diversity in AECs. It was only recently that the National Statement on Ethical Conduct in Human Research (effective 1 January 2024) mentioned gender diversity (Section 5.1.37). Governing documents have a role to play also in the promotion of diversity and the public's voice on AECs; but so do we as individuals.

This presentation will also touch on ways in which individuals and organisations can better promote diversity.



Sarah Pirecki (She/Her) holds a Bachelor's degree in Animal and Veterinary Bioscience, majoring in Animal Health and Disease. She has a diverse background in veterinary nursing, animal education, genetics, and welfare. Sarah is a passionate Animal Ethics Coordinator for CSIRO, who is currently conducting a research project exploring age and gender diversity on Australian Animal Ethics Committees.

## A survey of educational resources for animal ethics committees to empower ethical excellence

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- 📄 Shiwanthi Ranasinha  
Sashika Naidoo

In 2020, The Animal Research Review Panel (ARRP), New South Wales, conducted a nationwide survey to identify current educational and training resources used by members of Animal Ethics Committees (AECs) as well as to determine what additional educational materials could be developed to assist AEC members. The survey highlights two outcomes, which were developing structured online training for AEC members and developing guidelines for the assessment of AEC applications.




Building on these insights, a nationwide follow-up survey was conducted to assess the progress made since the initial survey. This comprehensive survey aims to assess the impacts of the post-approval monitoring program on AEC operations and determine if training opportunities have improved. Data collected from AEC members/Executive Officers across Australia will be used to create a detailed picture of the current training landscape and the effectiveness of monitoring practices.

This survey will guide future initiatives aimed at supporting AEC members and ensuring animal welfare in research.



Dr Shiwanthi Ranasinha is the Animal Ethics Advisor at QIMR Berghofer. She obtained her PhD in Molecular Parasitology from the University of Queensland after graduating as a veterinarian from Sri Lanka. In the following four years, she conducted postdoctoral research on mouse models of cancer. Her veterinary background coupled with her research expertise makes her a knowledgeable Animal Ethics Advisor, guiding ethical decision making in animal research and providing advice to researchers.”

## AEC Engagement and Processes Survey

-  Annie Humphreys (online)
-  Garvan Institute of Medical Research
-  [a.humphreys@garvan.org.au](mailto:a.humphreys@garvan.org.au)





Following the review of a 2018 paper by Tjärnström et al, our Animal Ethics Committee members and ad hoc members were issued an in-house AEC Engagement & Processes Survey consisting of 36 questions in order to refine our current procedures. The questions were subdivided into 3 sections which endeavoured to evaluate 'Engagement within the AEC', 'Ethical Decision-making & Emotional Involvement', and 'Support within the AEC'. Our results revealed 7 low scoring areas and highlighted some trends specific to individual membership categories. We have proposed and implemented initiatives to refine the low scoring areas and reissued a follow up survey 6 months following the first survey to assess whether the implemented changes have improved the overall scores. We observed notable changes in survey responses following the implementation of refinements. We encourage other institutes to provide similar surveys to their AECs in order to optimise AEC administration, compliance, individual welfare and the efficacy of the AEC.



Annie Humphreys is the Senior Research Compliance Officer at the Garvan Institute of Medical Research. Since 2018, she has supported the Garvan/St Vincent's AEC. Annie completed a Bachelor of Medical Science and a Masters of Neuroscience from the University of Sydney and was a researcher at the Brain and Mind Centre until 2018. At Garvan, she has contributed to internal and external Committees, introduced new institutional frameworks around compliance and integrity, and refined AEC processes.



