

2026
Premier's Prizes for Science & Engineering

GOVERNMENT HOUSE
SYDNEY

Wednesday 25 November 2026

NSW GOVERNMENT

The Honour Roll
NSW Scientists of the Year

2025	**Professor Nalini Joshi AO** The University of Sydney
2024	**Scientia Professor Helen Christensen AO** UNSW Sydney
2023	**Emeritus Professor Trevor McDougall AC** UNSW Sydney
2022	**Professor Glenda Halliday AC** The University of Sydney
2021	**Adjunct Professor Jim Patrick AO** Cochlear Ltd, Macquarie University
2020	**Professor Edward Holmes** The University of Sydney
2019	**Scientia Professor Rose Amal AC** UNSW Sydney
2018	**Laureate Professor Nick Talley AC** The University of Newcastle
2017	**Professor Gordon Wallace AO** University of Wollongong
2016	**Professor Rick Shine AM** The University of Sydney
2015	**Laureate Professor Scott Sloan AO** The University of Newcastle
2014	**Laureate Professor Mark Westoby** Macquarie University
2013	**Laureate Professor Graeme Jameson AO** The University of Newcastle
2012	**Laureate Professor John Aitken** The University of Newcastle
2011	**Scientia Professor Michelle Simmons AO** University of New South Wales
2010	**Professor Hugh Durrant-Whyte** The University of Sydney
2009	**Professor Stephen Simpson AC** The University of Sydney
2008	**Scientia Professor Martin Green AM** University of New South Wales

2026

Premier's Prizes for Science & Engineering



NSW GOVERNMENT



The 2026 Premier's Prizes for Science & Engineering is an initiative of the NSW Government, led by the Office of the Chief Scientist & Engineer, to recognise excellence in research and education, and to reward those whose cutting-edge work has generated economic, environmental, health, social and technological benefits for New South Wales.

Order of Proceedings

Welcome to the Premier's Prizes for Science & Engineering, hosted at Government House Sydney, on Wednesday 25 November 2026.

Introduction

Master of Ceremonies:
Professor Hugh Durrant-Whyte
Chief Scientist & Engineer

Keynote Address

Her Excellency
The Honourable Margaret Beazley AC KC
Governor of New South Wales
Patron of the Premier's Prizes for Science & Engineering

Premier's Address (Video)

The Honourable Christopher Minns MP
Premier of New South Wales

Presentation of Premier's Prizes for Science & Engineering

The Honourable Anoulack Chanthivong MP
Minister for Innovation, Science and Technology

Address by the 2026 NSW Scientist of the Year











The Premier's Prizes for Science & Engineering event, Government House Sydney, Wednesday 19 November 2025.




GOVERNMENT HOUSE
SYDNEY





The Governor touring CSA Copper Mine, Cobar, 14 October 2026.

GOVERNMENT HOUSE
SYDNEY

Message from the Governor of New South Wales

There is no doubt that New South Wales punches above its weight in its contributions to global science and engineering. It is a phrase that is heard frequently in the presentation of the awards that are such an important part of the recognition of the achievements of our scientists and engineers and, particularly, at these awards, the Premier's Prizes for Science & Engineering. However, it is one thing to boast, appropriately so in the case of our scientists and engineers; it is an entirely different thing to know what underlies the boast.

There are too many innovative inventions to cite in this introductory message – or, indeed, in any list – but NSW inventions include the world's first bone 'glue' replacing invasive surgery; an eye drop for dry eye, now used by the European Space Agency; a separator for recovering and concentrating high value minerals from waste materials; a zinc-bromide gel battery suited to hot and remote environments; and a polymer injection technology using recycled rubber tyres in steel making.

Enabling research and new therapeutic technologies to move from the lab to commercial development is part of bringing science breakthroughs within the community's reach. I congratulate the Chief Scientist & Engineer, the 2010 NSW Scientist of the Year, on his work in promoting the commercialisation of new technologies, in particular, for this year's opening of a new $96 million RNA Research and Manufacturing Facility within the Macquarie University Innovation Precinct. This world-class facility will further the development and manufacture of therapeutic innovations across the spheres of health, biotech and agriculture through the collaboration of universities, research institutes and industry.

