



Australian Academy of
Technological Sciences
& Engineering
1975-2025

Bringing innovation to life

NEW FELLOWS 2025 SHOWCASE

Thursday 30 October
National Wine Centre of Australia
Adelaide



ATSE

**50
YEARS**

Now in its 50th year, the Australian Academy of Technological Sciences and Engineering celebrates excellence in science, technology, engineering and mathematics by appointing prestigious Fellows, awarding upcoming innovators and equipping the next generation with skills to build a better Australia and world.

We are an authoritative and independent voice to decision-makers, and our world-class STEM career programs are shaping the knowledge-makers and innovators we need to tackle Australia and the world's most urgent challenges.

ATSE is Australia's foremost impact network for leading applied scientists, technologists and engineers.

Inaugurated in 1976, ATSE was formed as a Fellowship of Australia's leading applied scientists, technologists and engineers, and mobilised their expertise behind government and community priorities.

ATSE has since grown to more than 900 Fellows who are at the forefront of innovation in response to climate change and energy transitions, digital transformation, technologies to support national security, food and water security, personalised medicine, advanced manufacturing, resilient infrastructure, and many other areas of applied science, technology and engineering vital to Australia's and the world's economic, social and environmental sustainability. We independently advocate for decisions, policies and planning based on the best available evidence. We build the STEM skills and help catalyse national investment in research and development (R&D) urgently needed to solve these issues.



ATSE

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An independent, non-government organisation and registered charity, we help grow a diverse and thriving STEM sector in Australia through:



STELR

Our hands-on, sustainability-focused science and engineering education program, STELR, is in more than 1,000 schools Australia-wide and internationally.



ELEVATE

Elevate is our undergraduate and PhD scholarship program which is propelling women and diverse people into STEM studies, networks and careers.



IMNIS

IMNIS, our industry mentoring network in STEM, pairs hundreds of PhD students and early-career researchers with industry leaders every year.



PROPEL

Through Propel, our newest STEM scholarship program, ATSE is awarding thousands of undergraduate scholarships to STEM students, providing them with access to education and career opportunities associated with the AUKUS nuclear-powered submarine enterprise.

Bringing innovation to life

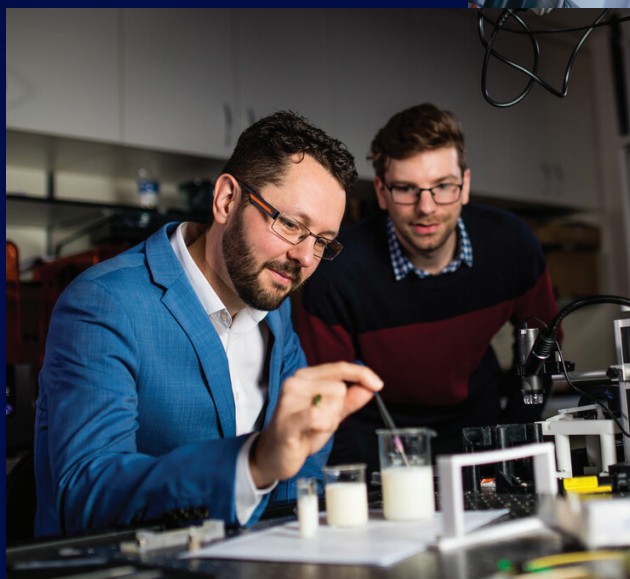
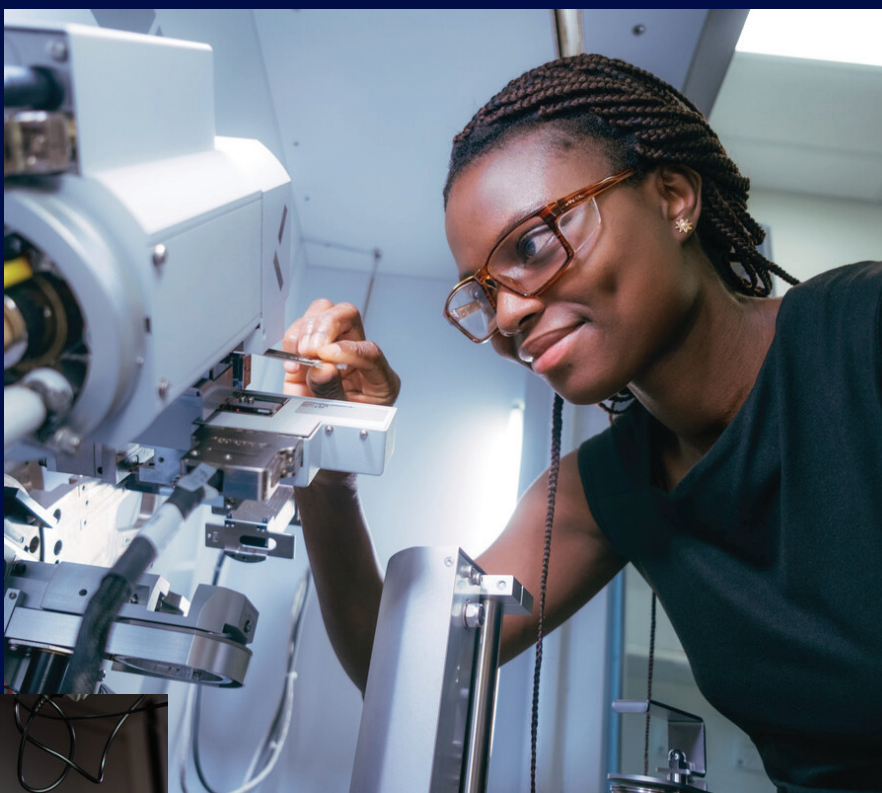
8:00am	REGISTRATION – Tea and coffee	
9:00am	WELCOME TO COUNTRY – Kaurua Elder Kauwanu Tamaru	
9:05am	WELCOME ADDRESS BY EMCEE – Kylie Walker, CEO ATSE	
9:15am	PANEL 1 – Pushing the boundaries of technology Specialised computing, miniaturised electronics, precision manufacturing and the manipulation of advanced chemistries; they're all part of a modern explosion in technological performance that shows no signs of slowing down. As our most advanced technological disciplines come together, this panel invites us to consider: what might the technologies of the future look like and how are the nation's leading technologists pushing the boundaries? <i>Moderator: Professor Anton van den Hengel FTSE</i>	Distinguished Professor Guoxiu Wang FTSE FAA Professor Ying Tan FTSE Professor Maurice Pagnucco FTSE Dr Victoria Gordon FTSE Professor Christina Lim FTSE
10:00am	PANEL 2 – Shaping the natural and built world Our daily life is defined by the spaces we inhabit, the places we visit and the objects with which we interact in the world around us. Understanding and working with the natural world is how engineers and technologists can contribute to protecting the world and shaping it for the future. In this panel, we explore how this expertise helps make a safe world possible and accessible to more people in the future. <i>Moderator: Dr Cathy Foley AO PSM FTSE FAA</i>	Professor Cori Stewart FTSE Professor Peng Shi FTSE Professor Yuming Guo FTSE FAHMS Professor Matthew Harrison FTSE Distinguished Professor Lidia Morawska FTSE FAA
10:45am	ADELAIDE UNIVERSITY INNOVATION PITCH	
10:50am	MORNING TEA	
11:15am	PANEL 3 – Harnessing energy Energy powers our daily lives; and the way we use, store, control and distribute energy across countries and continents is ever evolving. As we work towards decarbonising energy production, how are we also innovating to safely, effectively and accessibly resolve our energy challenges? <i>Moderator: Professor Gus Nathan FTSE</i>	Neil Kavanagh FTSE Kerry Coker FTSE Dr Bruce Leslie FTSE Professor Hongxia Wang FTSE Professor Yansong Shen FTSE
12:00pm	PANEL 4 – Navigating human health Health care is becoming more personalised and targeted, and novel treatments are more widely available and more effective than ever. But in navigating the world of human health, what innovations are on the horizon – led by some of Australia's trailblazing innovators – that can offer equitable solutions to global health challenges? <i>Moderator: Dr Carrie Hillyard AO FTSE FAICD</i>	Professor Eva Bezak FTSE Professor Yuming Guo FTSE Pamela Naidoo-Ameglio FTSE Suz Thompson FTSE Professor Kourosh Kalantar-Zadeh FTSE Professor John Rasko AO FTSE FAHMS
12:45pm	ADELAIDE UNIVERSITY INNOVATION PITCH	
12:50pm	LUNCH	
1:50pm	PANEL 5 – Looking after our planet Environmental health is deeply intertwined with societal progress, ethical development and long-term sustainability. Planetary health – on a global and local level – depends on effective, scalable solutions that can last and evolve. In this panel, hear from some of Australia's leading engineers and technologists about the expertise and actions that are available to all of us. <i>Moderator: Professor Rob Lewis PSM FTSE</i>	Professor Susan Harrison FTSE Professor Ian O'Hara FTSE Dr Kimberley Swords FTSE Professor Juliet Willetts FTSE Eric Vanweydeveld FTSE
2:35pm	PANEL 6 – Exploring new frontiers At the forefront of innovation are the moonshots, the explorations and the discoveries that inspire us and usher in the next steps in technology and science. There's no shortage of ambition across the scientific and engineering spectrum. This panel explores: what are the frontiers of our current knowledge, and how are they being advanced around the world for the benefit of humanity? <i>Moderator: Sally-Ann Williams FTSE</i>	Kate West FTSE Professor Robert Mahony FTSE FAA Sarah McSwiney FTSE Katherine Bennell-Pegg FTSE Professor Michael Kassiou FTSE
3:20pm	ADELAIDE UNIVERSITY INNOVATION PITCH	
3:25pm	EMCEE – Kylie Walker, CEO ATSE	
3:40pm	AFTERNOON TEA	
4:00pm	CLOSE	

