FALLING WALLS LAB AUSTRALIA

2.30 – 5.00pm, 1 September 2025

The Shine Dome, Canberra

Australian Academy of Science

FALLING WALLS LAB

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

2.30pm	Event commences Professor Hans Bachor AM FAA & Dr Emma-Anne Karlsen, MCs Opening remarks by Academy President Professor Chennupati Jagadish AC PresAA FRS FREng FTSE
2.35pm	Opening remarks by Minister Counsellor & Deputy Head of Mission of the Federal Republic of Germany to Australia Ms Sigrid Sommer
2.40pm	Pitches (1–11)
3.45pm	Networking break and afternoon tea, jury deliberation
4.30pm	Address from event partners Merck Group, EURAXESS Worldwide, Australia and NZ
4.45pm	Awards ceremony Professor Tony Haymet, Australia's Chief Scientist
5.00pm	Cocktail reception in marquee
6.00pm	Event ends

*all times are AEST

FALLING WALLS LAB

WELCOME MESSAGE

The Australian Academy of Science, in partnership with the Federal Republic of Germany to Australia, Merck, and EURAXESS Worldwide are pleased to host the Falling Walls Lab Australia Finale for 2025.

Falling Walls Lab Australia is providing 11 emerging researchers, academics, entrepreneurs and professionals from across Australia a platform to present their research, business model, innovative project, social initiative or idea to a distinguished jury and diverse audience, amplified by being live streamed.

This is one of many Falling Walls Labs taking place globally throughout the year, with the 100 winners from around the world, including three from Australia, participating in the Falling Walls Lab Global Finale in Berlin on 7 November. On the anniversary of the fall of the Berlin Wall, these young researchers will propose solutions to the greatest challenges of our time, contributing towards a better world.

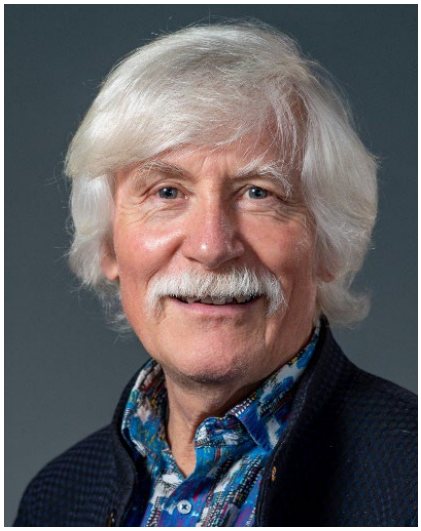
In Berlin, one presenter will be selected as the winner in the Emerging Talents category for the next generation of outstanding innovators. They will present alongside nine other luminaries on the grand stage in front of a distinguished audience of industry leaders, decision-makers, investors, and international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

We thank 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 and wish the participants great success with their presentations today.

We are proud to present Falling Walls Lab Australia, an annual Academy activity that helps ensure the continuation of excellent and innovative scientific research in Australia.

Professor Chennupati Jagadish AC
PresAA FRS FREng FTSE
President, Australian Academy of Science

MCs



Professor Hans Bachor AM FAA

Australian Academy of Science Fellow

Prof. Hans Bachor arrived in Australia in 1981 with a PhD from the University of Hannover, Germany. Based at the Australian National University, he pioneered experimental quantum optics in Australia and created a widely known research team. As a Federation Fellow he founded ACQAO, a national centre of excellence to study atoms and light at the quantum level and to explore options for future quantum technologies. As an Emeritus Professor since 2012, Professor Bachor focuses on science communication, mentoring of early career colleagues and strategic advice. He is active at Questacon and in the Academy of Science and an initiator of Falling Walls Lab Australia. For these contributions he was awarded the honour of Member of the Order of Australia and with a Bundesverdienstkreuz of Germany.