The work of the finalists, and, indeed, of all entrants, in the 2026 Premier's Prizes for Science & Engineering builds on a culture of innovation and excellence which has been fostered by our NSW universities and research institutions reaching back many decades and which has been recognised in these Awards for nearly 20 years. Scientists and engineers, however, are not born in universities. The achievements we celebrate in these Awards would not be possible without the passion and dedication of New South Wales teachers who light the flame of curiosity and instil intellectual endeavour and rigour among young people.

To each NSW Premier's Prizes nominee and to the educators who are responsible for enabling our steady 'pipeline' of global leaders, researchers and innovators: Congratulations and thank you.



Her Excellency the Honourable Margaret Beazley AC KC



Message from the Premier of New South Wales

On behalf of the NSW Government, I want to congratulate all winners, finalists and nominees in the 2026 Premier's Prizes for Science & Engineering.

Since 2014, these prizes have shone a light on the brilliant work of our state's talented scientists, engineers, researchers, innovators and STEM educators.

From clean energy to medtech, your work is helping solve real problems and improve lives across New South Wales.

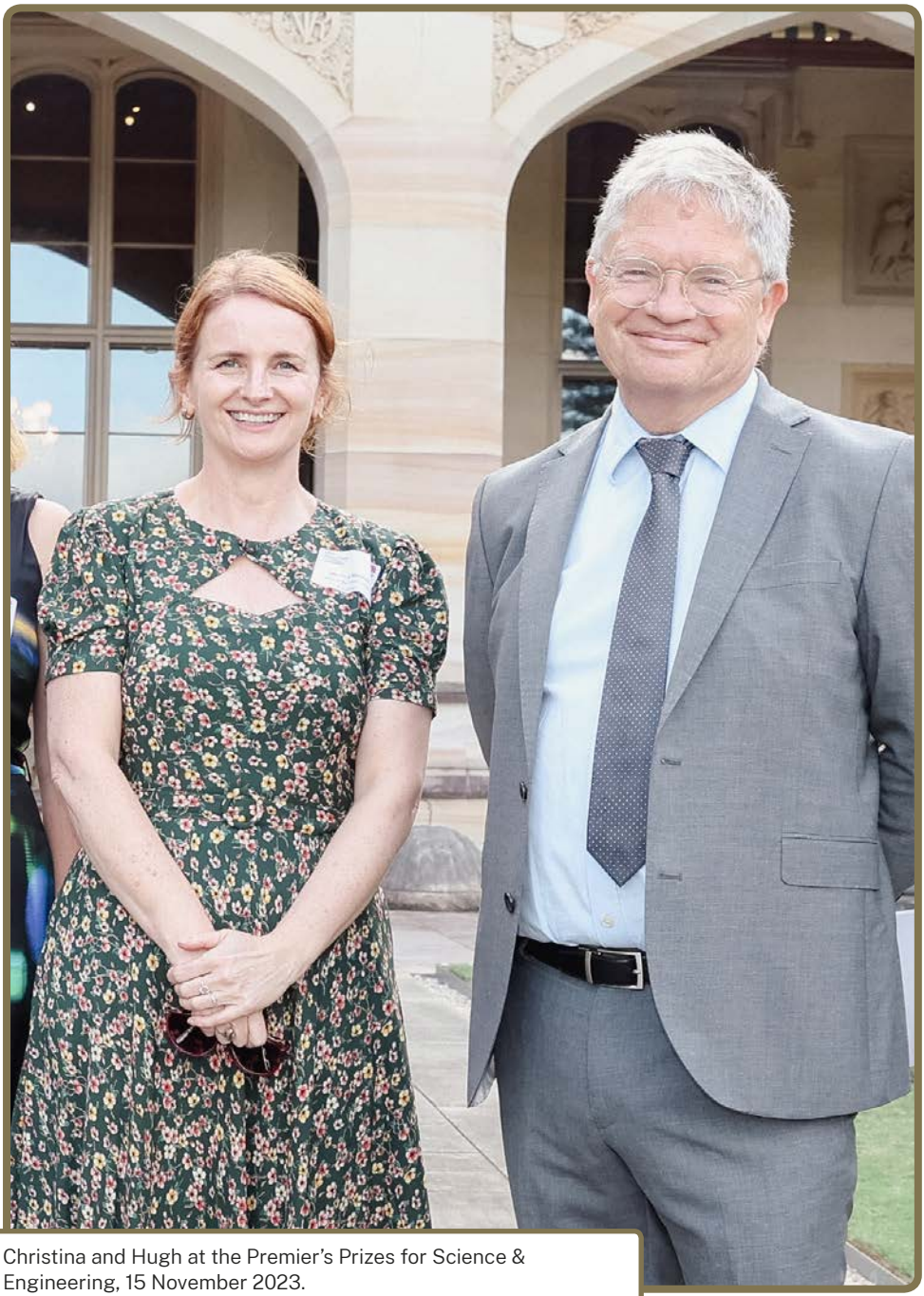
These prizes are a chance to celebrate that contribution, and the real-world impact it has for communities across our state.