REIMAGINEED

RESEARCH

Adelaide University's vision is to be a leading contemporary comprehensive university of global standing.

We are dedicated to ensuring the prosperity, wellbeing and cohesion of society by addressing educational inequality through our actions and through the success and impact of our students, staff and alumni. Partnered with the communities we serve, we conduct outstanding future-making research of scale and focus.



Our vision for research is to be Australia's premier for-purpose research university, delivering outstanding locally-embedded, globally relevant research having impact.

Katherine Bennell-Pegg FTSE

Astronaut, Australian Space Agency

Pioneering engineer and first astronaut to represent Australia



In 2024, Katherine Bennell-Pegg became the first qualified astronaut under the Australian flag. She is also the first woman Australian astronaut and was the first international candidate to undertake astronaut training with the European Space Agency in Germany.

Bennell-Pegg is a reservist Group Captain in the Royal Australian Air Force and was

previously the Director of Space Technology at the Australian Space Agency. She is a prominent ambassador for STEM and the national space sector and is passionate about inspiring young people about the wonders of space.

She has 15 years of global space engineering experience across a range of projects – from human spaceflight missions to Earth observation – for organisations including Airbus, the European Space Agency and NASA.

Kerryn Coker FTSE

Senior Executive

Sustainable engineering leader



Kerryn Coker is an award-winning executive in the built environment, known for her deep technical expertise, visionary leadership, and commitment to driving meaningful change across diversity, sustainability and innovation. As co-chair for Arup Australasia, she demonstrated how successful business outcomes can support broader positive impacts for

people and the planet. She led strategy implementation to embed the UN SDGs across business operations and through projects. Kerryn is a prominent advocate for gender equity leading industry wide change through the Consult Australia Champions for Change.

She is a member of Chief Executive Women and the Vice-Chancellor's Industry Advisory Board at the University of Technology Sydney. Coker was recognised with the National Women of the Year, Professional Services 2024 award by Australian Financial Review alongside Kate West FTSE for their successful collaborative leadership approach.

Her contributions to façade engineering and multi-disciplinary design leadership have advanced engineering practices, applying innovative technologies to deliver exceptional sustainability outcomes.

Professor Eva Bezak FTSE

Professor in Medical Radiation, University of South Australia

Powerhouse in medical physics



Professor Eva Bezak is internationally known for her leadership in cancer therapy and medical innovation. She has led the development of world-leading modelling software and novel pharmaceuticals to enhance cancer therapies. Her work has shaped national healthcare policy, informed critical oncology infrastructure in Australia and the region, and led to

cutting-edge technologies. Formerly the Chief Physicist at Royal Adelaide Hospital, she was appointed Professor in Medical Radiation at the University of South Australia in 2015

She has also advised governments on radiation matters, helped define regulations and healthcare delivery in Australia and internationally, and in her past role as Australasian College of Physical Scientists and Engineers in Medicine President, she initiated imaging medical physics training programs that addressed chronic workforce shortages across Australia and New Zealand.

Bezak actively champions women in STEM and serves on several international organisations, including as President-elect of the International Organization for Medical Physics.

Dr Nick Fleming FTSE

Managing Director, Innergise Pty Ltd

Multidisciplinary problem-solver



Dr Nick Fleming is an expert in systems thinking and complex problem solving. He has made award-winning contributions to the science and practice of natural resources management and sustainable development. As one of Australia's first Chief Sustainability Officers, he repositioned sustainability as core business. His techniques for translating insight into practice have been applied

to major projects in Australia and internationally, across the mining, energy, water, transport and health sectors.

Fleming contributes his strategic acumen on multiple boards, is an adjunct professor at the University of Queensland, and is a sought-after advisor delivering unique executive development programs. He served as National President and board chair of Engineers Australia, where he was instrumental in transforming the organisation's strategy and championing climate change. He has received multiple awards for technical excellence, leadership and innovation.

There for every engineer.

As Australia's national body for engineering, we're the voice and champion of our 140,000-plus members. Providing them with the resources, connections and growth they need to do ethical, competent and high-value work in our communities.

It's inspiring promising student engineers. Opening doors for graduates and setting them up for success. Enriching the skill sets of engineering professionals at every stage of their career, helping them learn, discover and fulfil their potential. With esteemed Chartered credentials offering recognition and prospects across the globe.

Find out more at engineersaustralia.org.au

Calvin Ewe
Marine engineering

Miranda Rey-Fleming
Water engineering

Ulf Johansson
Fire engineering

Sylvia Iskander
Electrical engineering



Murriyang, our Parkes radio telescope, relayed live footage of the first moon walk in 1969.

From helping the world watch the first steps on the Moon to developing new cancer treatments and diagnostic tools, we collaborate with partners across the globe to solve today's biggest challenges through innovative science and technology.