Dr Emma-Anne Karlsen

Falling Walls Lab Australia Winner 2023, 3rd Place Emerging Talents Falling Walls Berlin 2023

Dr Emma-Anne Karlsen is a Dermatology Registrar and recent PhD graduate from the University of Queensland where she investigated novel biomarkers and treatment strategies for cancer. Her innovative research, which explored repurposing existing medications to enhance cancer treatment, earned her 3rd place at the prestigious Falling Walls Lab in Berlin. This achievement led to many opportunities such as speaking on the ABC Science Show and being named one of '50 Remarkable and Inspirational Women in Australian Science' by Cosmos Magazine. Dr Karlsen's journey is marked by a deep commitment to translational research, aiming to bridge the gap between laboratory discoveries and clinical applications. With a passion for improving patient outcomes, she aspires to integrate her research with her clinical practice to provide exceptional care and contribute to the future of cancer therapy.

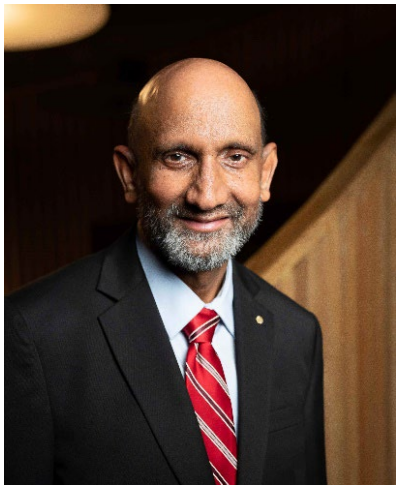
FALLING WALLS LAB

JURY

Professor Tony Haymet PhD FTSE

Australia's Chief Scientist and Jury Chair

Professor Haymet is an Emeritus Distinguished Professor of Oceanography. He has researched and taught for many years in Australia and in the United States, including as Established Chair of Theoretical Chemistry at the University of Sydney. From 2002 to 2006, Prof. Haymet was chief of CSIRO Marine and Atmospheric Research, based in Hobart, Tasmania. From 2006 to 2012, he was Vice-Chancellor, Director and Distinguished Professor of Oceanography, at the Scripps Institution of Oceanography at the University of California, San Diego. In 2010, Prof Haymet and a colleague at the Scripps Institution established MRV Systems LLC, a company that manufactures ocean robots. The autonomous drones take chemical and physical measurements across the world's oceans. Prof. Haymet was a board member and Chair of the Antarctic Science Foundation (2020–25), a board member of Worldfish, based in Penang (2017–20), and served on the Oceans Council of the World Economic Forum (WEF) including as Chair. He was Director, Oceans, at the Minderoo Foundation where he established a philanthropic research program (2020). He is a Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE) and the Royal Australian Chemical Institute
(RACI).



Professor Chennupati Jagadish AC PresAA FRS FREng FTSE

President, Australian Academy of Science

Professor Chennupati Jagadish is a Distinguished Professor and Head of Semiconductor Optoelectronics and Nanotechnology Group in the Research School of Physics, at the Australian National University. He has published widely in semiconductor physics, materials science, optoelectronics and nanotechnology. Prof. Jagadish is the Editor-in-Chief of Applied Physics Reviews, editor of 2 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. He became President of the Academy in May 2022.

Sigrid Sommer

Minister Counsellor & Deputy Head of Mission of the Federal Republic of Germany to Australia

Sigrid Sommer took up her position as Deputy Head of Mission at the German Embassy in Canberra in August 2023. Before arriving in Australia, she was Head of Division for Southern Europe at the Federal Foreign Office in Berlin. Prior to that, she was Head of the Task Force, which established the Federal Agency for Foreign Affairs (2019–21). From 2016 to 2019 she was Deputy Head of the Coordination Task Force for Refugees and Migration at the Federal Foreign Office. Her previous postings included Head of the Economic Division at the German Embassy in Athens (2013–16), member of the Security Council Team for Central and Southern Africa at the Permanent Mission of Germany to the UN in New York (2010–13) as well as the German Embassy in Pretoria (2004–07). She was seconded to Malawi (2005) and Botswana (2006) and worked on Humanitarian Assistance. She also worked from 2000 to 2003 in the Minister's Office at the Federal Foreign Office.