They also reflect the strength of our state's research and innovation ecosystem – our world-leading universities, research institutions, industry partners, government agencies and educators.

Thank you for your curiosity, bright ideas and expertise. You're helping New South Wales remain at the forefront of innovation and inspiring the next generation to follow.



The Honourable Chris Minns MP



Christina and Hugh at the Premier's Prizes for Science & Engineering, 15 November 2023.

Message from the Chief Scientist & Engineer

Welcome to the Premier's Prizes for Science & Engineering. The highlight of another very successful year in my office was the official opening of the RNA Research and Manufacturing Facility in April. The Facility has now been handed over to its operator, Aurora Biosynthetics, and the important work of building a new RNA industry and developing RNA-based therapeutics for both human and animal treatment is underway.

This year, we saw the launch of our newest funding program, the $20 million Emerging Technology Commercialisation Fund, and just last week Minister Chanthivong announced the six successful funding recipients in round one.

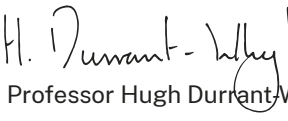
Another highlight of the year was our third Commercialisation Showcase held in May, which continues to raise the bar in terms of celebrating the successes of startups supported through NSW Government programs, with over 700 registrations, displays from 50 companies, and 28 speakers.

Funding for the research sector continued with $1.2 million for the establishment of an unprecedented five NSW-based ARC Centres of Excellence, $300,000 towards the establishment of three ARC Industrial Transformation Research Centres, $3.9 million for ongoing funding of the NSW Smart Sensing Network, Defence Innovation Network and Space Research Network, and support for 15 scientific conferences.

The Reviews side of the office continues to deliver important, highly impactful work. In February this year, *Reducing the Health and Environmental Impacts of Lead Contamination in Broken Hill* was published on our website. As a direct result of this report, the NSW Government committed $37.3 million to expand its response to legacy lead contamination in Broken Hill to protect children and families from the long-term impacts of lead exposure. The Reviews team works on complex and occasionally confronting problems, and I thank them for their courage and professionalism.

On a sad note, in July this year, we lost Christina Newman, a long-time director at OCSE, who succumbed to Motor Neurone Disease. As manager of the Research Attraction and Acceleration Program, Christina made an enormous contribution to science and innovation in NSW. As a colleague, she was a delight – warm, compassionate and witty. Her loss continues to be deeply felt in our office.

Finally, my congratulations to all of this year's winners for groundbreaking work which is solving problems, improving treatments and driving innovation.



Professor Hugh Durrant-Whyte

Premier's Prizes for Science & Engineering

The Premier's Prizes for Science & Engineering reflect the NSW Government's strong commitment to the local research and development community.

The Prizes seek to raise community awareness and appreciation of the important contribution scientists, engineers and educators make to our daily lives, as well as to encourage careers in these fields.

The top award, the prestigious Premier's Prize for the NSW Scientist of the Year, will be presented to an outstanding individual who has made a significant contribution to the advancement of science or engineering that has benefited or has the potential to benefit the people of NSW.