Australia's National Science Agency

Collaborate with us to create a better future



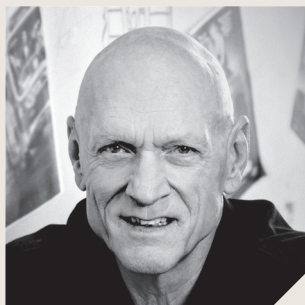
Colorectal cancer recurrence can now be detected with a simple blood test, Colvera™.



HONORARY FELLOW

The Hon Peter Garrett AM FTSE

Acclaimed voice for people and planet



Peter Garrett is a renowned campaigner, musician and former politician. He is the lead singer of Midnight Oil, one of Australia's greatest rock bands, known for music that amplifies peace, social justice and environmental activism.

Garrett was president of the Australian Conservation Foundation, before entering parliament as a Labor MP in

2004. Across his tenure in parliament, he served terms as Minister for the Environment, Heritage and the Arts, and as Minister for School Education, Early Childhood and Youth. As Environment Minister, Garrett introduced Australia's first e-waste recycling scheme and was instrumental in the campaign to end "scientific whaling" in Antarctica. He oversaw the expansion of protected reserves on land and at sea, including Indigenous Protected Areas.

Garrett holds three honorary degrees, is a Member of the Order of Australia, and is an Officer of the Order of Arts and Letters (France). In 2010, he received the 'Leaders for a Living Planet' award from WWF International.

Professor Yuming Guo FTSE

Distinguished Professor, Climate, Air Quality Research Unit, Monash University

Climate-health expert



Professor Yuming Guo is a leading environmental epidemiologist whose research has significantly advanced efforts to mitigate health risks from climate change and air pollution.

His multidisciplinary approach – integrating AI, cutting-edge technology and data science – has had a profound impact on public health practices

worldwide. Guo's research has set new benchmarks for air pollution exposure assessment and shaped air quality guidelines. His findings have supported the establishment of heatwave early warning systems.

Guo is a prominent public voice on climate change and human health and has been recognised by Reuters as a top climate scientist. He co-founded the Multi-Country Multi-City Collaborative Network for Climate Change and Human Health, a flagship international initiative dedicated to developing innovative methodologies and technologies to reduce climate-related health risks. Guo has received multiple prestigious awards and is a member of the Academia Europaea, the European Academy of Sciences and Arts and the Brazilian Academy of Sciences.

Dr Victoria Gordon FTSE

Co-founder & director, QBiotics

Pharmaceutical pathbreaker



Microbiologist Dr Victoria Gordon is the co-founder and director of QBiotics Group, a pioneering medical research company specialising in transforming molecules from the Australian tropical rainforest into new medicines. Under her exceptional leadership as CEO for 24 years, QBiotics has become an internationally recognised

leader in biodiscovery,

successfully advancing groundbreaking treatments in oncology and wound healing. Gordon grew the company from humble beginnings in her basement to an established team of 58 with collaborations spanning major research institutions and key opinion leaders worldwide. Gordon, along with co-founder Dr Paul Reddell and their dedicated team, have built an impressive drug discovery pipeline, spanning preclinical investigations to human clinical trials and veterinary product registration. Their highly successful and unique discovery technology, EcoLogic™, combined with early real-world veterinary clinical data, supports selection of drug candidates with a high potential for successful development

Gordon has also made enduring contributions to policy, science education and governance through advisory roles. She provided critical expertise to the Queensland Biodiscovery Act 2004, considered a regulatory blueprint for aligning scientific innovation with sustainable and ethical use of biodiversity.

Professor Matthew Harrison FTSE

Professor, University of Tasmania

Change agent in sustainable agriculture



Professor Matthew Harrison is a leading expert in sustainable agriculture with an outstanding track record of impact. He leads the Carbon Storage Partnership, an initiative developing pathways to progress the Australian livestock sector toward net-zero greenhouse gas emissions by 2030. His people-centred approach, engaging with more than 17,000 farmers and

stakeholders across regional Australia, drives technology adoption and practices that reduce greenhouse gas emissions.

Harrison works with governments on climate policy, contributing to legislation that has prevented more than 3.6 million tonnes of carbon dioxide-equivalent greenhouse gas emissions. His expertise in carbon reductions and removals has shaped the Australian Carbon Credit Unit Scheme and influenced international carbon markets.

Harrison's far-reaching impact was acknowledged with the 2023 Tasmanian Premier's STEM Scientist of the Year award.



Australian Government



THE PRIME MINISTER'S PRIZES FOR SCIENCE 2026

Who will you nominate?

**Nominations for the 2026
Prime Minister's Prizes for Science
are open until 18 December 2025.**

If you know people whose work is breaking new ground, translating science into impact, solving complex problems through the practice of Aboriginal and Torres Strait Islander knowledge systems or igniting curiosity in the next generation, nominate them for the 2026 Prime Minister's Prizes for Science.



| industry.gov.au/PMPrizes



"What I love about science is that it makes you ask why, and it makes you question the world around you. It gives you a platform of which you can find creative solutions to world problems."

Associate Professor Lara Herrero
2023 Prize for New Innovators



"A big theme for me throughout my career has been trying to take science and turn that into usable technologies."

Dr Andrew Horsley
2024 Prize for New Innovators

Help ATSE shape a better future

This is a great time, as ATSE turns 50, to give the Academy a big present! It's on all of us to consider how we can use this opportunity to make a donation to ensure ATSE can fulfil its vision, deliver on its role, and drive forward its ambition for the next 50 years.

— Dr Cathy Foley AO PSM FTSE

MAKE YOUR GIFT TODAY

donations@atse.org.au



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You can donate now by scanning the QR code or via the ATSE website at atse.org.au/donate

DONATIONS VIA PHONE

If you'd prefer to make your donation over the phone, please call 02 6185 3240.

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The Australian Academy of Technological Sciences & Engineering Limited is registered with the Australian Charities and Not-for-profits Commission and is listed by name as a Deductible Gift Recipient (DGR). It is covered by Item 1 of the table in section 30-15 of the Income Tax Assessment Act 1997.



Professor Susan Harrison FTSE

Deputy Vice-Chancellor: Research & Innovation, and previously Executive Dean, Faculty of Engineering, Architecture and Information Technology, The University of Queensland

Bioprocess engineering groundbreaker



Professor Susan Harrison has opened up pathways to new mineral processing practices, integrating microbiology with chemical engineering to address sustainable resource management challenges.

Her collaborative approach bridges fundamental research with industry to tackle real-world challenges. Her research underpins solutions implemented

in Australia and around the world for mineral resource extraction, mine waste remediation, water treatment and circular bioeconomies – in particular, transforming mine waste into economic assets.

Beyond technical innovation, Harrison combines outstanding leadership, strategic clarity and research excellence through her roles as Deputy Vice-Chancellor: Research & Innovation and former Executive Dean at University of Queensland and former Deputy Vice-Chancellor at University of Cape Town. Elected to the National Academy of Engineers (US) and South African Academy of Engineers, she ranks among the top 20 globally in mining and metallurgy.

Professor Kourosh Kalantar-Zadeh FTSE

Professor, The University of Sydney

Cutting-edge engineer



Professor Kourosh Kalantar-Zadeh is a multidisciplinary engineer and entrepreneur known for transformative contributions with real-world impact, including ingestible sensors, liquid metals, and atomically thin materials.

His groundbreaking innovations span several industries, including transparent conductive glass used in mobile phones with

his colleagues, smart electronic windows for aircraft, and globally deployed hazardous gas sensors. He co-founded several companies, led his team to the development of the world's first ingestible chemical sensors for medical diagnostics, and is also developing liquid metal-based greenhouse gas capture technologies.

