

FALLING WALLS

LAB

AUSTRALIA

Wednesday 1 September 2021
2.00 pm – 4.00 pm AEST
Online event



Australian
Academy of
Science

CONCEPT

The Falling Walls Foundation founded the Falling Walls Lab in 2011 in order to

- ... connect aspiring innovators
- ... discover and develop talents
- ... support interdisciplinary dialogue and international cooperation
- ... develop new ways of scientific communication
- ... build new and strong networks

TIMELINE

- | | |
|-------|--|
| 14.00 | Welcome by Ms Anna-Maria Arabia
Chief Executive, Australian Academy of Science |
| 14.05 | Introductory remarks by Professor Hans Bachor AM FAA
Master of Ceremonies, FWL Australia 2021 |
| 14.10 | Opening remarks by HE Dr Thomas Fitschen
Ambassador, Federal Republic of Germany to Australia |
| 14.15 | Comments by Jury Chair Dr Cathy Foley AO FAA FTSE PSM
Australia's Chief Scientist, Office of the Chief Scientist |
| 14.20 | Pitches (scholar presentations 1–9) |
| 15.10 | Jury deliberation (confidential)
Selected Academy videos (livestream) |
| 15.30 | Address by Professor John Shine AC PresAA FAHMS(Hon) FRS
President, Australian Academy of Science |
| 15.35 | EURAXESS presentation by Mr Nishant Shandilya
Regional Representative, EURAXESS Australia and New Zealand |
| 15.40 | Winners announced
Audience award
Jury award |
| 15.50 | Farewell by Professor Hans Bachor AM FAA |

FALLING WALLS LAB

WELCOME MESSAGE

The Australian Academy of Science, in partnership with the Embassy of the Federal Republic of Germany in Canberra and EURAXESS Australia and New Zealand, is pleased to host the sixth Falling Walls Lab Australia.

For the second year in a row, Falling Walls Lab Australia will be held virtually and provide up to 10 emerging researchers, academics, entrepreneurs and professionals in Australia a platform to present their research work, business model, innovative project, social initiatives or ideas to a distinguished audience from academia and business. Those presenting at this event were selected by the Falling Walls Lab New South Wales, organised by DAAD, the German Academic Exchange Service and EURAXESS; the Falling Walls Lab Queensland, organised by the University of Queensland; and the Falling Walls Lab Victoria, organised by **veski**, with support from Deakin University.

Falling Walls Labs take place globally throughout the year. Last year, 90 international Labs were held in 90 countries with more than 1000 presenters, 100 of whom made it to the final in Berlin. Many of this year's winners from the international Falling Walls Labs will yet again not be able to travel to Berlin to participate in the Falling Walls Lab Finale due to the pandemic, but we are happy to note that this has in no way diminished the enthusiasm among next-generation researchers and professionals to participate in this year's Lab. The winners will participate in the hybrid [Falling Walls Conference 2021](#) from 7 to 9 November 2021, either virtually or in person, and joining a global audience and other international winners who are finding solutions to the greatest challenges of our time and contributing to a better world on the anniversary of the fall of the Berlin Wall.

The top 10 global finalists will compete in the virtual live event, the [Falling Walls Pitches](#), on 7 November, from which one presenter will be awarded winner in the *Emerging Talents* category. The winner will pitch their breakthrough project alongside nine other luminaries on the grand stage in front of an audience of industry leaders, decision-makers, investors and international media representatives. The Falling Walls Conference is part of the Berlin Science Week that hosts over 100 events from 1 to 10 November 2021.

We would like to acknowledge our donors and partners who continue to make this event possible. Events such as this one can only happen with their generous support. We are also grateful to the eminent members of the jury for giving their time to select the winners of today's event. We thank all of those in the audience for their interest and support of this activity.

We wish the participants great success and hope that they find this event productive and enjoyable. The Australian Academy of Science, the Embassy of the Federal Republic of Germany and EURAXESS Australia and New Zealand look forward to working together to ensure that Falling Walls Labs Australia can offer this unique opportunity to young researchers and innovators in the future.



Professor John Shine AC PresAA FAHMS(Hon) FRS
President
Australian Academy of Science



HE Dr Thomas Fitschen
Ambassador
Federal Republic of Germany to Australia

FALLING WALLS LAB

JURY



Dr Cathy Foley AO PSM

**Australia's Chief Scientist
Office of the Chief Scientist**

Dr Cathy Foley commenced as Australia's ninth Chief Scientist in January 2021 after a lengthy career at Australia's national science agency, the Commonwealth Scientific and Industrial Research Organisation, as its Chief Scientist—the second woman to hold that role.