The 2025 NSW Scientist of the Year, Professor Nalini Joshi AO, with the Hon. Anoulack Chanthivong MP at the Premier's Prizes for Science & Engineering, Government House Sydney, Wednesday 19 November 2025.

2026 Premier's Prizes for Science & Engineering Categories

1. Excellence in Mathematics, Earth Sciences, Chemistry or Physics
2. Excellence in Biological Sciences (Ecological, environmental, agricultural and organismal)
3. Excellence in Medical Biological Sciences (Cell and molecular, medical, veterinary and genetics)
4. Excellence in Engineering or Information and Communications Technology
5. NSW Early Career Researcher of the Year (Biological Sciences)
6. NSW Early Career Researcher of the Year (Physical Sciences)
7. Leadership in Innovation in NSW
8. Innovation in NSW Public Sector Science and Engineering (No prize awarded)
9. Innovation in Science, Technology, Engineering or Mathematics Teaching in NSW



Excellence in Mathematics, Earth Sciences, Chemistry or Physics



Scientia Professor Justin Gooding

School of Chemistry, UNSW Sydney

Scientia Professor Justin Gooding is a highly distinguished leader in electrochemistry, nanotechnology and biosensor development. His breakthrough work focuses on modifying surfaces at the molecular level to allow them to interact with biological systems in highly controlled ways, and applying fundamental bioelectronics to detect biochemical molecules in complex biological environments. His research has been translated into many innovative commercial technologies, including a glucose biosensor sold worldwide and a model for 3D bioprinting of human tissue expected to revolutionise cancer research.

As a leader in his field, Justin's roles include being founding Co-Director of both the Australian Centre for NanoMedicine and the NSW Smart Sensing Network, as well as the inaugural Editor-in-Chief of *ACS Sensors*. Justin leads a team of over 30 researchers at UNSW Sydney, where he has been a full Professor since 2006 and a Scientia Professor – the university's highest research honour – since 2011. As an ARC Industry Laureate Fellow (since 2024), he leads major research programs developing biosensing technologies to continuously monitor multiple biomarkers, with applications in healthcare, environmental monitoring and industry.

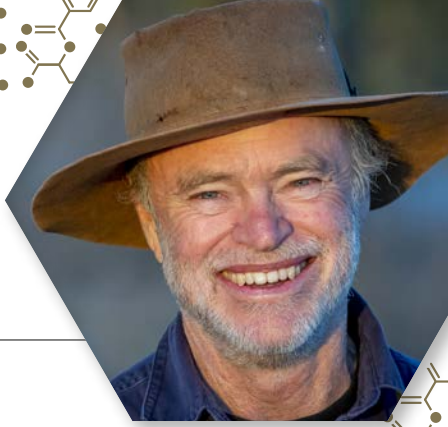
Justin has published over 550 research papers, including in leading journals such as *Nature Nanotechnology*, *Nature Biotechnology* and *Nature Photonics*, and his work has been cited more than 50,000 times. He has also authored 19 patents and one textbook.

Justin's scientific excellence and translational impact have been recognised through many awards, including three Eureka Prizes and the Australian Academy of Science David Craig Medal in 2024. He has been internationally recognised through the Katsumi Niki Prize in Bioelectrochemistry (2017), Heyrovsky Prize for Molecular Electrochemistry (2021) and Royal Society of Chemistry Faraday Medal (2016). He is a Fellow of the Australian Academy of Science, the Australian Academy of Technology and Engineering, and the Australian Academy of Health and Medical Sciences.



CATEGORY 2

Excellence in Biological Sciences
(Ecological, environmental, agricultural and organismal)



Scientia Professor Richard Kingsford AO

School of Biological, Earth and Environmental Sciences, UNSW Sydney, Director of the Centre for Ecosystem Science

Professor Richard Kingsford is an internationally recognised river ecologist and conservation biologist focusing on wetlands, rivers and waterbird ecology. In a distinguished career, Richard has demonstrated excellence throughout his work in long-term environmental monitoring, strong public communication of research, and major contributions to Australian conservation policy.