Kalantar-Zadeh's work extends beyond the lab with outreach, public engagement and mentorship. He is a Fellow of the American Association for the Advancement of Science and a Foreign Fellow of the European Academy of Sciences and Arts. His achievements earned him the prestigious Robert Boyle Prize for Analytical Science in 2020 and a place in the 2019 LinkedIn Spotlight for Science and Engineering in Australia.

Professor Michael Kassiou FTSE

Professor of Medicinal Chemistry, The University of Sydney

Leading-edge chemist



Professor Michael Kassiou is a world-leading medicinal chemist with expertise in drug discovery. His innovative approach combines chemistry and molecular design. His innovations have been commercialised in several companies, most notably Prokardia Therapeutics which are producing entirely new medicines for cardiovascular disease,

and Kinosis Therapeutics who are targeting mental health conditions including substance use disorders. He holds more than 20 patents, several of which have been licensed to pharmaceutical companies.

Kassiou leads the Centre for Drug Discovery Innovation and the New South Wales Organoid Innovation Centre – a multi-institution facility applying cutting-edge stem-cell techniques to accelerate drug discovery and design. He is also a node leader of MedChem Australia, a national initiative aiming to bridge the gap between research and commercialisation.

His remarkable achievements have been recognised with the Eureka Prize for Leadership in Science and Innovation in 2023 and the Australian Financial Review Higher Education Award for Research Commercialisation in 2024.

Neil Kavanagh FTSE

Global Innovation Officer, Woodside Energy (former)

Global energy technology leader



Neil Kavanagh is an accomplished energy sector professional with global experience in oil and gas, innovation, technology commercialisation, and industry-academic collaboration.

He has played a pivotal role in Australia's energy transition, driving advancements in geothermal energy, hydrogen, LNG

decarbonisation, and digital technologies. His leadership has transformed technology adoption, risk management, and commercialisation, ensuring real-world impact.

As former Chief Scientist and Global Innovation Officer at Woodside, he has shaped Woodside's innovation culture. A champion of industry-university partnerships, and global industry joint ventures, Kavanagh has fostered long-term research collaborations via Woodside FutureLab. These efforts have driven breakthroughs in advanced materials, AI, and sustainable energy solutions. His expertise in technology risk management has shaped global best practices, facilitating the successful integration of new technologies in large-scale industrial projects. With a career spanning engineering, research, and corporate leadership, Kavanagh has mentored future innovators and advanced scalable solutions to decarbonisation and affordable, secure energy supply.

Be Surprised...

We invite you to Be Surprised with what South Australia has to offer.

A visit to Adelaide offers delegates easy access to beautiful beaches, with the world-famous regions of the Barossa and McLaren Vale less than an hour away. Adelaide has an enviable variety of globally renowned restaurants and wine bars and a fun laneway culture.

The Best South Australian Experiences to Enjoy Pre or Post the Business Event



Discover South Australian Wine



Explore the wild side at Port Lincoln



Luxury escapes, Kangaroo Island



Plan your next business event now, visit:

www.businesseventsadelaide.com.au



50 years in, ATSE is today nationally recognised as a leader in advocating for applied science, technology and engineering.

ATSE knows that solving our biggest challenges requires supporting a new generation of the brightest minds from around the country and the world to collaborate, invent, disseminate and market the technologies of the future.

ATSE

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Dr Bruce Leslie FTSE

Manager – Technologies, Vast Renewables Ltd

Solar energy changemaker



Dr Bruce Leslie is at the forefront of innovative climate action. As Manager – Technologies at Vast Renewables, he is applying his technical expertise and business acumen to bring online Australia's first solar thermal power plant. Part of the renewable energy transition puzzle, it will capture and store energy from the sun in daylight hours for use at night.

Leslie has previously designed advanced excavator buckets and payload monitoring systems for the mining industry, with both products generating more than \$1 billion in sales in Australia and internationally. He also played a crucial role in stakeholder engagement to progress design of the world's largest hypersonic wind tunnels.

For four years, Leslie piloted the 'Indigineering' program to promote understanding of western culture among the Yolngu people of east Arnhem Land, generating positive outcomes.

Professor Robert Mahony FTSE FAA

Professor, Australian National University

Revolutionising aerial robotics



Professor Robert Mahony is a research pioneer with global impact in aerial robotics. He developed the original control architectures for quadrotor aerial vehicles that are now industry standard, as well as building the first such vehicles in Australia. His seminal work in state estimation led to the creation of the 'Mahony filter' – an enabling technology for today's multibillion-dollar

commercial drone industry. His ongoing research in state estimation has driven the most significant advances in modern Inertial Navigation Systems in over half a century. He also contributed heavily to vision-based control of aerial systems and his work is used in many of the automated landing systems present in unmanned aerial vehicles.

Mahony has contributed across the whole range from advanced control systems theory to real-world practical robotics, influencing the way engineers and scientists design autonomous systems and sensing technology today.

Professor Christina Lim FTSE

Professor, Department of Electrical and Electronic Engineering, University of Melbourne

Shaping optical-wireless communication technology



Professor Christina Lim's research has generated major breakthroughs in how wireless and fibre-optic networks can work together, shaping communication infrastructure. She led advances in radio-over-fibre technology, making these hybrid networks faster, more reliable and more practical. She also developed an optical wireless network for indoor use that can send data

100 times faster than ordinary wi-fi. These transformative technologies will shape future wireless communications, such as 6G and beyond.

Lim and her team have spun out a start-up to commercialise their invention of a low-cost waveguide for augmented reality, that can seamlessly overlay computer-generated virtual images with the real world. This new product overcomes many of the technical challenges hindering current AR technology.

A visionary leader in photonics and a dedicated role model, Lim is a Fellow of both the Institute of Electrical and Electronics Engineers, and Optica.

Sarah McSwiney FTSE

Head of Engineering, Jetstar Airways

Aerospace engineering leader



Sarah McSwiney is an accomplished aerospace engineering leader with an impressive track record of delivering safety-critical aerospace programs across Australia and the US. She is Head of Engineering at Jetstar Airways – the first woman to hold this position at any major Australian airline.

In her previous role at Boeing, McSwiney oversaw the design of critical components for the Dreamliner 787, culminating in the largest aerospace manufacturing export program in Australia. Across both defence and commercial sectors, she led complex engineering design, digital transformation initiatives, and industrial R&D programs.

A passionate advocate for aerospace and women in STEM, she is a current board director and former chair of Aviation / Aerospace Australia. McSwiney commenced the 'GreenSkies' initiative to solve sustainability challenges and expanded the impact and reach of the Women in Aviation / Aerospace Australia program, which addresses gender imbalance in the industry. She also serves on industry advisory boards at both Monash and RMIT University.

Professor Bradley Moggridge FTSE

Faculty of Science Associate Dean — Indigenous Leadership & Engagement, University of Technology Sydney

Indigenous water management champion



Professor Moggridge is a proud Murri from the Kamilaroi Nation (Northwest NSW) and the first in his large extended Kamilaroi family to complete university many years ago. A leading hydrogeologist, water is at the core of his life's work.

His integration of deep cultural knowledge with western scientific expertise has generated impact on

both environmental policy and management of water and the landscape.

