



UNIVERSITY
of
OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

2022 TECNIPLAST AUSTRALIA ANIMAL WELFARE SYMPOSIUM

**"NOBEL PRIZE
TO NOBLE INTENTIONS"**
20th & 21st October 2022



 **TECNIPLAST**
innovation through passion

SYMPOSIUM - 20th OCTOBER 2022

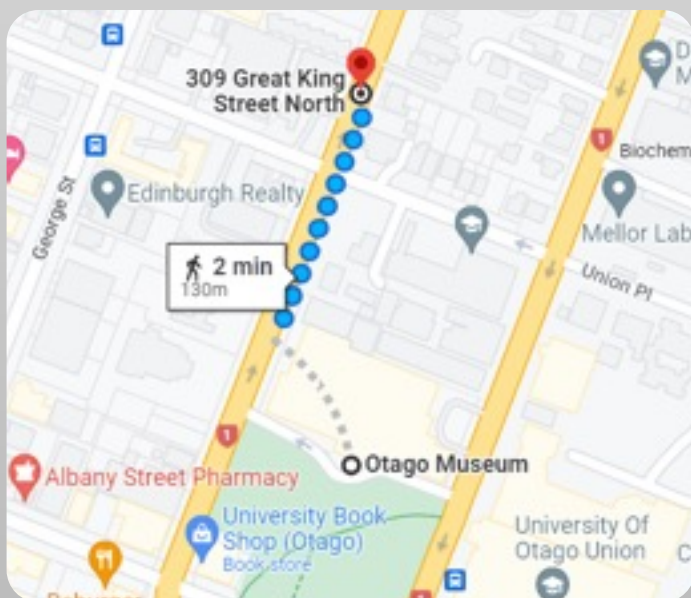
'Nobel Prize to Noble Intentions'

The 2022 Animal Welfare Symposium is proudly hosted by the [University of Otago](#), Dunedin and will be held on Thursday, 20th October 2022 and is a full day, hybrid event so you can attend in person at the Otago Museum Hutton Theatre, or you can attend virtually.

The Animal Welfare Symposium program focusses on the 3Rs of Laboratory Animal Science; 'Replacement, Reduction and Refinement' and highlights the responsible scientific use of animals with an emphasis on ensuring animal welfare.

The 2022 Animal Welfare Symposium is Free of Charge, and for those attending the Symposium in person, a light morning tea and lunch will be provided at no cost.

Proudly presented by [Tecniplast Australia](#)



For [delegates attending in person](#), the 2022 Tecniplast Australia Animal Welfare Symposium will be held at the **Otago Museum Hutton Theatre**, 419 Great King Street, Dunedin, New Zealand

<https://otagomuseum.nz/>

SYMPOSIUM SCHEDULE

NZST: 9:45 am - 4:45 pm

AEDT (NSW/VIC/ACT): 7:45 am - 2:45 pm

AEST (QLD): 8:45 am - 3:45 pm

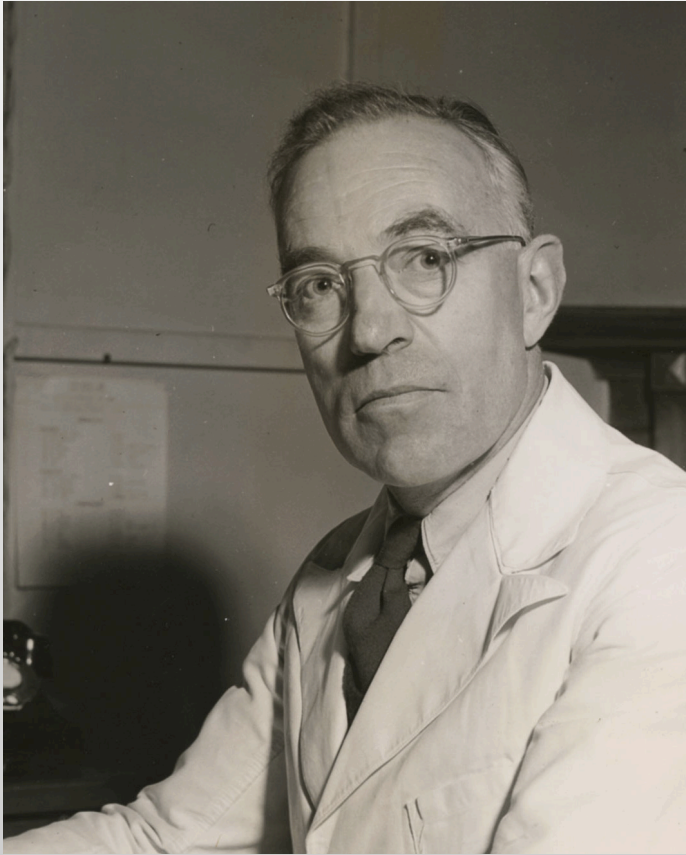
ACST (SA): 7:15 am - 2:15 pm

AWST (WA): 5:45 am - 12:45 pm

VIRTUAL ATTENDEES

For delegates attending virtually, the access link will be emailed to you five (5) days prior to the event. The access link is non-transferable and can only be used by the registered delegate.