Richard's work demonstrates the strong integration of science, policy and on-ground conservation action. He leads the Eastern Australian Waterbird Survey, one of the world's largest and longest-running waterbird surveys, generating critical data to guide conservation priorities. He also leads the Wild Deserts rewilding program, one of the most ambitious attempts to restore an arid ecosystem ever undertaken. Globally, he contributes to ecosystem red-listing and restoration. His widely cited research on the ecological impacts of river regulation, water diversion and restoration, particularly the Macquarie Marshes and Gayini Wetlands, have shaped national approaches to environmental water use and adaptive management.

Across three decades, Richard has held senior scientific roles in the NSW Government (1986–2004) and is now Director of the Centre for Ecosystem Science at UNSW Sydney. His publications have had sustained international influence, with over 19,000 citations, including in *Nature*. He has also played significant advisory roles to governments and international bodies, including on multiple committees for environment, conservation planning and ecosystem management across Australia and globally.

Richard's contributions have been recognised through many awards, including five Eureka Prizes (2023, 2022, 2015, 2008 and 2001), the D.L. Serventy Medal for contributions to ornithology (2012), the Luc Hoffmann Medal for Contribution to Wetland Science (2007) and two National Banksia Awards (2004 and 1998) for environmental leadership and catchment management. He has also received leadership awards linked to major conservation partnerships, including the International River Prize (2015). In recognition of his sustained contributions, he was appointed an Officer of the Order of Australia in 2025.


Professor Chris Mahar

CATEGORY 3

Excellence in Medical Biological Sciences
(Cell and molecular, medical, veterinary and genetics)



Professor Chris Maher AM

Sydney Medical School, the University of Sydney, Director of the Institute for Musculoskeletal Health

Professor Chris Maher is an expert in musculoskeletal health and pain research, whose work has delivered significant clinical impact and had broad international influence. His work focuses on back pain, one of the leading causes of disability and healthcare use in NSW.

Chris has led landmark large-scale clinical trials and health services research aimed at improving patient outcomes and healthcare efficiency, with a strong emphasis on translating evidence into practice through clinical guidelines and policy reform. His work has developed safer, evidence-based methods to manage back pain, overturned ineffective or harmful interventions and influenced over 124 low back pain guidelines across 20 countries. Direct impacts in the NSW health system include reduced emergency department waiting times and the introduction of physiotherapist-led virtual fracture clinics replacing in-person surgeon review.

Chris is founding Director of the Institute for Musculoskeletal Health, a partnership between Sydney Local Health District and the University of Sydney, overseeing 115 staff and research students. Chris has authored over 1,000 papers, including in *NEJM*, *The Lancet* and *BMJ*, and this work has attracted over 100,000 citations. He has held positions at prestigious international institutions, including the University of Oxford.

Chris was appointed a Member of the Order of Australia in 2024 for “significant service to physiotherapy as a researcher, clinician and mentor, particularly in the field of pain management”. He is a Fellow of the Royal Society of NSW (awarded 2024), the Australian Academy of Health and Medical Sciences (awarded 2016), and an NHMRC Research Fellow (2006-present).



Excellence in Engineering or Information and Communications Technology



Scientia Professor Brian Uy

School of Civil and Environmental Engineering, UNSW Sydney

Scientia Professor Brian Uy is a global leader in structural engineering whose work has shaped engineering practice, standards and infrastructure design in Australia and internationally. A leading authority on steel and composite structures, his work has been translated into codes, materials and methods underpinning modern construction.

Central to Brian's impact is his contribution to structural design standards. He chairs the committees responsible for Australian and New Zealand standards for composite steel-concrete buildings and bridges. In this role he has informed design rules for major NSW infrastructure, including the Sydney Harbour Bridge and Salesforce Tower.

Brian's recent work has advanced next-generation construction materials, including high-strength steels and low-carbon concrete systems. He has led several ARC-funded projects on resilient infrastructure systems, modular construction and high-performance composite structures.

Driving nationally significant research infrastructure and partnerships, he helped establish the National Facility for Physical Blast Simulation with seven Australian universities and the Defence Science and Technology Organisation, as well as the 20 MN MTS Universal Test Facility at the University of Sydney.