His agenda-setting research and reports have influenced amendments to Water Acts and the National Science Priorities. He has set the standard for water sharing plans for groundwater systems in NSW to protect culturally significant sites.

He is Professor and Associate Dean at the University of Technology Sydney, where he advocates for greater participation of young Indigenous Australians in science. He serves on multiple boards and advisory panels and has won several awards.

Distinguished Professor Lidia Morawska FTSE FAA

Distinguished Professor, Queensland University of Technology

Air pollution paradigm-shifter



A global authority on airborne particles, Distinguished Professor Morawska has redefined air pollution science. In the wake of the COVID-19 pandemic, she spearheaded efforts to bring evidence of airborne transmission to public health authorities worldwide. Her evidence-based advocacy altered public health interventions and guidelines, saving many

lives. She was subsequently one of Time magazine's 100 most influential people for 2021.

Morawska's groundbreaking interdisciplinary research — particularly on ultrafine particles — has changed our understanding and management of air pollution. She has helped shape World Health Organization Global Air Quality Guidelines, informed the design of healthy buildings, and is influencing ventilation and indoor air quality standards across sectors.

Morawska is the director of the THRIVE Centre for Advanced Building Systems Against Airborne Infection Transmission and has been recognised with several awards, including the L'Oréal-UNESCO for Women in Science International Award 2023.

Pamela Naidoo-Ameglio FTSE

Director, Exige (NSW) and Nuclear and Mining Executive

Leader elevating excellence and safety



An internationally recognised expert in nuclear and mining operations, Pamela Naidoo-Ameglio led Australia's production of nuclear medicine, radioactive waste management, and operations of the country's only reactor for more than seven years. Under her guidance, these critical facilities underwent modernisation and unique upgrades, while maintaining safety and reliability. These

efforts secured production of more than 80% of Australia's nuclear medicine needs for the foreseeable future.

As a champion of diversity and inclusion, she is shaping the nuclear and wider STEM workforces of the future via mentorship and outreach. Founder of Women in Mining South Africa (WIMSA) and past President of the Geological Society of South Africa, Naidoo-Ameglio contributes to nuclear policy as an executive committee member of Women in Nuclear — Australia. She also serves as a science advisory board member and Eureka Prize judge for the Australian Museum.

Professor Ian O'Hara FTSE

Professor & Deputy Dean, Faculty of Engineering, Queensland University of Technology

Australia's biofuture shaper



Professor O'Hara is building innovation into the bioeconomy, pushing new boundaries in sustainable aviation fuels and biomanufacturing for regional economic development.

As Queensland's Biofutures Industry Envoy, he has facilitated international partnerships, attracted significant investment and informed policy frameworks,

including the Queensland Government Biofutures Roadmap. As Deputy Dean of Engineering at the Queensland University of Technology, O'Hara champions the industrial translation of research, with a strong focus on sustainability. He established the Mackay Renewable Biocommodities Pilot Plant, Australia's premier open-access R&D facility for advancing industrial biomanufacturing and precision fermentation scale-up.

A recipient of the Engineers Australia 2024 Chemical Engineer Achievement Award for his impact in progressing biofuels and biotechnology, O'Hara continues to shape global bioeconomy progress as a member of strategic international forums.

Professor Maurice Pagnucco FTSE

Professor of Computer Science and Engineering, School of Computer Science and Engineering, and Deputy Dean (Education) Faculty of Engineering, UNSW

Expanding ICT frontiers



Professor Pagnucco is an internationally renowned computer scientist, widely recognised for his fundamental contributions to artificial intelligence (AI), especially in knowledge representation and reasoning. His research spans a broad range of AI methodologies, including hybrid approaches that integrate symbolic and non-symbolic AI, cognitive robotics, and AI ethics.

Professor Pagnucco is a prominent ICT leader with sustained impact across academia, school education, government, industry and professional organisations. He has provided unifying leadership through senior roles in major national organisations, including the NICTA/Data61 University Planning Committee, the Australian Council of Deans of ICT, the ARC College of Experts, and the Computing Research and Education Association of Australasia, among others. With extensive experience in leading strategic ICT initiatives, cultivating effective industry and government networks, and enhancing tertiary education through pioneering initiatives in experiential learning and career development, he has played a pivotal role in shaping ICT in Australia.

Professor Shi-Zhang Qiao FTSE FAA

Chair Professor in Nanotechnology, University of Adelaide

Catalysing next-generation energy



Professor Qiao's breakthroughs in energy innovation span fundamental discovery to translational research, moving from the lab bench to device production. His innovative nanostructured materials and low-cost catalysts are redefining efficient and sustainable energy conversion and storage in several industry sectors.

Qiao has invented numerous patented technologies for commercialisation to help advance sustainable global energy manufacturing, including electrocatalytic seawater splitting for green hydrogen production, and aqueous batteries for large-scale electricity storage in smart grids – now undergoing commercialisation studies with industry partners.

As an ARC industry laureate fellow and the director of ARC Industrial Transformation Training Centre for Battery Recycling, he has a proven record of building university-industry linkages and mentoring others in industry engagement.

Professor John Rasko AO FTSE FAHMS

Professor

Cell & gene therapy pathfinder



Professor Rasko is a clinical haematologist, pathologist and eminent researcher who is pioneering cell and gene therapy. In addition to driving innovation in gene and cell therapies for rare diseases, he established the clinical, regulatory and manufacturing foundations for this cutting-edge approach to medicine in Australia. He translated new science into successful world-first clinical trials

for haemophilia, thalassaemia, and blood cancers at Royal Prince Alfred Hospital, and has made paradigm-shifting discoveries in molecular biology.

Rasko has also advanced research governance, ethics, and policy development – including contributing to mitochondrial donation laws and serving as long-standing chair of the Gene Technology Technical Advisory Committee. He also served as president of the International Society for Cell & Gene Therapy and delivered the highly prestigious ABC Boyer Lectures in 2018.

FOREIGN FELLOW

Professor Federico Rosei FTSE

Professor of Industrial Chemistry, University of Trieste (Italy)

Nanomaterials maestro



Professor Rosei is an international authority on nanomaterials. He has developed a wide range of unique functional materials, with applications spanning solar energy, batteries, telecommunications, and space technologies.

He is known not only for his innovations – from breakthrough solar materials to self-healing coatings for satellites – but also his systems-level, sustainable approach to solving engineering challenges.

Rosei established the UNESCO Chair in Materials and Technologies for Energy Conversion, Saving and Storage, while working in Canada, a role he held for 10 years, as a vehicle for capacity building in the Global South. He has collaborated extensively with the private sector to develop high performance technologies.

With a strong track record of mentoring emerging scholars worldwide, Rosei developed the influential 'Survival Skills for Scientists' program, paralleled by a bestselling book. A Fellow of multiple national academies, his reach is global and his impact in research and education is significant.

Professor Yansong Shen FTSE

Professor and Director of SCOPE Lab for Green Metals,
University of New South Wales

Forging sustainable innovation



Professor Yansong Shen is a leading researcher in computational reacting flows and process metallurgy with an established record of industry partnership. For more than 25 years, he has specialised in low-cost green ironmaking, translating fundamental research into numerous technologies with industry benefits.

His work has reshaped plant operations at some of the world's largest steel producers and facilitated the continued export of Australia's iron ore and fuels. His dedication to advancing blast furnace modelling has revolutionised an area critical to global decarbonisation efforts.