'Nobel Prize to Noble Intentions'



Photograph: SIR JOHN C. ECCLES. Professor of Physiology, Medical School, University of Otago, 1949.

Nobel Prize

The University of Otago, founded in 1869, is New Zealand's oldest university and home of New Zealand's first medical school. For 150 years the University of Otago has been a leader in medical research.

Today, the Division of Health Sciences, with diverse research interests, hosts world-leading fundamental research scientists and outstanding translational programmes with impacts on public health, clinical practice, health policy, and health innovation.

The University's new \$49.8 million Research Support Facility future-proof Otago's status as a leading scientific institution. The facility is named after Sir John Eccles, the Nobel Prize winning scientist whose research undertaken during his years at Otago continues to have a profound effect on neuroscience today.

Nobel Intentions

The 3,936m², five-storey building features state-of-the-art technologies to underpin important health and biomedical research, and meets stringent animal welfare regulations and health and safety requirements. The new Eccles Building has been built with 'care of animals' front of mind in the building's design. The procedure rooms can play background music and the lighting is programmable with dawn and dusk settings. Humidity and temperature can be varied for the comfort of the animals.



KEYNOTE SPEAKERS & TECNI-TALKS



Professor John Reynolds

Targeted brain drug delivery in sheep

In neurodegenerative disorders such as Parkinson's disease (PD), oral replacement of the lost dopamine fails to restore the natural timing of dopamine signalling into the brain. Thus, the effectiveness of oral therapy is usually limited to a handful of years before the appearance of side effects, such as unwanted movements (dyskinesias) or sudden cessation of movement. We believe that optimising treatment for PD requires restoration of natural patterns of dopamine activity, involving short pulses of dopamine of several seconds in duration, upon low tonic background levels. We have therefore designed technology to emulate the natural timing of dopamine release in order to reinforce only useful actions, with the aim of avoiding the development of side effects of oral therapy.



Dr. Lynne Sneddon

Fish Sentience - Keynote

Using an integrative approach to understand the mechanisms underpinning animal behaviour by employing techniques in genomics, molecular biology, physiology and neurobiology, Dr Lynne Sneddon was the first to characterise nociceptors that detect painful stimuli on the head of a fish and has since investigated the capacity for pain, fear and stress to drive improvements in the welfare of fishes and other aquatic animals.



Assoc. Professor Alexander Tups

What do zebrafish and mice tell us about the true metabolic role of the hormone leptin?

Associate Professor Alexander Tups studied Biology at the Heinrich Heine University of Duesseldorf and the Philipps University of Marburg, and completed a Diploma in Biology at the latter institution in Animal Physiology, Genetics and Developmental Biology. He spent 6 years as junior group leader and Deputy Professor for Animal Physiology (2012–2014) at Philipps University of Marburg before returning to the University of Otago as a Senior Lecturer in Physiology.

KEYNOTE SPEAKERS & TECNI-TALKS



Dr Elodie Kip

Optogenetic simulation of motor thalamus neurons improves movements in a chronic rat model of Parkinson's Disease - Keynote

Elodie is an Assistant Research Fellow from Belgium and she works in Associate Professor Louise Parr-Brownlie's lab in the Department of Anatomy, University of Otago. After obtaining a Master's degree in Oncology and Immunology, she was awarded her Ph.D. in Belgium on neurotropic virus pathogenesis and neuroinflammation. She is interested in the impact of a healthy lifestyle on neuroinflammation and neurodegenerative on diseases that are associated with inflammation, such as Parkinson's disease. Elodie was also undertaking optogenetic stimulation experiments to find an alternative treatment for Parkinson's disease, the focus of her talk. Elodie values and advocates for good



Dr Damian Scarf

FLAP Getting out of the lab; The development of a free-range learning apparatus for pigeons

The aim of the current project was to develop a free-range learning apparatus for pigeons (FLAP) and create a 'lab' in which the pigeons are free range. This environment can be contrasted with the standard lab, in which pigeons are housed individually, food deprived and placed into an operant conditioning chamber to complete their daily training. Although it provides a high level of experimental control, a lab-based approach has two major downsides. First, with respect to animal welfare, it prevents pigeons from being able to display normal patterns of behaviour. Second, it may actually impair both learning and memory, making it difficult to get an accurate picture of their cognitive potential.



Dr Bec Dyson

Improving non-invasive monitoring in guinea pigs: Sedation and anaesthesia.