Brian holds significant national and international leadership roles, including President of the Institution of Structural Engineers in 2026 and Vice President of the International Association for Bridge and Structural Engineering. He has also held senior academic leadership positions across NSW universities, including the University of Sydney, Western Sydney University and the University of Wollongong, before joining UNSW Sydney. He has supervised more than 150 research students and received over 20,000 citations.

Brian's contributions have been recognised through major honours, including the Engineers Australia John Connell Gold Medal for Structural Engineering in 2021 and he was named John Holland Civil Engineer of the Year in 2019. He is a Fellow of the Australian Academy of Technological Sciences and Engineering, The Royal Society of NSW, Engineers Australia, the Institution of Civil Engineers, the Institution of Structural Engineers, the American Society of Civil Engineers, the Structural Engineering Institute and the International Association of Bridge and Structural Engineering.



Photo credit: Emlyn Crockett

CATEGORY 5

NSW Early Career Researcher of the Year (Biological Sciences)



Dr Natalie Matosin

Senior Research Fellow, School of Medical Sciences, the University of Sydney, Director of the MINDS Lab

Dr Natalie Matosin is an award-winning neurobiologist making significant contributions to our understanding of the molecular and cellular biology of the human brain. Since completing her PhD in neuroscience in 2015, Natalie's research career has been marked by rapid progression and high impact. Her research has provided new insights into how stress and trauma alter brain biology in conditions such as depression, schizophrenia and bipolar disorder, addressing a major unmet need in neurobiology and mental health research.

As Director of the University of Sydney's MINDS Lab, Natalie leads 15 researchers across laboratory, data and clinical science to generate world-first high resolution molecular maps of the human brain with the aim of developing personalised therapies for mental illness, dementia and traumatic brain injury. Her research is supported by highly competitive fellowships, including the Sydney Horizon Fellowship (2023) and the Al & Val Rosenstrauss Fellowship (2021).

Following postdoctoral training at UNSW Sydney and the Max Planck Institute of Psychiatry, Natalie has built an impactful international research program spanning 10 countries, which has identified more than 20 molecules altered in major psychiatric disorders, informing new therapeutics and human clinical trials. This work has produced over 50 publications in leading discipline journals including *Acta Neuropathologica*, *American Journal of Psychiatry*, *Nature Neuroscience*, *Science Advances* and *Nature Schizophrenia*.

Her contributions extend beyond research through strong science communication and engagement, including mainstream media coverage, public talks and advocacy for equity and diversity in science.

Natalie's achievements have been recognised by 25 honours, including the prestigious Australasian Neuroscience Society A.W. Campbell Medal (2024). She also received the Rebecca L. Cooper Memorial (2020) and NSW Young Tall Poppy (2019) awards, presented at TEDx and was named in the Forbes 30 Under 30 for Science & Healthcare (2017).



CATEGORY 6 Joint Winner

NSW Early Career Researcher of the Year (Physical Sciences)



Dr Ann-Na Cho

Senior Lecturer, School of Biomedical Engineering, the University of Sydney, Group Leader of the human Brain Microphysiological System (hBMS) Laboratory

Dr Ann-Na Cho is a stem cell engineer, biomanufacturer and neuroscientist whose work has produced exceptional contributions across neurobiology, particularly through the development of advanced human brain models. Since joining the University of Sydney in 2024, Ann-Na has rapidly established an interdisciplinary research program.

Ann-Na's work focuses on engineering biologically realistic models of the human brain to provide new ways to study brain development, disease and treatment that overcome long-standing limitations in traditional experimental systems. She currently leads the human Brain Microphysiological System (hBMS) Laboratory as a Sydney Horizon Fellow and NHMRC Emerging Leader Fellow. The hBMS Lab collaborates with industry partners, including pharmaceutical companies, to support translational applications such as personalised medicine.