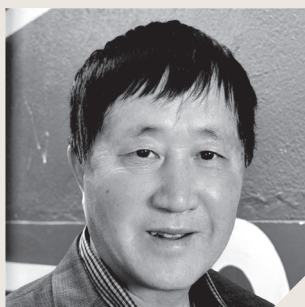
Shen has also pioneered highly efficient end-of-life solar panel recycling technology to recover valuable metals and materials, directing the ARC Research Hub for Photovoltaic Solar Panel Recycling and Sustainability.

He currently serves as president of the Australasian Particle Technology Society and has received many honours and awards.

Professor Peng Shi FTSE

Professor, School of Electrical and Mechanical Engineering,
The University of Adelaide

Electrical engineering luminary



Professor Peng Shi is a distinguished academic and Chartered Engineer at the forefront of systems and control engineering, artificial intelligence and cybernetics. A highly cited researcher, his work has significant impact beyond academia and tangible benefits to industry and society across sectors including healthcare, manufacturing, defence and cybersecurity.

He is recognised globally as a leader in his field, he was the President of the International Academy of Systems and Cybernetics Sciences, and the Vice President of IEEE Systems, Man and Cybernetics (SMC) Society, and now serves as the Editor-in-Chief of IEEE Transactions on Cybernetics.

He is a Fellow of several leading professional societies, including Engineers Australia, the Institute of Electrical and Electronics Engineers, the Institution of Engineering and Technology, and a Member of Academia of Europaea. His contributions have earned a number of accolades, including the M.A. Sargent Medal from Engineers Australia, the Norbert Wiener Award, and Lotfi Zadeh Pioneer Award presented by IEEE SMC Society.

Professor Cori Stewart FTSE

CEO, Advanced Robotics for Manufacturing Hub

Supercharging AI & advanced manufacturing



Professor Cori Stewart is a leading figure in advanced manufacturing and innovation acceleration. With a background in humanities, she bridges government, research and industry to bring bold ideas to life.

In 2019, she founded Australia's first independent not-for-profit technology-based commercialisation facility, ARM Hub. The Hub

has successfully guided hundreds of companies through robotics, AI and manufacturing scale-up projects, delivering productivity gains and strengthening national capability.

She has spearheaded strategic international partnerships – including launching Propel-AIR, Australia's first AI and robotics accelerator – and contributed to multiple Industrial Transformation Training Centres.

Stewart influences the innovation landscape through policy development and commercialisation strategies. As a board member of Industry Innovation Science Australia, Stewart shapes Australia's industry and innovation investment. She is also a Superstar of STEM 2023, and winner of an Asia Pacific Women in AI Award for Manufacturing.

Dr Kimberley Swords FTSE

Founder and CEO, Riffle Advisory; Program Director,
UQ – Oxford Transformative Project Leadership Program

Shaper of sustainability policy



Dr Kimberley Swords has built an impressive track record of innovation in large-scale new approaches to conservation and sustainability in Australia, and globally. In 2010, Kimberley was appointed Deputy Secretary in the Australian Government, leading environmental protection and heritage conservation. She negotiated international acceptance of Queensland's and Australia's

work to protect the Great Barrier Reef, conceptualising the 2015 Long Term Sustainability Plan.

Since 2000, Kimberley has advised CEOs, government ministers, private sector leaders and others seeking to achieve system change across a range of sectors including transport, agriculture, environment and energy.

Her work has contributed to a more strategic environmental policy framework in Australia, promoting better conservation outcomes and more transparent and efficient environmental approvals. She currently serves on the Working Group of the International Advisory Panel on Biodiversity Credits, as a Board member of CS Energy, Chair of Southern Queensland Landscapes, and as Program Director for the UQ-Oxford Transformative Project Leadership Program.

Professor Ying Tan FTSE

Professor of Mechanical Engineering,
University of Melbourne



Robotics innovator

Professor Ying Tan is a leading control engineer whose pioneering research in learning control has revolutionised rehabilitation robotics, improving the lives of people with mobility impairments. She stands out for her fusion of scientific rigour, clinical empathy, and commercial acumen.

Among her most transformative achievements is the development of an upper-limb rehabilitation robot, which emerged from her groundbreaking research in human motor learning. Working closely with clinicians, patients, engineers and industry partners, ARMMotus was launched internationally in 2021. The commercially successful robot has earned prestigious international design awards and is widely used in physiotherapy clinics around the world.

Tan has also made significant strides in prosthetics and VR, laying the foundation for a new spin-off company, and is a driving force behind the development of wearable technologies aiming to reduce falls among the elderly.

Eric Vanweydevelde FTSE

Aquanex Water Management

Leader in remote water services innovation



Eric Vanweydevelde is a water engineer and independent consultant dedicated to improving access to safe water and sanitation in remote communities across Australia and the Pacific, with a strong focus on Indigenous peoples and other underrepresented groups.

His landmark report, Closing the Water Gap for People and Communities, directly

influenced the Australian Government's \$150 million commitment, raised national awareness, and drove sector-wide change to strengthen water infrastructure for First Nations communities.

Combining technical expertise, strategic analysis, on-country experience, and human-centred design, Eric partners with communities and stakeholders to deliver solutions that improve life outcomes. He has supported water and sanitation services for remote and Aboriginal communities across the Northern Territory and Western Australia, piloted innovative treatment technologies, and provided leadership across water engineering, public health, governance and community-led innovation.

Suzanne Thompson FTSE

Managing Director, Yambangku Aboriginal Cultural Heritage
and Tourism Development Aboriginal Corporation (QLD)

Advocate for Indigenous Knowledge



Suzanne Thompson is a proud Iningai woman from Central West Queensland, an advocate for respectful cultural knowledge-sharing, and a highly respected Elder rooted in her land and community.

She founded and established Yambangku Aboriginal Cultural Heritage and Tourism Development Aboriginal Corporation. By drawing

links between Aboriginal knowledges and research agendas, Thompson creates social impact and creates space for caring for country.

She is the chair of Australian Native Foods and Botanicals, a national peak body developing a national strategy for this emerging sector. She also serves as an advisor to Indigenous Tourism Queensland, a member of the Indigenous Carbon Network, chair of the advisory committee for the Queensland Decarbonisation Hub, and member of the federal Emissions Reduction Assurance Committee.

Thompson is a powerful advocate for nature-based economies – including Indigenous land management and biodiscovery – and the recognition, protection, and remuneration of Indigenous intellectual knowledge by industry.

Distinguished Professor Guoxiu Wang FTSE FAA

Distinguished Professor, University of Technology Sydney

Battery trailblazer



Professor Guoxiu Wang is an internationally acclaimed pioneer in battery technology, single-atom catalysis, and atomically thin two-dimensional materials. His original scientific concepts are accelerating Australia's clean energy transition.

Wang's inventions include fireproof, high-performance lithium batteries and cost-

effective sodium batteries to support the renewable energy industry. He developed cutting-edge, high-performance cathode materials for lithium-ion batteries and invented novel redox-active molecules that significantly enhance the performance of lithium-air batteries. Wang also set a world record in single-atom catalysis for green hydrogen production and established a widely adopted method for producing graphene.

Wang is a highly cited researcher in both chemistry and materials science. He is a Fellow of the Royal Society of Chemistry, the International Society of Electrochemistry, the European Academy of Sciences and the Australian Academy of Science.

Professor Hongxia Wang FTSE

Professor, Queensland University of Technology

Solar innovator



Professor Hongxia Wang is an outstanding thought leader in emerging solar cell technologies. She has dedicated her career to transforming laboratory breakthroughs into sustainable, commercial successes.