Many routine physiological assessments in laboratory animals require some level of restraint, be it chemical or physical. Both options confound experimental investigation by either suppressing (e.g., GABAergic agents) or exacerbating (e.g., stress of handling) normal physiological functioning. Guinea pigs have limited vascular access requiring SC or IM administration of agents, which further complicates procedures using this species. Our aim was two develop a methodology for 1) routine short duration (<30 min), and 2) comprehensive long duration (>1 hr) physiological monitoring.

KEYNOTE SPEAKERS & TECNI-TALKS



Dr Daniel Pletzer

Developing new approaches to fight infectious diseases

Dr Daniel Pletzer's research is focused on recalcitrant ESKAPE (Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa, and Enterobacter species) pathogens; especially hard-to-treat clinical isolates involved in multidrug resistance, biofilm infections and persistence. We are especially interested in bacteria that have been categorized as "critical" priority pathogens by the World Health Organization. This includes multidrug resistant organisms that cause severe and often deadly infections and therefore pose an enormous threat in hospitals.



Professor Gail Anderson

ComPass Education Project

Prof Gail Anderson graduated from Melbourne Uni and then headed off to Canada where she spent 22 years between Ontario Vet College (MSc, surgery specialist training and credentials through the ACVS), Toronto (PhD) and Dalhousie University on staff in the Medical school. She was Chair of SA Surgery at UQld when head-hunted to be the inaugural dean of the vet school in Adelaide. Currently she is the Project Leader for the Compass training project with ANZCCART.



Bella Lear (Williams)

Understanding Animal Research - Oceania Chapter

As a former pharmacologist, Bella's interest in the societal impact of science eventually led to a career as a writer, consultant and evaluator, supporting and delivering positive social change around scientific issues. Bella is Head of Engagement at UAR, and is responsible for initiatives around member engagement and public engagement: both helping UAR member and stakeholders with outreach and reactive initiatives on the use of animals in research, and engaging directly with the public on this issue. She leads on Openness at UAR, working with signatory institutions of the Concordat on Openness on Animal Research to help them build openness into communications strategies.

KEYNOTE SPEAKERS & TECNI-TALKS



Eleni Hackwell

Monitoring of reproductive hormones in mice

The measurement of hormones has been used for years to analyse and draw conclusions about changes observed in these hormone concentrations under specific physiological conditions and to elucidate mechanisms underlying their biological variability. While initially in mice, blood sampling for LH was largely limited to single timepoint terminal samples, advances in technologies over the years have allowed researchers to monitor LH levels over a window of time, by taking repeated serial tail tip blood sampling. However, until very recently no technique was available to continuously monitor reproductive hormone levels. Further advancement in technologies to monitor reproductive hormones in mice has led to many new discoveries about how this system changes and is controlled in mice.



Sheri Johnson

Behaviour and Conservation of New Zealand Insects

Sheri Johnson is a Senior Lecturer in Zoology. She is a behavioral ecologist, with interests in physiology, genomics and epigenetics.

Many of New Zealand's endemic insects are unique and display interesting behaviours and morphology. Unfortunately, many of these insects are also threatened. Laboratory colonies of these non-traditional animals can play valuable roles in teaching, research and conservation. Over the past several years, my group has been studying two species of tree weta, a species of stag beetle and two species of grasshoppers. I will share the research stories of these iconic insects, and some of the challenges we have experienced in the laboratory.



Scott Rhodes

Operations & Facilities Manager Biomedical Research Facility

Scott has had a varied career, working in contract and government research and for the past 20 years in academia. During this time, in addition to his day-to-day role, Scott has been hands on as a Project Manager through two major builds and relocation projects and one major refurbishment of facilities. Like many, Scott became an animal tech by "accident," after graduating in Electronic and Electrical Engineering, he took a summer job and 35 years later, after discovering a love for working with animals, he is still doing his summer job. Scott's other passions include staff development, enabling staff to gain skills and experience to help them progress and championing openness and transparency to dispel the myths and misinformation around animal-based research. He is also keen to encourage staff wellbeing as part of an overall Culture of Care in facilities.

KEYNOTE SPEAKERS & TECNI-TALKS



Michael Pankhurst

In vivo, in vitro and in silico investigation of ovary function

Dr Pankhurst is a reproductive biologist at the University of Otago specialising in the function of the ovary and female fertility. Dr Pankhurst obtained his Bachelor of Science and PhD in the topic of Brain injury at the University of Tasmania, Australia. His early post-doctoral research focussed on anti-Müllerian hormone concentrations in human populations. Currently Dr Pankhurst, uses human, live animal, tissue culture and computer models to study the role of anti-Müllerian hormone in the ovary.

WORKSHOPS - 21st OCTOBER

Workshop 1

Session 1: 8:30am - 10:30am*

Session 2: 10:45am - 12:45pm*

[The Washroom Excellence Workshop](#) supports the essential role of animal facility staff whose primary activities are focused on the wash area. The Washroom Excellence Workshop will feature local and international Washroom experts, it is designed to be interactive and activities include wash cycle demonstration, key user training, validating cycle effectiveness and solutions to common washroom challenges.