# Evaluating Animal Research Oversight in Australia: A Pathway to Ethical and Scientific Reform

 Elena Schaller  
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 elenaschaller@animalfreesci.org.au  
 Elena Schaller  
Rachel Smith, Elizabeth van Ekert

Animal Ethics Committees (AECs) were introduced in Australia in response to public concern about the ethical use of animals in research and teaching. Their role is to ensure that such use is scientifically and ethically justified, with a focus on minimising harm and prioritising animal welfare. AECs operate under the *Australian Code for the Care and Use of Animals for Scientific Purposes (2013)*, which permits animal use when harms are minimised and outweighed by anticipated benefits. However, with consistently high project approval rates, growing public concern and rapid advances in non-animal methods (NAMs), it is timely to ask: **are AECs still fit for purpose?**

To explore this question, Animal-Free Science Advocacy and Animals Australia commissioned a qualitative **evaluation of Australia's current ethical review and oversight framework for animal use in science and education**. The analysis draws on recent literature, regulatory reviews, international models and insights from conversations with current and former AEC members.

The findings highlight **five systemic weaknesses that undermine AEC effectiveness**: inconsistently enforced regulations, limited transparency, AEC structural and operational limitations and AEC training gaps. Collectively, these issues contribute to the continued underuse of NAMs.

While a broader reassessment of the ethical foundations of animal research is warranted, this report outlines **five immediate, practical reforms**: embed NAMs as the default approach in the Code, establish a national enforcement body, improve governance and training for AECs and mandate transparent reporting across jurisdictions. Phased implementation of these reforms would create a more rigorous and trustworthy system—one that demands stronger justification for animal use and fosters innovation.

This presentation will share key findings and offer actionable recommendations for AEC members, Chairs, licence holders, funding bodies and regulators to help strengthen oversight and align with evolving science, ethics and public expectations.



Elena is a US-trained pharmacist and nonprofit research and advocacy professional. At Animal-Free Science Advocacy, she champions human-relevant research and education methods. She recently co-authored a report exposing systemic issues in Australia's animal research oversight and recommending reforms. Elena works at the intersection of science, policy and public engagement to accelerate innovation and align research practices with evolving ethical and scientific standards.



## Reporting on a survey of those who care for research animals in Australia



Jane Johnson<sup>1</sup>



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Jane Johnson<sup>1</sup>

Brette Blakely<sup>1</sup>, Jacqueline Dalziel<sup>2</sup>, John Goris<sup>1</sup>, Kelby Fransisca<sup>1</sup>, Andrew McGregor<sup>1</sup>

Attending to the needs of animals in research is crucial for the wellbeing of animals themselves, as well as the quality of the data obtained from the protocols in which these animals are used. However, there are costs to those who undertake care work for animals, with evidence building regarding the harms to humans who work in contexts where their role invokes a tension between caring for animals, and involvement in the pain, suffering or death of those animals.



We undertook a pilot survey of those who care for animals in research in Australia to explore the characteristics of those undertaking this work and to identify some of the costs and burdens associated with this care. In tandem with follow up interviews, this data will help us articulate strategies to address these costs and burdens in a manner that is tailored to the particularities of the Australian context.

In this paper we focus on a question about whether care work for animals is emotionally challenging. The majority of participants agreed with the statement that ‘I sometimes find work with animals in research contexts emotionally challenging’, with the distribution of responses consistent across a number of demographic and employment categories. The most marked variation occurred in the context of the role participants occupy in relation to research animals. Follow up interviews are helping unpack and explain participant responses, including some of the unanticipated aspects of our results.



Jane Johnson is an Australian Research Council Future Fellow in the Discipline of Philosophy at Macquarie University where she employs the tools of field philosophy to address questions in science and medicine. Jane’s work is driven by a commitment to the vulnerable and to research that enhances lives.

## Refined Mouse Handling: Evidence-Based and Practical Recommendations

 **Megan La Follette**  
 **The 3Rs Collaborative, CO, USA**  
 **[meglafollette@3rc.org](mailto:meglafollette@3rc.org)**

Traditionally, research mice are picked up by the tail to move them for examination, cage changes, and a variety of standard laboratory procedures. However, strong multimodal evidence from multiple labs indicates that it is instead advantageous to pick mice up with tunnels or cupped hands (e.g., “refined mouse handling”) prior to these procedures. The growing body of scientific literature supports the claim that refined mouse handling improves animal welfare, scientific quality, and ease of handling. Furthermore, it is fully compatible with procedures such as cage change, injection, oral gavage, and anesthesia.