Wang developed carbon electrode technology for cost-effective manufacturing of efficient and durable

perovskite solar cells. This patented innovation now underpins commercialisation efforts by Australian start-up Halocell, enhancing sovereign manufacturing capabilities.

Wang has also developed a novel solar cell material commercialised in Australia, as well as environmentally friendly fabrication processes for solar cells. Her work bridges academic innovation with industry application, contributing to global efforts in renewable energy and positioning Australia as a leader in low-emission solutions.

She is a Fellow of the Royal Society of Chemistry and holds multiple leadership roles, helping to build national research capacity and mentoring early-career researchers.

Kathryn West FTSE

Chief Officer, Business & Markets, APAC, Arup

Transformative engineering leader



Kate West is a distinguished engineer, business leader and changemaker. She trained as an engineer and architect and has led the delivery of large-scale infrastructure projects across transport, energy, decarbonisation, health, and urban development.

Her influence extends beyond technical excellence into strategy, public policy,

inclusion, and sustainability. Previously Arup's Australasia co-chair, and currently Chief Officer, Business & Markets, APAC she demonstrates strategic acumen and equity-focused leadership, driving digital transformation, accelerating innovation and championing diversity and inclusion. She also serves as a trustee for Arup's philanthropic arm.

West is an honorary fellow of Engineering Australia, a member of Chief Executive Women, and a contributor to the Committee for Economic Development of Australia. She frequently delivers high-profile keynotes in Australia and internationally on diverse topics – from city resilience to women in leadership. West won the Australian Financial Review Women of the Year (Professional Services) award in 2024 alongside Arup co-chair Kerry Coker.

Professor Juliet Willetts FTSE

Professor & Research Director, Institute for Sustainable Futures, University of Technology Sydney

Inclusive water advocate



Professor Juliet Willetts is an influential transdisciplinary researcher recognised for her dedication to inclusive access to water and sanitation services in low and middle-income countries in Asia and the Pacific.

Her work connects water and sanitation to climate, gender and social inclusion, and has been pivotal in shaping policies, practices and innovation internationally.

Willetts exemplifies how science and engineering can support a more equal, socially just and environmentally sustainable world. She has influenced governments, multilateral banks and non-governmental organisations through her applied research, advocacy and expert advisory roles – positively impacting and securing access to services for millions of people. She has led or contributed to more than 100 leading-edge research projects spanning engineering, environmental science, social sciences and public health.

Professor Juliet Willetts is a globally recognised researcher dedicated to inclusive access to water and sanitation services in low and middle-income countries. As a Professor and Research Director at the UTS Institute for Sustainable Futures, her work has been pivotal in shaping gender and inclusive water and sanitation policies, practices and reform globally, particularly in the face of climate change. She has influenced governments, multilateral banks and non-governmental organisations through her applied research, advocacy and expert advisory roles. She holds a doctorate in environmental engineering from University of New South Wales and is co-author of more than 150 peer-reviewed articles and more than 150 industry research reports, public publications and guidance materials. Juliet is the epitome of STEM in action.

PANEL 1 MODERATOR

Professor Anton van den Hengel FTSE



Professor van den Hengel, a leading researcher in computer vision, built the 130-person Australian Institute of Machine Learning, widely recognised as one of the best in the world. His expertise is in the complex way that information is encoded, especially in images, and methods for recovering it. He is a powerful advocate for importance of machine learning as a critical technology for economic growth and social success.

Elected as a Fellow in 2020.

PANEL 2 MODERATOR

Dr Cathy Foley AO PSM FTSE FAA



Dr Foley was Australia's ninth Chief Scientist from January 2021 until 2024. Prior to this Dr Foley had a long career at Australia's national science agency, the CSIRO, including as the agency's Chief Scientist. Dr Foley is an internationally recognised physicist with major research achievements in superconductors and sensors which led to the development of the LANDTEM sensor system

to locate valuable deposits of minerals deep underground. Dr Foley's scientific excellence and influential leadership have been recognised with numerous awards and fellowships, an Order of Australia for service to research science and to the advancement of women in physics. She is a Fellow of Australian Academy of Technological Science and Engineering (2008) and is an inspiration to women in STEM across the globe, with her tireless championship for equality and diversity in the sector.

Elected as a Fellow in 2008.

PANEL 3 MODERATOR

Professor Gus Nathan FTSE



Professor Nathan is recognised internationally for research, teaching and advisory across the energy sector and particularly on the decarbonisation of heavy industry. Professor Nathan is currently the Research Director and a co-founder of the Heavy Industry, Low-carbon Transition Cooperative Research Centre. He has previously commercialised successful energy technologies

and undertaken numerous leadership roles related to industrial decarbonisation for both his university and other organisations. As an ATSE Fellow, Professor Nathan will continue to advocate for and lead transformations in the 'hard-to-abate', heavy industry sector that is central to Australia's welfare and the global decarbonisation task.

Elected as a Fellow in 2023.

PANEL 4 MODERATOR

Dr Carrie Hillyard AO FTSE FAICD



Carrie Hillyard is an experienced director with a life sciences industry background and is a mentor to start-up companies and young scientists. After a career spanning medical research in London to inventing, patenting and developing diagnostics in Brisbane, she co-founded venture capital firm, CM Capital Investments, where she built and led the Life Sciences practice,

taking an active role on the boards of pharmaceutical, diagnostics and medical device investee companies. Carrie has been a member of several government boards and advisory bodies, providing advice on the development of the biotechnology and venture capital industries, and has also served on not for profit and university commercialisation company boards. In recognition of her contributions to biotechnology, she has received awards from AusBiotech and Women in Technology and a Centenary medal.

Elected as a Fellow in 1997.

PANEL 5 MODERATOR

Professor Rob Lewis PSM FTSE



Professor Lewis established, through his research, the sustainable biological basis of the \$70m SA Rock Lobster industry. As Research Leader and later Director of Fisheries, he provided leadership in fisheries research and management, particularly through the establishment of the SA Aquatic Science Centre. As Chief Executive of the then

newly-formed SA Research and Development Institute, he successfully developed it as the first multidisciplinary state government R&D Institute in Australia.

Elected as a Fellow in 1998.

PANEL 6 MODERATOR

Sally-Ann Williams FTSE



Sally-Ann Williams is an international leader driving engagement and change strategies in innovation and entrepreneurship across the STEM sector. She champions education and diversity and was chair of the Pathway to Diversity in STEM Review for the Federal Government. As CEO of Cicada Innovations she enabled extraordinary

growth in Deep-Tech commercialisation programs, such as CSL's biomedical incubator, producing a five-fold increase in trained STEM professionals. She is a Board Member of diverse organisations including AusOcean, NSW Smart Sensing Network and the Tech Central Advisory Board, and an advisor to incubators/accelerators including Startmate, the Modern Manufacturing Initiative and Boosting Female Founders Program.

Elected as a Fellow in 2023.