Dr Foley's career in physics began with her PhD at Macquarie University. Dr Foley has a passion for advancing scientific research and has held various roles, including member of the Prime Minister's Science, Engineering and Innovation Council, President of the Australian Institute of Physics, President of Science and Technology Australia, Editor-in-Chief of Superconductor Science and Technology journal and Council Member for Questacon.

Dr Foley's scientific excellence and influential leadership have been recognised with numerous awards and fellowships, including being elected to the Australian Academy of Science in 2020, and an Order of Australia for service to research science and to the advancement of women in physics. She was elected as a Fellow of the Australian Academy of Technological Science and Engineering in 2008 and as an honorary Fellow of the Australian Institute of Physics in 2019. Dr Foley is an inspiration to women in STEM across the globe and is committed to tackling gender equality and diversity in the science sector. In 2013 she was named Woman of the Year by the NSW Government.



Dr Dan Grant

**MD and CEO
MTPConnect**

Dr Dan Grant has spent more than 25 years in senior roles in the pharmaceutical, higher education and medical research sectors. Prior to joining MTPConnect, Dr Grant was the inaugural Pro Vice Chancellor for Industry Engagement at La Trobe University, where he had oversight of the university's innovation, commercialisation and industry engagement activities.

Dr Grant was the Senior Director and Head of Pfizer's External Research and Development Innovation group for ANZ/Singapore and its head of open innovation. Dr Grant also sits on the Expert Advisory Panel for the MRFF Stem Cell Mission and holds a PhD in cardiovascular physiology along with an MBA.

FALLING WALLS LAB



Kate Hart

**Partner ANZ
A.T. Kearney Australia**

Kate Hart is a Partner at A.T. Kearny Melbourne and leads the ANZ Strategic Operations Practice. Ms Hart has more than 20 years of experience in both industry and consulting roles in mining, oil and gas, retail, facilities management, manufacturing and telecommunications. She has enjoyed a diverse career, spanning roles in business development, general management, operations, strategy and transformation for multinationals.

Ms Hart is an entrepreneurial leader with a proven ability to develop and execute commercially focused business strategies and subsequent transformations. Ms Hart believes that motivating and building high-energy, high-performance teams is the most effective way to deliver business results. She is passionate about mentoring the next generation of talent.

Ms Hart graduated from UNSW with a first-class honours degree in chemical engineering and holds an MBA (Deans list) from Melbourne Business School.



Rosie Hicks

**Chief Executive Officer
Australian Research Data Commons**

Rosie Hicks is the Chief Executive Officer of the Australian Research Data Commons (ARDC).

The ARDC is a transformational, sector-wide initiative enabled by the Australian Government's National Collaborative Research Infrastructure Strategy to provide Australian researchers with competitive advantage through data. The ARDC's mission is to accelerate research and innovation by driving excellence in the creation, analysis and retention of high-quality data assets.

Rosie has expertise and extensive knowledge of the Australian research infrastructure sector, and leadership experience as the former CEO of the Australian National Fabrication Facility. Her career, spanning Japan, the UK and Australia, includes every aspect of scientific instrumentation, from product development and technical marketing to the management of multi-user facilities, working in environments that cross academic and industry domains.

FALLING WALLS LAB



Professor Michael Schuetz

Director Jamieson Trauma Institute

Professor Michael Schuetz is a practicing orthopaedic surgeon and research leader in the field of trauma care and orthopaedic trauma research.

In August 2018, Professor Schuetz commenced as the Director of the Jamieson Trauma Institute based at the Royal Brisbane and Women's Hospital campus in Brisbane, and Chair of Trauma at the Queensland University of Technology. The Jamieson Trauma Institute strives to advance the optimal trauma patient's outcome by focusing on the patient's journey to include the prehospital, acute care, rehabilitation and long-term outcomes for people who suffer a traumatic injury. Improvements can range from models of care to specific interventions and developing new devices.

Professor Schuetz is actively involved in global clinical knowledge translation and commercialisation of novel orthopaedic surgery technologies.



Professor John Shine AC PresAA FAHMS(Hon) FRS

President Australian Academy of Science

Professor John Shine was the Executive Director of the Garvan Institute of Medical Research from 1990 to 2011. He is a professor of molecular biology and of medicine at UNSW in Sydney.

The 'father of gene cloning', Professor Shine was the first to clone human hormone genes and the first to sequence the replication of a cancer-causing virus. These and other pioneering discoveries by Professor Shine helped to launch the biotechnology revolution that has transformed medicine and agriculture.