Despite these advantages, many individuals and institutions have not yet switched from traditional tail handling to refined mouse handling. This is due to multiple factors, including misconceptions about the technique, lack of training, difficulty convincing other personnel, purchasing tunnels, and changing operational procedures. These are understandable and relatable barriers, but they can be overcome with collaborative efforts across the field.

In this talk, refined handling will be introduced from the scientific evidence supporting it to benchmarking its current use, barriers, and solutions to practical implementation in various research settings. This includes summarizing key findings of the research studies, addressing core barriers, and providing practical advice for implementation. Finally, a strategic process for institution-wide implementation will be recommended and an overview of open-access resources from the 3Rs Collaborative will be showcased.



Dr. Megan LaFollette is Executive Director at The 3Rs Collaborative where she advances better science, for both people and animals. She received her PhD and Master of Science in Animal Behavior & Welfare from Purdue University. She is an expert in advancing implementation of practical, impactful, and evidence-based 3Rs techniques that range from improving human-animal interactions to implementing microphysiological systems and forwarding compassion fatigue resiliency.



## Cracking Welfare Concerns in a Novel Aquaculture Species, juvenile Giant Oystercracker (*Trachinotus anak*)



Olivia Spiliopoulos<sup>1</sup>



<sup>1</sup>School of Veterinary Science, The University of Queensland

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Olivia Spiliopoulos<sup>1</sup>

Kris Descovich<sup>1</sup>, Pollyanna Hilder<sup>2</sup>, Culum Brown<sup>3</sup>

Aquaculture has become a primary source of global fish protein; however, public concern regarding fish welfare is increasing. Using a novel aquaculture species juvenile Giant Oystercracker (*Trachinotus anak*, Carangidae) we investigated the effects of water flow conditioning (high vs. low) and training with predictable vs. unpredictable stressors on fish behaviour.

Specifically, we measured shoaling behaviour, swimming activity, and spatial distribution during critical events including transport between tanks, a simulated predator threat, and recovery from these stressors. These behaviours were assessed as indicators of stress resilience to determine how environmental enrichment can enhance welfare outcomes in aquaculture systems.





The results showed that high flow conditions led to increased activity and spatial exploration, with more dispersed shoals, while low flow conditions resulted in tighter, less coordinated shoals. Training played a critical role in recovery behaviour, with trained fish displaying more cohesive shoaling and faster recovery from stress. Trained fish under high flow conditions exhibited the greatest spatial distribution, suggesting a synergistic effect of exercise and predictability training on resilience.

These findings highlight the potential of flow conditioning and predictability training as strategies for improving fish welfare and stress resilience in aquaculture, thereby providing a foundation for more effective aquaculture welfare practices.



Olivia Spiliopoulos holds a Bachelor of Science in Marine Biology from James Cook University and completed her honours project at the University of Queensland's School of Veterinary Science. Her research focuses on optimising welfare management for the novel aquaculture species, Giant Oystercracker (*Trachinotus anak*), as part of the CSIRO White Flesh Fish project. She aims to pursue a PhD to continue her work on sustainable, welfare-focused innovations for fish in aquaculture.

# Navigating the Challenges of Improving Animal Welfare Standards at Research Institutes

 Lindsay Skyner  
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 Lindsay Skyner  
Rafael Freire

Improving animal welfare relies heavily on changing human behaviour. We propose that to achieve change in human behaviour we first need to clearly understand the diverse challenges Animal Welfare Officers (AWO) and Presiding Officers (PO) of Animal Ethics Committees face, and then develop strategies and processes to achieve investigator and institutional changes.

There are several challenges when working with investigators such as resistance to change, complaints, over reporting, regulatory requirements and generational challenges. In addition, AWO and POs may face certain constraints and barriers that prevent successful resolution of these challenges including time pressures, a lack of institutional support or toxic workplace cultures.

A key strategy in enabling investigator change is effective communication, going beyond simply being heard but a change in beliefs and practices. Humans are often resistant to change, particularly when existing practices seem to yield satisfactory, albeit temporary, results. Effective communication involves a complex interplay of factors, including clarity of message, tone, body language, age, and familiarity. Paradoxically, awareness of these variables can make communication more challenging.