Ms Sommer joined the Diplomatic Service in 1988. After a three-year training at the Diplomatic Academy of the Federal Foreign Office, she served at the German Embassy in Prague and was seconded to Zagreb (1992) and Mozambique (1992). She also worked at the Legal Department of the Federal Foreign Office before she re-joined the Diplomatic Academy for a year in 2003.

Dr Colin Yeoman

Medical Director, Merck Healthcare Australia and New Zealand

Dr Colin Yeoman is an accomplished medical affairs executive with over 20 years' experience in the science and healthcare technology industry, spanning multiple geographies and therapeutic areas.

A former anaesthetist, he started his career in the medical devices industry in 2001 before transitioning to innovative medicines in 2002. In 2004 he relocated from the United Kingdom to Australia and has managed multiple therapy areas and built some of the strongest medical affairs teams in industry across Australia and New Zealand. He has a passion for coaching and developing team members and brings experience from across regions in operational management of medical affairs.

Dr Yeoman's passion lies in driving meaningful strategies that optimise patient outcomes and ensure transformative advances in healthcare.

Professor Lyn Beazley AO FAA

Australian Academy of Science Fellow

Professor 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. Sheis 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.

Professor Alan Andersen FAA

Australian Academy of Science Fellow

Professor Andersen is Professor, Research Excellence and Impact at Charles Darwin University. He was previously a Chief Research Scientist with CSIRO Land & Water, and head of CSIRO's Darwin Laboratory for 20 years. Professor Andersen's primary research interests are in the global ecology of ant communities and their use as bioindicators of ecological change. He is Chair of the Academy's National Committee for Ecology, Evolution and Conservation, and also the Academy's Diversity and Inclusion Advisory Committee.

Dr Lisa Vincze

Academy's Early and Mid-Career Researcher Forum

Dr Lisa Vincze is a Senior Lecturer and Early Career Researcher in the School of Allied Health, Sport and Social Work at Griffith University. She is a Dietitian and Exercise Physiologist focused on optimising nutrition and physical activity behaviours and environments to improve health outcomes, particularly in the early origins of life.

She is currently working on projects related to early childhood education and care, extended education (i.e. OSHC), postpartum physical activity, nutrition care in endometriosis, and First Nations paediatric nutrition care and obesity.

Dr Vincze has been recognised for her emerging excellence in research and teaching, and contributions to the dietetics profession through a number of awards including: Dietitians Australia Outstanding Contribution Award (2022), DVC-E (Education) Commendation for Outstanding Student Evaluation of Teaching (2021), Dr Dave Roberts PhD Prize (2019), Joan Woodhill Prize for Excellence in Research, Dietitians Australia (2019) and the Best New Researcher – Dietitians Australia National Conference (2017).

Dr Vincze is currently a member of the Australian Academy of Science EMCR Executive Committee and is also an active member of the Australian Living Evidence Collaboration's Living Evidence for Australian Pregnancy and Postnatal Care Guideline Leadership group.

FALLING WALLS LAB

PRESENTERS

BREAKING THE WALL OF forever chemicals

Mabel Day, University of Adelaide

Mabel Day is currently undertaking a PhD under the supervision of Dr Cameron Shearer and Professor Christopher Sumby at the University of Adelaide, Australia. She graduated from a Bachelor of Science (Advanced) with a double major in Chemistry in 2021. Mabel's research involves the investigation of photocatalysis as an effective method for per- and poly-fluoroalkyl substance (PFAS) degradation and environmental remediation.