*Each Session is strictly limited to 15 attendees

Workshop 2

Session 1: 8:30am - 10:30am*

Session 2: 10:45am - 12:45pm*

[The University of Otago Animal Facilities Tour](#) will include a tour of the new Eccles Building a modern biomedical research facility built to PC2 & PC3 barrier containment specifications. There will be the opportunity for discussion on work flows in the different areas and the tour will cover the building infrastructure and the plant room requirements to maintain a biomedical research facility built with 'care of animals' front of mind.

*Each Session is strictly limited to 15 attendees

Workshop 3 (9am - 10am)

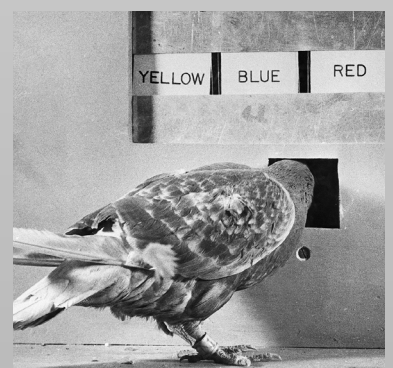
[Tour of Psychology Pigeons](#)

Pigeons are a favourite animal to study in the laboratory. Pigeons have excellent visual acuity, colour vision, and visual memory, all of which rival highly visual primates, also birds are also an important group to compare with mammals. The aim of the (FLAP) psychology pigeons was to develop a learning platform and lab which allows the pigeons to be free-range.

Workshop 4 (9:30am - 10:30am)

[Tour of Department of Zoology](#)

Tour the University of Otago's Department of Zoology, demonstrating two controlled environment animal facilities - featuring zebrafish, xenopus, native frogs, Native reptiles, and various insects, touring tank facilities which include eels, salmon, triplefins, and other fish. Research labs with a brief talk and demonstration by researchers and the students on their work with animals or non-animal animals.



Symposium Schedule

Time	Topic	Speaker
8.45am - 9.45am	Registration	
9.45am - 10.00am	Start: Welcome to University of Otago & Country	Scott Rhodes / Peter Williamson
10.00am - 10.15am	Understanding Animal Research - Oceania Chapter	Bella Lear
10.15am - 10.45am	Targeted Brain Drug Delivery in Sheep - Keynote	Professor John Reynolds
10.45am - 10.55am	Eccles & Beyond	Scott Rhodes & Louise Blesham
10.55am - 11.10am	Move & Clean Up	Scott Rhodes & Louise Blesham
11.10am - 11.35am	Monitoring reproductive hormones in mice	Eleni Hackwell
11.35am - 11.50am	MORNING TEA BREAK	MORNING TEA BREAK
11.50am - 12.20pm	Optogenetic Simulation of Motor thalamus Neurons - Chronic Rat Model of Parkinson's Disease - Keynote	Dr. Elodie Kip
12.20pm - 12.50pm	What do zebrafish and mice tell us about the true metabolic role of the hormone leptin?	A/Professor Alex Tups
12.50pm - 1.15pm	Improving Non-Invasive Monitoring in Guinea Pigs: Sedation and Anaesthesia	Wellington BRF Research Talk with Dr. Becs Dyson
1.15pm - 1.45pm	FLAP Getting out of the lab; The development of a Free-range, Learning Apparatus for Pigeons	Dr. Damian Scarf
1.45pm - 2.15pm	LUNCH	LUNCH
2.15pm - 2.35pm	ComPass Education Project	Professor Gail Anderson
2.35pm - 3.05pm	Developing new approaches to fight infectious diseases	Dr. Daniel Pletzer
3.05pm - 3.30pm	In vivo, in vitro and in silico investigation of ovary function	Dr. Michael Pankhurst
3.30pm - 3.55pm	Behaviour and Conservation of New Zealand Insects	Dr. Sheri Johnson
3.55pm - 4.15pm	Fish Sentience - Keynote	Dr. Lynne Sneddon
4.15pm - 4.25pm	ANZLAA President Address	Kiri Collins
4.25pm - 4.30pm	Wrap up and Close	Scott Rhodes

About Otago University

The early Scottish settlers who founded the University of Otago in 1869 placed a high value on education and recognised the important role universities play in shaping individuals and society – we are committed to continuing their vision, and growing it to fit today's and tomorrow's world. To that end, we place high priority on our partnership with tangata whenua and the importance of te ao Maori.

The University of Otago provides a research-led learning environment with a richly deserved reputation for excellence. As a university community, we are committed to tackling big global challenges and educating the next generation of professionals across a wide range of disciplines.

For more information visit www.otago.ac.nz



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