Additional strategies to enable behaviour change, involve, addressing knowledge gaps and focussing on cultural changes through a collaborative process. These strategies may include actively engaging with researchers and institutions should incorporate processes to provide training, reinforce good practices and monitor progress.

This presentation will outline the challenges and barriers to behaviour change with respect to animal welfare. While there is no simple solution, we aim to introduce several strategies to achieve change through dialogue and encourage others facing similar challenges to discuss and share strategies and/or approaches to improve animal welfare at their institutes.



Lindsay has worked in four countries since completing her PhD in primate welfare nearly 20 years ago. Her longest position was in New Zealand leading an animal management programme before moving to Australia to become the Animal Welfare Officer at Charles Sturt University. Her career spans research, teaching, and practical welfare roles. With expertise in animal behaviour and a strong interest in stakeholder engagement, Lindsay promotes ethical research and a collaborative culture of care in academia.

## Improving AEC efficiency through pre-review: a structured approach to clear and well-prepared applications



**Diana Skettriene**



**Peter MacCallum Cancer Centre**



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**Diana Skettriene**

**Dr Rasika Kumarasingha, Nimanthi Vithana Dewage, Megan Beca**

Organisations that conduct animal research face significant challenges in running efficient and well-structured Animal Ethics Committee (AEC) meetings due to differing expectations from stakeholders. In our experience, researchers often focus on the scientific progress and groundbreaking potential of their studies, sometimes at the expense of providing sufficient details on how the ethical treatment and welfare of animals are ensured. This can lead to additional requests for clarifications and modifications from the AEC, ultimately delaying approvals.

To improve AEC meetings effectiveness, we introduced a pre-review process for new applications. In this approach, submissions first undergo an initial review by an Animal Ethics Advisor to identify the key compliance issues and common concerns previously raised by the AEC members. The draft is then assessed by a pre-review committee, which includes animal technicians and senior researchers, to evaluate the scientific merit, justification for experiments, experimental design, and clear documentation of maximum interventions on animals, including their potential welfare impacts and the feasibility. Finally, the animal ethics office team ensures that all raised questions have been addressed, additional requested details have been provided, and the entire application is written in lay language that is easily understood by all AEC members. By streamlining the review process and ensuring that applications are well-prepared before reaching the committee, we are ensuring that AEC meetings can focus primarily on ethical and welfare considerations rather than deciphering complex scientific jargon.




Additionally, we have applied a simplified version of this process to other submissions, including major amendments, new standard operating procedures, progress and adverse event reports.

This structured pre-review significantly enhances the quality of submissions and allows us to reduce the time for approval by the AEC by 60% while maintaining a strong commitment to animal welfare and supporting the highest ethical research standards within our organisation.



Diana is an Animal Ethics Officer with a PhD in neuroscience and over 10 years' experience working with rodents in substance abuse and diet-induced obesity fields. Before joining the PeterMac Animal Ethics team, she worked at UoM as a Postdoctoral researcher in the Behavioural Neuropharmacology laboratory. Her current work at PeterMac focuses on support for researchers to design and conduct studies that meet ethical and regulatory standards, with a focus on animal welfare and good science.

## Reviewing the Operations of the AEC: Tick Box Exercise or Powerful Tool?

 Joel Huang  
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Animal Ethics Committees (AECs) play a critical role in ensuring the ethical use and welfare of animals in scientific research on behalf of the institutions they serve. The decisions made by AECs regarding research proposals are not merely procedural, but constitute formal administrative decisions made under legal and regulatory frameworks. These decisions carry significant ethical and legal implications, directly influencing institutional compliance, animal welfare standards, and public accountability. The Australian Code for the Care and Use of Animals for Scientific Purposes mandates that institutions conduct an annual review of their AEC's operations. However, the value of this process depends on how it is approached — whether as a routine compliance task or as a meaningful opportunity to strengthen governance, decision-making, and committee effectiveness.

