

FALLING
WALLS
LAB
AUSTRALIA

2.00 – 4.00 PM AEST
26 SEPTEMBER 2022
ONLINE EVENT



Australian
Academy of
Science

CONCEPT

The Falling Walls Foundation founded the Falling Walls Lab in 2011 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 Event opens with Professor Hans Bachor AM FAA
Master of Ceremonies, FWL Australia 2022
- 14.02 Welcome by Professor Frances Separovic AO FAA
Foreign Secretary, Australian Academy of Science
- 14.05 Introductory remarks by Professor Hans Bachor AM FAA
- 14.08 Opening remarks by Dr Markus Ederer
Ambassador-Designate of the Federal Republic of Germany to Canberra
- 14.13 Comments by Jury Chair, Professor Chennupati Jagadish AC PresAA FTSE
President, Australian Academy of Science
- 14.15 Pitches (1-10)
- 15.15 Jury deliberation (confidential)
Selected Academy videos (livestream)
- 15.35 Sponsor presentation by Mr Nishant Shandilya
Regional Representative, EURAXESS Australia and New Zealand
- 15.40 Sponsor presentation by Ms Katharina McGrath
Director, DAAD Australia
- 15.45 Winners announced
- 15.55 Farewell by Professor Hans Bachor AM FAA

WELCOME MESSAGE

The Australian Academy of Science is pleased to host the seventh Falling Walls Lab Australia, in partnership with the Embassy of the Federal Republic of Germany in Canberra, EURAXESS Australia and New Zealand, DAAD, the German Academic Exchange Service, Queensland University of Technology (QUT) and Study Queensland.

Falling Walls Lab Australia provides ten emerging researchers, academics, entrepreneurs and professionals in Australia a platform to present their research, 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 Sydney, organised by DAAD and EURAXESS, and the Falling Walls Lab Brisbane, organised by QUT and Study Queensland.

This is one of many Falling Walls Labs taking place globally throughout the year. Last year, international Labs were held in 90 countries with more than 1000 presenters. Many of this year's 100 winners from around the world, including three from Australia, will travel to Berlin to participate in the [Falling Walls Lab Finale](#) on 7 November. On the anniversary of the fall of the Berlin Wall, these young science professionals will propose solutions to the greatest challenges of our time, contributing to a better world.

In Berlin, one presenter will be selected as the winner in the Emerging Talents category for the next generation of outstanding innovators. They will present alongside nine other luminaries on the grand stage in front of a distinguished audience of industry leaders, decision-makers, investors and international media representatives.

We would like to acknowledge our 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 everyone in the audience for their support of this event and wish the participants great success with their presentations today.

The Australian Academy of Science, the Embassy of the Federal Republic of Germany in Canberra, DAAD, EURAXESS, QUT, and Study Queensland look forward to continuing to work together to ensure that Falling Walls Labs Australia offers this unique opportunity to young researchers and innovators in future years.



Professor Chennupati Jagadish AC PresAA FTSE

President

Australian Academy of Science

JURY



PROFESSOR CHENNUPATI JAGADISH AC PresAA FTSE JURY CHAIR

**President
Australian Academy of Science**

Professor Jagadish is a Distinguished Professor and Head of the Semiconductor Optoelectronics and Nanotechnology Group in the Research School of Physics, Australian National University. He has published widely in semiconductor physics, materials science, optoelectronics and nanotechnology. Professor

Jagadish is the Editor-in-Chief of Applied Physics Reviews, editor of two book series and serves on editorial boards of 19 other journals. He is a fellow of 11 science and engineering academies in Australia, the US, Europe and India, and 14 professional societies. He has received many Australian and international awards, including a UNESCO medal for his contributions to the development of nanoscience and nanotechnologies, and has been an Australian Research Council (ARC) Federation Fellow and an ARC Laureate Fellow.



PROFESSOR LYN BEAZLEY AO Secretary Education and Public Awareness Australian Academy of Science

Professor Lyn Beazley is a distinguished neuroscientist and 2015 West Australian of the Year who has made a major contribution to the promotion and direction of science in Australia. As Chief Scientist for Western Australia (the first female to hold such a state role nationally), she championed gender diversity and science in the classroom through programs such as Microscopes in

Schools, in addition to shaping science policy. Lyn is also well known for promoting science and technology in the media and she played a key role in bringing the internationally successful FameLab science communication competition to Australia.



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 in 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.



DR HILARY HOWES

Head of Science and Innovation Embassy of the Federal Republic of Germany, Canberra

Dr Hilary Howes is currently Head of Science and Innovation at the German Embassy in Canberra. In this role she is responsible for supporting and promoting bilateral cooperation between Germany and Australia in higher education, scientific research, and innovation.

Hilary's career to date has spanned the university and public service sectors. Her research addresses the German-speaking tradition within anthropology and archaeology, focusing on Austrian, German, Russian and Swiss scientists in Australia and the Pacific region. She has also worked at the Australian Embassy in Berlin, where her areas of responsibility included bilateral research collaboration and the repatriation of Australian Indigenous ancestral remains from German collecting institutions.



DR VANESSA MOSS

Astronomer CSIRO

Dr Vanessa Moss is an astronomer based at CSIRO, working at the boundaries between astronomy, telescope operations and data science. Prior to this role, she worked overseas at ASTRON Netherlands Institute for Radio Astronomy in research and operations and at the University of Sydney as a CAASTRO postdoctoral fellow. In her research, she studies phenomena across the universe, from the hidden structure of the Milky Way halo to dense gas casting shadows against distant black holes.