Professor Shine was appointed to the board of the biopharmaceutical company CSL Ltd in 2006 and then as Chair from 2011 to 2018. He has a longstanding commitment to the translation of research discoveries into advances in health care for the social and economic benefit of the community. He received the Prime Minister's Prize for Science in 2010 for his scientific discoveries and research leadership. He became President of the Academy in May 2018.

FALLING WALLS LAB



Dr Jack Steele

**Director, Science Impact and Policy
CSIRO**

Dr Jack Steele is the Director of Science Impact and Policy for the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian national research agency. In this role, he supports the CSIRO chief executive in interactions with the government and several activities relevant to industry issues, and is responsible for the analysis of the health of CSIRO's science performance. He is a member of the CSIRO Leadership Team.

Dr Steele was appointed to his current position in February 2017 after a career at CSIRO that has spanned more than 30 years, first as a research scientist, then in various management roles, including General Manager for Science Investment and Science Excellence. He has a wealth of experience in science management, commercial management and governance, and was awarded a PhD in biochemistry from the University of Western Australia.

FALLING WALLS LAB

PRESENTERS



BREAKING THE WALL OF unsustainable healthcare

Elizabeth Austin, Macquarie University

@DrLilAustin

I create models using human factors tools that help us to understand the nature and location of care interactions. It supports the design of new processes and ways of working to make care safer for patients and less stressful for the doctors and nurses who care for them.



BREAKING THE WALL OF toxic cryopreservation

Saffron Bryant, RMIT University

@SaffronBryant

I discovered new, biocompatible mixtures that can be used to preserve cells. These can replace the toxic chemicals usually used for cryopreservation, making preserved materials safer and more cost effective.



BREAKING THE WALL OF the brain to cure brain cancer

Lars Esser, CSIRO

@Lars_Esser

Nanomedicine has delivered on its promise, thanks to the development of highly effective COVID-19 vaccines. I am designing nanomedicine strategies to treat incurable brain cancers by exploiting focused ultrasound and radioisotopes.



BREAKING THE WALL OF waste to energy

Arinze Ezieke, University of Queensland

@zonabrain

Our research proposes a relatively simple and cost-effective strategy to maximise energy recovery from digesters treating fruit waste, which, when coupled in a biorefinery system, would allow the sustained closed-loop management of agricultural residue.

FALLING WALLS LAB



BREAKING THE WALL OF Parkinson's disease

Sara Jose, University of Queensland
@SaraSaJos

I have identified a novel regulator protein in Parkinson's disease that plays a key role in mediating brain inflammation. Modulating this novel target could potentially be a first-in-class treatment for Parkinson's disease.



BREAKING THE WALL OF stem cell therapies

Jiao Jiao Li, University of Technology Sydney
@JiaoJiaoLi_Syd

Osteoarthritis affects hundreds of millions of people globally and has no cure. I am developing a new stem cell-based therapy that can be off the shelf and disease-specific, to be the next-generation treatment solution for osteoarthritis and that can also be adaptable for other diseases.



BREAKING THE WALL OF prostate cancer treatment resistance

Chamikara Liyanage, Queensland University of Technology
@ChamikaraLiyan2

We introduce a microprotein gene therapy to overcome prostate cancer treatment resistance and a diagnostic immunoassay that early predicts treatment resistance.



BREAKING THE WALL OF alien fish invasion: a trojan war

Lokman Norazmi, University of Tasmania
@LokmanNorazmi

I established an army of Trojan chromosome soldiers (fish) to fight in the war against alien mosquitofish invasion in Australia, thus protecting our unique and diverse aquatic ecosystem.



BREAKING THE WALL OF access to life-saving vaccines and therapeutics

Anushi Rajapaksa, Murdoch Children's Research Institute
@DrRajapaksa

I have developed a novel acoustic nebuliser that will allow rapid lung delivery of life-saving biomolecules. Our inexpensive solution could help respond quickly and productively to both current and emerging infectious respiratory diseases in children.

FALLING WALLS LAB

PARTNERS



Embassy
of the Federal Republic of Germany
Canberra



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

FALLING WALLS LAB



FEEDBACK

What is your overall impression of the 2021 Falling Walls Lab Australia finale?

What are your concrete suggestions for improvement?

What was most challenging?

Please [email](#) us your responses directly or via participating in a short, two-minute anonymous survey by [clicking here](#).
The survey link will open on lab day Wednesday 1 September 2021.

Thank you for your time and participation.

*Australian Academy of Science
GPO Box 783, Acton, ACT 2601
fallingwalls@science.org.au*