This presentation will explore the advantages of conducting a structured and comprehensive review of AEC operations, and will outline best practices for establishing an effective review program. It will examine key considerations, including prerequisites for initiating a review, essential focus areas, and strategies for managing review outcomes to enhance committee performance and institutional compliance. The session will also share practical insights and tools to help institutions move beyond a “tick box” approach and instead leverage the review process as a powerful governance tool that supports continuous improvement, transparency, and a culture of ethical accountability.

Joel Huang is Acting Manager, Animal Ethics, and Manager, Regulatory Compliance (Animal Care and Use) at The University of Melbourne. He oversees the governance and operations of the university's Animal Ethics Committees and leads the institutional compliance program to ensure alignment with legislative and ethical requirements for the care and use of animals in research and teaching. Joel has broad experience in animal welfare regulation and policy, having worked in government on the development and implementation of animal welfare standards and compliance frameworks. His work focuses on strengthening institutional governance, ethical decision-making processes, and practical compliance strategies to support high standards of animal welfare.

## A brief review of the administrative challenges involving an institutional Animal Ethics Committee



Misty Fish



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At the heart of good governance, ethical and transparent decisions need to be made. Animal Ethics Committees (AECs), established following the provisions of the *Australian code for the care and use of animals for scientific purposes* (the Code), are a way to ensure ethical and transparent decision-making for those conducting scientific research and to promote the ethical, humane and responsible care and use of animals used for scientific purposes (Code, 1). Provisions of the Code are adopted into relevant State and Territory legislation, for example, the *Animal Welfare Act 2002* in Western Australia. The legislation regulates the people who may use animals for scientific purposes and the manner in which they may be used (*Animal Welfare Act 2002* (AWA) s 3(1)(a)) and AECs must give a person approval in accordance with the Code, for that person to use animals for scientific purposes (AWA s 6(1)(b)). The legislative power given to AECs for this approval recognises the importance and value AECs give in determining the welfare and safety of animals and ensuring proper and humane care and management of animals (AWA s 3(2)).

AECs however do not work in isolation and are strongly supported by administrative and professional teams established through institutions. To support AEC administration, institutions establish offices, often known as Ethics or Research Integrity Offices, which are equipped with administrative staff who provide significant support to the AEC and its members to facilitate its operations. Administrative and professional teams supporting AECs are often expected to perform roles such as the AEC Secretary, Animal Welfare Officers, and Ethics Officers, or similar. Along with performing all the administrative requirements for running an effective AEC meeting, (such as processing and administrative review of applications, engaging with researchers, through to taking minutes and all follow up work), administrative teams will often be expected to facilitate education and training of AEC members, conduct recruitment of members, and develop clear and concise policy and procedural documents, such as standard operating procedures and guidelines, that can guide AECs and the supporting teams in the conduct of their operations.

Although institutions are often well equipped to provide the foundation for administrative support to AECs to ensure compliance with the Code, there are challenges which are experienced by those working in offices that support AECs, and by extension, the AEC, with increasing administrative burden which can occur when dealing with animal care and use. Complexities can evolve from simple matters such as cumbersome computer systems where applications are lodged, through to increasingly complex decision-making processes both from ethical and scientific perspectives. High demand from researchers for fast approval of applications can place pressure on AECs and administrative staff to want to approve applications, at the risk of potential oversights and deviation from internal procedural steps and potentially Code provisions. Similarly, unclear and ambiguous documents that are developed and intended to provide support to administrative officers and AECs can lead to failings and divergence of opinions in important decision-making.

While AECs comprise a range of experts and lay members outlined in each category (Code 2.2.4), AECs established by institutions need to also ensure compliance with institutional governance and processes, with an overarching emphasis to support responsible research culture in this area. Institutions establishing the Terms of Reference for AECs need to ensure clarity for AECs so that members understand the scope of their responsibilities for ethical review, approval and monitoring of animal care and use (Code, 2.2.18). Without clear guidance from or in this foundational document, AECs and the officers that support them, will often find their role ambiguous and they are more at risk of operating outside their scope of responsibility. AEC members, at times, can be unaware of greater strategic vision of institutions and the real impact in which their role plays within the institution. Educating AECs members to understand while their role is critical in approving animal research which is ethical and humane, their position in an AEC plays a higher role within an institution and is important in supporting crucial research and the ability of an institution to be a well-funded and reputationally sound.