Ann-Na is also the inventor of the humanised 'tissue-engineered brain organoid' (teBO), a world-first near-physiologically complete platform that recreates the human brain microenvironment using personalised stem cells, brain-mimetic biomaterials and organ-on-a-chip biofluidics. The significance of Ann-Na's work lies not only in the originality of the platform, but also in its breadth of application across underserved neurological conditions, enabling researchers to model complex brain function, investigate disease mechanisms and test therapeutic responses in human systems, reducing reliance on animal models. By integrating advances across multiple scientific disciplines, her work is helping to accelerate the translation of laboratory discoveries into personalised healthcare solutions for the broader community.

Ann-Na has been published in leading journals such as *Nature Communications*, *Nature Biomedical Engineering* and *Science Advances*. She is also the inventor of seven international patents and one provisional Australian patent – reflecting her strong innovation and commercialisation approach.

In 2025, Ann-Na received the University of Sydney Vice-Chancellor's Award for Early Career Research of the Year and the Dean's Award for Outstanding Research. She was also named to the MIT Technology Review Innovators Under 35 for the Asia-Pacific Region (2024).



CATEGORY 6 Joint Winner

NSW Early Career Researcher of the Year (Physical Sciences)



Associate Professor Mengyu Li

Senior Lecturer, School of Physics, the University of Sydney

Associate Professor Mengyu Li is a sustainability scientist. She uses advanced modelling to reveal how energy, food, climate and economic systems interact, and how production and consumption create environmental pressures across global supply chains. Since completing her PhD in 2020, Mengyu has rapidly established an independent research career with a strong international profile.

Mengyu's research focuses on data-driven analysis of global energy, environmental and production systems. Her work provides critical evidence to inform policy and industry decision-making, advancing knowledge of how human activity impacts climate, resources and sustainability outcomes to address challenges such as low-carbon energy transitions, food system sustainability and supply chain impacts. She co-created the influential 'Global-Resource Input-Output Assessment' (GLORIA) database and the United Nations Environment Programme (UNEP) Global Footprint Tool – both critical resources to support international environmental footprint assessment and used by organisations such as the UNEP to track progress toward Sustainable Development Goals.

Mengyu's recent research moves beyond measuring current sustainability impacts to examining how alternative economic and policy choices could shape a more sustainable and equitable future. By incorporating consumption, wellbeing, equity and resource limits into climate scenarios, she demonstrates that climate outcomes depend not only on technologies and carbon prices, but also on how resources and consumption opportunities are distributed within and between countries. Published in *Nature Sustainability* and *Nature Communications*, this work establishes post-growth and equity as measurable dimensions of climate mitigation. She has also collaborated with the NSW Department of Primary Industries and Regional Development since 2016 in supporting their Climate Change Research Strategy.

Supported by a prestigious Sydney Horizon Fellowship (2024), Mengyu has published over 70 peer-reviewed articles, including an extensive body of work across Nature Portfolio journals. These papers have accumulated over 5,500 citations, contributing to an h-index above 30. Her work has been recognised through awards such as the ARC Discovery Early Career Research Award (2024), the University of Sydney Vice-Chancellor's Award for Early Career Researcher of the Year (2024), and Eureka Prizes for Outstanding Early Career Researcher (2024) and Excellence in Interdisciplinary Scientific Research (2022).



CATEGORY 7

Leadership in Innovation in NSW



Distinguished Professor Buddhima Indraratna AM

School of Civil and Environmental Engineering, University of Technology Sydney, Director of the Transport Research Centre

Distinguished Professor Buddhima Indraratna is a civil (geotechnical) academic at UTS whose world-class research has tackled pressing challenges in transport infrastructure, culminating in scientific innovations. Through strategic industry collaborations and substantial research funding, he has transformed the design and construction of sustainable road, rail and port infrastructure.

Buddhima pioneered the world's first railway built in Western Sydney using recycled materials as a partnership with Sydney Trains, embracing circular economy principles. Subsequent outcomes have introduced novel real-life performance indicators including the Ballast Breakage Index (BBI) and Void Contamination Index (VCI), as well as innovative drainage solutions now adopted globally to prevent track instability in soft soils.