ATSE New Fellows 2025 Showcase

Bringing innovation to life

EMCEE

Kylie Walker

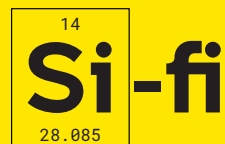
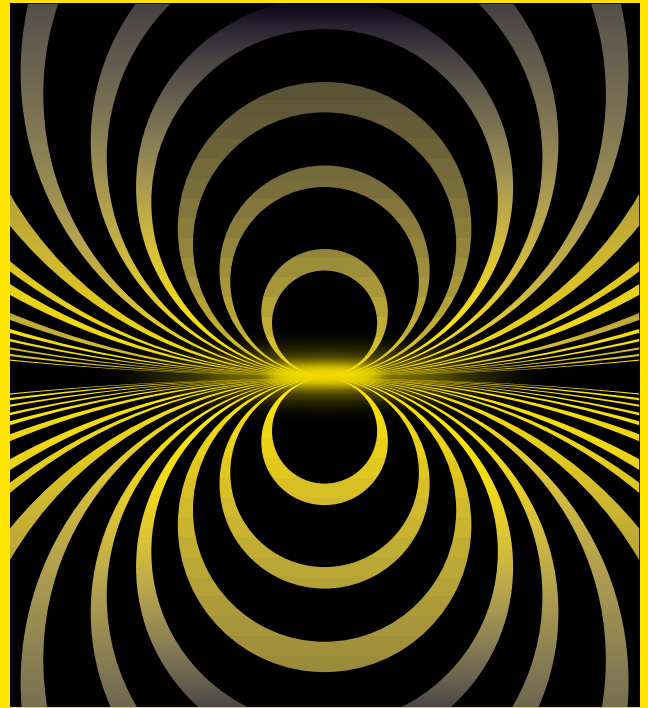
Chief Executive Officer
Australian Academy of Technological Sciences and Engineering



Kylie works with Australia's leaders in applied science, technology and engineering to advise decision-makers, lead crucial national conversations to solve complex challenges, and support Australia's technology-powered, human-driven future.

As the past CEO of Science & Technology Australia, Kylie led campaigns to increase

investment in Australian research and development, and created the acclaimed Superstars of STEM program, championing Australian women in science, technology, engineering and mathematics. Kylie is a visiting Fellow at the Australian National Centre for the Public Awareness of Science. She has been Chair of the Australian National Commission for UNESCO, is a member of Chief Executive Women, and has been named one of AFR's 100 Women of Influence, for her work on improving equity, diversity and inclusion in STEM.



UNSW is in the running to develop the world's first error-corrected quantum computer in silicon.



Knowledge Systems and Holders

Lynnice Letty Church
Ngunnawal, Wiradjuri and Kamilaroi
ACT and surrounding region / NSW

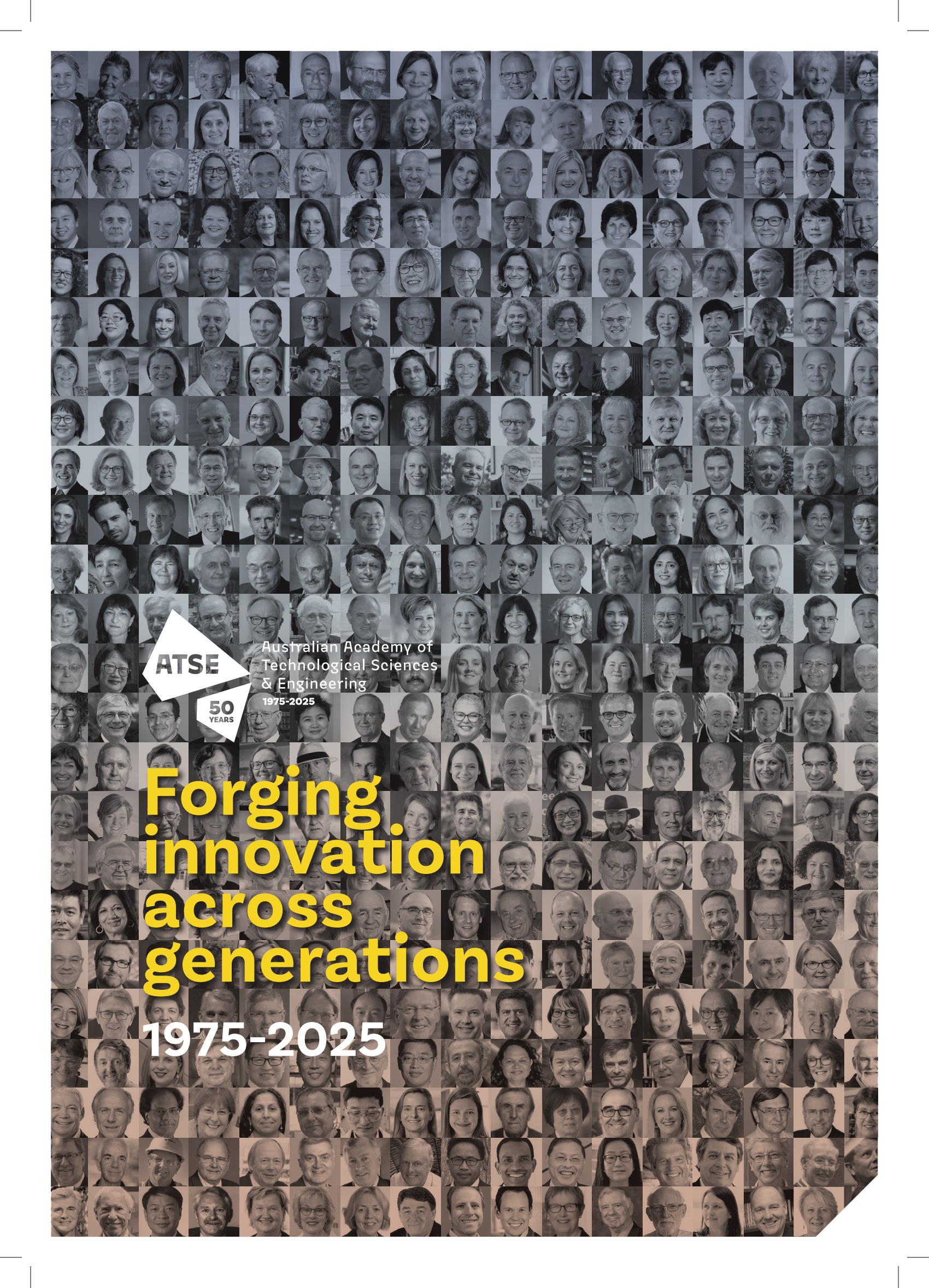
The Australian Academy of Technological Sciences and Engineering (ATSE) Fellows live and work on Aboriginal and Torres Strait Islander lands and waters across Australia.

As we help Australians understand and use technology to solve complex problems, we remain mindful of the 60,000 years of science, technology and innovation represented by the world's oldest continuing cultures.

We seek always to respect Aboriginal and Torres Strait Islander Elders, both from history and today, and to respect the deep knowledge embodied in their ancient and sustainable cultures and knowledge. We acknowledge the Traditional Owners and pay respects to their Elders. We acknowledge Traditional Knowledge, and the deep history of innovation it embodies.

Our vision for reconciliation is that all Australians recognise and value Aboriginal and Torres Strait Islander custodianship as one of the oldest knowledge systems on the planet. ATSE's Reconciliation Action Plan can be found on our website.





ATSE

Australian Academy of
Technological Sciences
& Engineering

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YEARS

1975-2025

**Forging
innovation
across
generations**

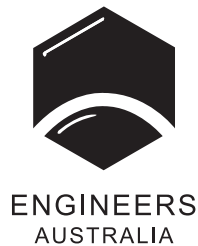
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