Institutions and Ethics Offices are working hard to develop clear, consistent, and workable terms of reference, and policy and procedural documents, so that AECs can efficiently and effectively meet their obligations under the Code. Institutions are conscious to encourage research and to have streamlined processes for researchers so that research administration is easy to facilitate. In addition, institutions are becoming more aware of how putting effective systems in place, be it useful information technology, or clear policy, can positively impact researchers, improve funding opportunities, and improve the culture for people who support researchers administratively. In addition, from my experience, staff within Ethics Offices are becoming more open to making internal improvements, which ultimately make processes easier for the AECs. Staff within Ethics Offices are also working hard to ensure ethical and transparent decision-making and supporting their AECs to do this properly. During this session, discussion will focus on the responsibilities of institutions regarding governance of AECs and the administrative responsibilities of an AEC. The presentation will explore key administrative challenges that have higher level impact and explore opportunities for improvement in these key areas. The aim of the presentation is to demonstrate while there are administrative challenges, AECs and the institutions and offices that support them are demonstrating strong animal welfare commitment in accordance with legislation and the Code.



Dr Misty Fish is a lawyer and the Manager of the Research Integrity Office at Curtin University. Misty's role includes managing the human and animal ethics teams, facilitating the operation of the animal and human ethics committees, and managing and conducting research integrity complaint investigations. Misty's role also involves oversight of the Life Sciences Research Facility. A strong advocate for animal welfare and conservation, Misty's research studies focussed on wild animal welfare protections and environmental law.



## Beyond Approval: The Post Approval Monitoring program at Peter MacCallum Cancer Centre

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Developing a formal post-approval monitoring (PAM) program at research institutions of all sizes has become more widespread in recent years. It is certainly a worthwhile thing to do, not just from a regulatory perspective, but as a way to assess that those ethics applications actually followed their approval once proposals were put into practise. A well-designed PAM program fosters reflection and learning for both researchers and Animal Ethics Committees (AECs). Researchers often gain valuable insights into how to improve and refine their procedures and experiments, while AEC members benefit from a deeper understanding of the practical realities involved in conducting animal-based research.

Designing a PAM program from scratch can be challenging – particularly in Australia, where the Australian Code for the Care and Use of Animals for Scientific Purposes offers limited practical guidance on post-approval monitoring. Therefore, we offer our perspective from completely restructuring and relaunching a successful PAM program at Peter Mac in November 2023. Having been through this challenging process, there are undoubtedly issues common to every research institution to work through and steps to take before contacting your first group of researchers for an audit.



Dr Sharon Lim is a veterinarian and AEC member and was previously an Animal Welfare Officer at the University of Melbourne for four years, where she played a major role in piloting their internal auditing program and advised two AECs. As the Animal Welfare Compliance Manager at Peter Mac for the last two years, Sharon conducts the Post Approval Monitoring program as part of Quality and Safety.



## Conscientious Objection to Animal Use in Education: A Policy Framework for Australian Universities



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Elena Schaller

Natalie Lock

Conscientious objection is choosing not to participate in an activity that conflicts with one's personal beliefs or values. In higher education, this allows students who are uncomfortable with animal use in teaching to opt out without facing academic penalties.

Under the *Australian code for the care and use of animals for scientific purposes (2013)*, Australian universities that use animals in teaching must have and promote a conscientious objection policy. Yet AFSA's research shows that many universities fall short of this mandate. Policies are often unclear, incorporated with broader animal use policies, hard to access or poorly enforced, leaving students uncertain about their rights.

To address these issues, AFSA has developed a sample conscientious objection policy. Aligning with similar university policies and with the intent of providing a policy that meets both university and student requirements, this policy framework offers a clear, student-friendly set of guidelines designed to ensure:

- Students are informed of their right to object
- A transparent and fair process is available for opting out
- Alternative learning methods are provided wherever possible.