Vanessa has extensive experience in big data analysis/visualisation, automation of complex systems and science communication across numerous contexts. She is a strong advocate for optimising all interactions by maximising accessibility, inclusivity and sustainability, and leads 'The Future of Meetings' community of practice to explore and disseminate new ways of meeting and collaborating. She is a Co-Deputy Chair of the EMCR Forum under the Australian Academy of Science, which represents and supports EMCRs across Australia.



CRAIG PANDY

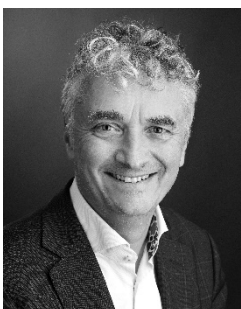
Partner, Government and Economic Development Kearney (Australia)

Craig Pandy is a Partner in Kearney's global Aerospace and Defence Practice and leads the Kearney's Government and Economic Development practice in Canberra.

Craig has more than 25 years of experience in both industry and consulting roles in Defence, financial services, telecommunications, construction and engineering and higher education. He has enjoyed a diverse career, spanning roles in legal practice, military service, ICT-enabled transformation, general management, operations, strategy and transformation for Australia's largest corporations and government agencies.

Craig is a capability-focused leader with a proven ability to develop and execute business strategy and transformation. Craig believes that motivating and building high-energy, high-performance teams is the most effective way to deliver exceptional results. He is passionate about sponsoring capability to deliver outcomes, and the development of Australian industry capability. He is also the author of white papers on sovereign shipbuilding industry development and the future of naval powertrains.

Craig holds an LLB from QUT, is a solicitor of the Supreme Court of Queensland, holds a commission as an Officer in the Australian Army Reserve and holds an MBA from AGSM (UNSW). He currently holds a board appointment for a major government agency transformation program.



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 trauma patient's optimal 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.

PRESENTERS

1 TESS BRADING
QUT

@TheFinalTess

**BREAKING THE WALL OF
Paediatric Chronic Pain**

Researching the co-design of personalised immersive environments for paediatric chronic pain management. Creating a clinically informed design framework for virtual reality in paediatric healthcare.



2 MARS BUTTFIELD-ADDISON

University of Tasmania

@TheMartianLife

**BREAKING THE WALL OF
Space Debris Prevention**

Capacity for space debris tracking is falling behind. With key modifications to backend computer systems, existing sensors such as astronomical radio telescopes may be converted for tracking debris.



3 CHANCHAL KURUP

Australian Catholic University

@ChanchalKurup

**BREAKING THE WALL OF
Borders in Nursing**

Immigration is inevitable to manage the scarcity of nursing staff world-wide. Immigration leads to underutilisation of immigrant nurses' specialty skills since they lack a clear skill transition model.



4 MARTINO MALERBA

Deakin University

@MartinoMalerba

**BREAKING THE WALL OF
Hidden Carbon Emissions in Agriculture**

My project analyses the mechanisms of C-emissions from farm dams and explores management solutions to advance zero-emission farming in Australia.



- 5 DANIELLE LEE
Griffith University
@D_Lee_PhD_fungi
**BREAKING THE WALL OF
Antifungal Resistance**

Using an innovative and multidisciplinary method, a novel antifungal targeting a fungal specific enzyme will be developed, altering the functionality and therefore causing death of the fungal cells.



- 6 FIONA HARSHINI ROY DESMOND GODFREY
Monash University
**BREAKING THE WALL OF
Decarbonising the Planet**

Geothermal energy can be extracted from different types of closed and open loop systems. Then, CO₂ foam is going to be used as both circulating and fracturing fluid.



- 7 MERRYN FRASER
Australian National University
@mezfra
**BREAKING THE WALL OF
Drug Resistant Malaria**

I'm exploring the biology of *Plasmodium* parasites, which cause malaria. I'm fighting malaria with fat, using modified cholesterol molecules to sneak antimalarial drugs past the parasite's defences.



- 8 NIPUNI PETHTHA THANTHRIGE
QUT
@ NipuniT90
**BREAKING THE WALL OF
Crop Loss**

BAG4, a cryoprotective protein, is a strong candidate for development of stress tolerant crops. Mechanisms investigated. Autophagy, a form of cell death, plays a role in BAG4-mediated stress tolerance.



9 OLIVER LOTZ
University of Sydney
@forge_thefuture

**BREAKING THE WALL OF
Medical Device Bioactivity**

I investigated the mechanisms of covalently immobilising biomolecules for bioactivity and demonstrated its effectiveness with examples such as the growth of cartilage cells.



10 CLARA JIANG
The University of Queensland
@Clara_J_Jiang

**BREAKING THE WALL OF
Treating Depression**

I find that statins and antidepressants show highly similar gene expression fingerprints. By drug repurposing, we can save time and money while getting much needed new treatments to the patients.



FALLING WALLS LAB

PARTNERS



Embassy
of the Federal Republic of Germany
Canberra



Auswärtiges Amt



Deutscher Akademischer Austauschdienst
German Academic Exchange Service

FEEDBACK

What was your overall impression of Falling Walls Lab Australia 2022? Do you have suggestions for improving the event?

Please email any feedback to fallingwalls@science.org.au. Thank you for your input!