BREAKING THE WALL OF heart failure

Auriane Drack, Baker Heart and Diabetes Institute, University of Melbourne

@AurianeDrack

Auriane Drack is a third-year PhD candidate at the Baker Heart and Diabetes Institute, where she is developing a 'smart band-aid' to repair the heart after a heart attack using stem cell-derived nanovesicles and silk biomaterial. She is actively involved in scientific societies within her field and in initiatives supporting early career researchers. Her leadership and contributions have been recognised with awards such as the GCI Women in STEM Student Award and the Millis Jackson Student Research Grant. Passionate about science communication and outreach, Auriane has won several presentation awards, including being runner-up at the FameLab Australia National Final in 2024. She now shares this passion with peers, running workshops to help early career researchers become more effective and confident communicators.

BREAKING THE WALL OF microalgal biofuels

Dr Houda Ennaceri, Algae Innovation Hub, Murdoch University

@HEnnaceri

Dr Houda Ennaceri is a leading applied physicist and materials scientist internationally recognised for her work on innovative and renewable energy. She is undertaking cutting-edge research at the Algae Innovation Hub at Murdoch University working on low-cost solutions for microalgal biodiesel production, which is a carbon-neutral process now receiving considerable interest from major energy companies both globally and in Australia. Her research plays a significant role in moving this technology from technical proof-of-concept to low-cost commercial scale operations. Dr Ennaceri is the recipient of several prestigious awards, including the Forrest research fellowship, the DAAD and the Humboldt research fellowship.

BREAKING THE WALL OF antimalarial discovery

Khoi Nguyen, Burnet Institute, the University of Melbourne

Khoi Nguyen is a master's student at the University of Melbourne. Under Associate Professor Paul Gilson, Dr Hayley Bullen, and Professor Brendan Crabb's guidance at the Burnet Institute, Khoi is working on innovative approaches for the discovery and development of novel drugs to eliminate malaria. With his research, Khoi hopes to accelerate the sluggish antimalarial pipeline by facilitating the development of therapeutics for global communities that are still deeply affected by this devastating disease.

BREAKING THE WALL OF pollution data **Yonglin Mai, Australian Centre for Research on Separation Science (ACROSS), School of Natural Sciences, University of Tasmania** Yonglin Mai is a PhD student in Analytical Chemistry at the University of Tasmania. Her research focuses on developing a portable nutrient analyser that enables real-time, on-site detection of nitrate and nitrite in rivers, estuaries, soils, and rainwater. By bringing laboratory-level precision into the field, her work makes critical water quality data accessible anytime and anywhere. This innovation has the potential to transform environmental monitoring and support better decision-making for sustainable water management.

BREAKING THE WALL OF herbicide resistant weeds
Sreshtha Malik, School of Agriculture, Food and Wine, Waite Research Institute, University of Adelaide
Sreshtha is a PhD candidate in the School of Agriculture, Food and Wine at the University of Adelaide. Her research investigates novel strategies to combat herbicide resistance in weeds, focusing on the discovery of previously unexplored herbicide targets and the repurposing of failed antibiotic scaffolds. She integrates computational approaches, including virtual screening and molecular docking, with biochemical and in planta validation to accelerate herbicide discovery.

BREAKING THE WALL OF muscle weakness
Dr Jacob Thorstensen, Bond University
@j_thorstensen
Dr Jacob Thorstensen is an early career neuroscientist and lecturer within the Faculty of Health Sciences & Medicine at Bond University on the Gold Coast. He has a PhD in human neuroscience which investigated the influence of neuromodulators on muscle activation. His current research spans both discovery and clinical neuroscience, neuropharmacology, and exercise physiology, and aims to identify novel neuroscientific mechanisms that have real life applications to disorders affecting motor circuits in the brain and

spinal cord. Recent recognitions include being on the Forbes 30 Under 30 list for the Healthcare & Science Category (2024) and being identified as a 7NEWS QLD Young Achiever (2025). Jacob currently sits on the editorial boards for The Journal of Physiology and Journal of Applied Physiology.