By sharing this free resource with universities, animal ethics committees, student groups, advocacy organisations and government bodies, we aim to standardise conscientious objection policies across institutions. Strengthening these policies will protect student rights and promote ethical, innovative teaching methods that do not rely on animal use.

This presentation will explore why robust conscientious objection policies are essential, highlight current gaps in practice and offer practical steps for universities to better support students while maintaining academic integrity.



Elena is a US-trained pharmacist and nonprofit research and advocacy professional. At Animal-Free Science Advocacy, she champions human-relevant research and education methods. She recently co-authored a report exposing systemic issues in Australia's animal research oversight and recommending reforms. Elena works at the intersection of science, policy and public engagement to accelerate innovation and align research practices with evolving ethical and scientific standards.

## Mandatory non-technical project summaries to inform the public

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The use of animals in research concerns the public in a number of ways. One is economic: public funds are spent on research in anticipation of social benefits. Another is animal welfare: the government should regulate animal industries in a way that should reflect community values. The public is clearly a stakeholder in animal research.

However, a recent survey showed that the public felt poorly informed and overwhelmingly wanted institutions to be more transparent.

Animals in research are protected by a national code of practice, which incorporates requirements that are important to the public, such as minimising pain and distress, and using alternatives to animals wherever possible. Animal ethics committees must only approve projects that conform to the code. The problem is that we know nothing about how ethics committees work, and studies of their functioning overseas have revealed several problems which may or may not apply here.

In an effort to enhance transparency, several countries have adopted so-called openness agreements. However, it is voluntary for organisations to become signatories, and the four commitments are too general to ensure that the public receives the information it needs to be considered well informed. One of the commitments is to communicate through the mass media, but my examination of studies and local examples shows that reporting of research using animals is very poor and does not fulfill the function of openness.




A much better method of communication is the use of mandatory non-technical project summaries, as used in the European Union. The EU now has a template for what information must be included in the summary, which is then uploaded to a central database that is accessible to the public. All projects appear in the database once they are approved. Australia can learn from the European experience how to effectively inform the public.



Suzanne was a teacher, then completed a PhD in Education while working as a tutor at the University of Adelaide. She subsequently studied science, and then achieved a Masters degree in Social Psychology through CQU, focused on attitudes to animals.

Suzanne founded South Aussies for Animals Inc to lobby for legislative change. This involves collating research, and providing avenues for the community to express their concerns about animal welfare to regulators.

## Collaborating Across Domains for Openness

 Merinda McMullin  
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What do you think about Openness? What does it look like to you?

Ultimately, the goal for Openness in Australia involving research with animals, is to engage with the public and build trust. In order to do this, we need to consider the value of **“Collaborating Across Domains for Openness,”** including between the professional domain and the public domain.

Although it seems as though scientists or research workers, stay confined in windowless rooms, most of the time we do not operate in an isolation bubble. From reviewing the application of The [scientific] Code and various Guidelines, to the relevancy of the Five Domains, 3Rs and other animal welfare sources, for example, we should be looking beyond the lab and our own Petrie dishes to expand upon interdisciplinary knowledge, engaging in finding solutions together.

It can be tempting to keep a closed door, perhaps due to fear of retribution and differences in opinions. However, if we look towards having an open table where all can gather, rather than waiting for the protests, we can strive for innovation and development together.




We have to consider how to shift from keeping things private to opening up publicly. Just as ethics committees require interdisciplinary members, professional and lay, if we are to pave the way for Openness in Australia, then we need to be open to a collaborative approach.

Whether you are a lay or professional member of the public, let’s collaborate to see how we can shape this together.



As a veterinary technology graduate, with some background in (human) nursing and other studies, Merinda has been working in the biomedical research field with UQBR as an animal technician since 2019. Understanding it is a privilege to work with various animal species, Merinda appreciates being able to apply her skills and knowledge for the benefit of improved health for all. She seeks to engage and learn from others.

## An update on the New Zealand Openness agreement- 3 years on

-  Ian Saldanha
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The Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) New Zealand is pleased to unveil its third Annual Report on the Openness Agreement for the Use of Animals in Research and Teaching in Aotearoa New Zealand. Launched in July 2021 with 21 signatories, the Agreement has expanded to encompass 29 organizations committed to fostering transparency and accountability in the use of animals for research and teaching purposes. This initiative aims to enhance communication with the media, the public, and tangata whenua (the indigenous Māori community) regarding the use of animals in research and teaching, as well as adherence to the principles outlined in the New Zealand Animal Welfare Act.

In this presentation I will highlight the key findings in this report as well as the 7 recommendations for signatory organisations to enhance their Openness efforts, including the adoption of best practices.

Three years after its inception, ANZCCART NZ conducted a review of the Agreement, identifying the need for a supporter category. I will highlight the process of the review and how it was communicated to the signatories and public.






Ian has been involved in the lab animal industry for over 10 years. Before taking up a position at the Cawthron Institute, Nelson, NZ, Ian was the Head of the Animal facility at the Malaghan Institute, Wellington, NZ. He also served on the executive committee for Australia New Zealand Laboratory Animal Association for a few years where he was awarded life membership.

Ian currently oversees animal welfare and biosecurity across Cawthron and is a current board member of ANZCCART NZ.



## Australian Openness Agreement update

-  **Malcolm France**
-  **Project Officer, ANZCCART**
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The Australian Openness Agreement was launched nearly two years ago and has been signed by over 50 research institutions, peak bodies, funders and commercial organisations.

Encouragingly, all annual reports received so far have indicated that the respective Signatories and Supporters intend to remain signed to the agreement.

While perceptions of cost and risk continue to be cited as a basis for hesitancy among those still deciding whether to sign the agreement, the consistent experience in Australia and overseas has been that the benefits of openness significantly outweigh concerns.






Malcolm France is project officer for ANZCCART Australia where he manages the Australian openness agreement and the national statistics project. He has worked as a lecturer in veterinary pathology and animal facility director, and has served as Animal Ethics Committee chair and in several honorary roles for industry bodies and as a journal reviewer.






# Poster presentations




## Virtual Clinical Trial Framework for Evaluating Mechanical Circulatory Support Devices

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## Improving animal ethics compliance through remote RFID monitoring in extensive grazing environments

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## Programs to promote and improve animal welfare at the University of New England

 Sarah Model  
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## Challenges and 3R Management of GMO Animals in Research: Current Practices and Future Directions in Australia

 Mukesh Raipuria and Tara Egan  
 La Trobe University  
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## Hydrogel blood analogues to replace the need for animal blood in ex vivo evaluation of cardiovascular medical devices

 Syeda Ayesha Mazhar  
 Griffith University, QLD  
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## Insights from moving beyond animals: computational studies of the neuronal membrane in health and disease suggest a signalling mechanism for oxidised cholesterol

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# Acknowledgements

## **ANZCCART EXPRESSES SINCERE THANKS TO ALL WHO CONTRIBUTED TO THE PLANNING AND DELIVERY OF THIS CONFERENCE WITH PARTICULAR THANKS TO:**

The Conference Organising Committee for their help and valuable contribution to the Conference Program

Corinne Alberthsen, Arnja Dale, Amanda Fernie, Chana Hagege, Natalie Ingram, Agustin Mercau, Shashika Naidoo, Sarah Pirecki, Mukesh Raipuria, Shiwanthi Ranasinha, Alison Richards, Ian Saldanha, Brad Smith, Sharyn Watson and Natalie Williams. Malcolm France (Convenor).

## Pre-Conference Tours

The following institutions who offered the Pre-Conference Tours:

Tour 1: QUT Centre for Biomedical Technologies (CBT), Queensland University of Technology

Tour 2: Hidden Vale Wildlife Research Station, University of Queensland

Tour 3: Translational Research Institute (TRI) Animal Facilities, University of Queensland, Queensland University of Technology, Mater Research and the Queensland government.

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