BREAKING THE WALL OF native bee recovery after bushfires

Dr Kit Prendergast, Curtin University and University of Southern Queensland

@BeeBabette

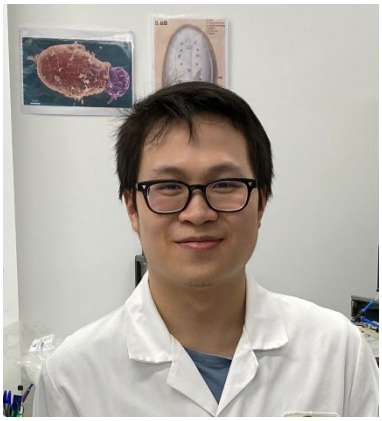
Dr Kit Prendergast, also known as The Bee Babette, is a wild bee scientist, ecologist and science communicator. Her research has spanned diverse topics from conserving native bees in urban areas, bee hotel research, including as a recovery tool after bushfires, the impact of honey bees on native bees, conserving native bees around transport infrastructure, citizen science projects, and taxonomy, including the description of a new species *Leioproctus zephyr* named after her dog, Zephyr. She has published over 70 peer-reviewed articles. Kit is also a passionate science communicator. She has written a popular book 'Creating a Haven for Native Bees', has a scicomm circus comedy performance about pollinators, and has been featured on Gardening Australia and in COSMOS and Double Helix magazines. Kit has won a number of awards, including Curtin Young Achiever Alumni and the ESA Outstanding Outreach Award, and was a Famelab and WA Young Achiever finalist.

BREAKING THE WALL OF fishing and climate change

Dr Harriet Goodrich, Institute for Marine and Antarctic Studies, The University of Tasmania

@goodfishlab

Dr Harriet Goodrich is a comparative and environmental physiologist who investigates how human pressures and environmental change shape the traits fish need to survive. Starting at the smallest levels of biological organisation, she studies ion transport, acid–base regulation, and nutrient absorption, and how these processes scale up to influence whole-animal performance and the resilience of fish populations. Her career began in freshwater systems, restoring connectivity for native species in the fragmented rivers of the Murray–Darling Basin. After moving to lutruwita (Tasmania), her work turned to the sea, where she examines how fishing pressure and climate change interact to influence the future of wild fish populations. Her research on fisheries-induced evolution asks whether decades of selective harvest have altered traits such as growth, metabolism, and stress tolerance, and how these changes affect species' ability to cope with warming oceans.



BREAKING THE WALL OF diagnostic tools

Farrel R Separgo, Institute for Biomedical Materials and Devices, University of Technology Sydney

Farrel R Separgo is a PhD candidate at the University of Technology Sydney, who is passionate about cell biology and nanotechnology. Farrel's research focuses on the applications of nanothermometry – a technology that measures the temperature of cells, including inside the cells. By understanding how temperature changes within cells, Farrel hopes to advance our understanding of diseases, improve early detection, and enhance treatment methods. Outside of research, Farrel love playing music on the piano, flute, or violin, reading, and spending time with friends. Whether it's discussing cutting-edge science or just enjoying good conversation, Farrel is always excited to learn and share ideas.

BREAKING THE WALL OF profit over planet: Sustainability in oil and gas industries

Chundu G Tamang, University of Southern Queensland

Chundu G Tamang is a PhD candidate at the University of Southern Queensland, working within the SIMPLE Hub program at the Centre for Future Materials. With a background in materials engineering, her research focuses on developing sustainable composite materials and innovative strategies for environmentally responsible waste management. She is passionate about designing solutions that reduce reliance on non-renewable resources and mitigate environmental impacts. Currently, Chundu is collaborating with oil and gas industries to integrate sustainable waste management practices into their operations, helping to transition traditionally resource-intensive sectors toward more circular and eco-efficient models. Her work connects academic research and industry needs, ensuring adoption of practical and scalable applications. By combining technical expertise with a commitment to sustainability, she aims to contribute to a greener future and promote global adoption of environmentally conscious industrial practices.

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