As the current Director of the UTS Transport Research Centre, Buddhima has driven strong partnerships with government and industry, and advanced Australia's capability in transport engineering. His research has also contributed to the revitalisation of Australian Standards and engineering guidelines, accelerating the shift from empirical approaches to rigorous scientific design. With over 1,100 publications, 14 books, an h-index of 103, and more than 38,000 citations, he is among the most highly cited civil engineers globally. He has also mentored over 90 PhD graduates and is shaping the next generation of engineering leaders.

Buddhima is a Member of the Order of Australia and has received major awards, including the Sir John Holland Civil Engineer of the Year (2024) and the International Civil Engineer Award (2023). He is a Fellow of the Australian Academy of Technology and Engineering, a Fellow of the Royal Society of NSW and a Life Member of the Australian Geomechanics Society.


6035
6035

CATEGORY 9

Innovation in Science, Technology, Engineering or Mathematics Teaching in NSW



Matthew Macdonell

Ulladulla High School

Matthew Macdonell is a Technology and Applied Studies (TAS) teacher at Ulladulla High School, who has facilitated strong student engagement in STEM through robotics and competition-based learning, with significant impact beyond his own school. He has inspired students across all year levels to engage with STEM, creating pathways that encourage participation, confidence and long-term interest in science and technology.

Matthew displays exemplary impact through his leadership of STEM competitions and extracurricular activities, both within Ulladulla High School and across the South Coast region. He coordinates and mentors student teams in a wide range of high-profile competitions, including FIRST Robotics, FIRST Tech Challenge, FIRST LEGO League, RoboCup, F1 in Schools and the H2 Grand Prix.

He also hosts and runs regional competitions locally, reducing barriers to participation for rural and regional students. Under his leadership, students regularly compete at state, national and, increasingly, international levels, including recent success with a team inducted into the FIRST Robotics Competition Hall of Fame in Houston.

Matthew's work has produced sustained outcomes in student engagement, progression and community involvement in STEM over a long period. He delivers STEM lessons in local primary schools and trains other educators to participate in STEM competitions, significantly expanding access to STEM learning across the region. He has created a culture of ongoing engagement, with many former students returning to mentor current teams. Almost 90 per cent of the students involved in his STEM programs have progressed to study in STEM fields at university, demonstrating long-term educational impact.



2026 NSW SCIENTIST OF THE YEAR



Distinguished Professor Ian Paulsen

School of Natural Sciences, Macquarie University,
Director of the ARC Centre of Excellence in Synthetic Biology,
Director of the Australian Genome Foundry

Distinguished Professor Ian Paulsen is a globally recognised leader in microbiology, genomics and synthetic biology, who has made a significant contribution to synthetic biology and the commercialisation of research for health, environmental and industrial applications.

Ian played a pioneering role in building Australia's synthetic biology ecosystem. As Director of the ARC Centre of Excellence in Synthetic Biology, he leads national efforts to advance synthetic biology as a transformative scientific and economic capability. Under his leadership, the Centre has catalysed the translation of research into real-world applications across sustainable manufacturing, agriculture and healthcare – including the creation of 12 startup companies that have collectively attracted more than $230 million in venture capital.

Ian also co-founded and directs the Australian Genome Foundry to provide nationally significant infrastructure to support high-throughput genome engineering and enable collaboration between academia and industry. This facility has strengthened Australia's capacity to rapidly translate discoveries into innovation and has supported world-class research across multiple disciplines.

Ian's research has fundamentally reshaped the understanding of microbial physiology, particularly in bacterial transport systems. His work includes the discovery of several novel classes of multidrug efflux pumps, which are critical in explaining how bacteria develop resistance to antibiotics. In genomics, he has conducted landmark studies analysing microbial genomes across diverse organisms, which have revealed the importance of horizontal gene transfer in the adaptation of microbes to different environments such as the evolution of multidrug-resistant hospital pathogens.

His contributions to genome sequencing projects – including early sequencing of important bacterial species – have provided foundational datasets widely used by the international research community. More recently, his insights in synthetic biology have extended into engineering applications, including participation in the global 'Yeast 2.0' project, which is close to achieving the creation of a fully synthetic eukaryotic genome. This work was a major leap in the ability to design and construct microbes for industrial and environmental use.


ambr 250

2026 NSW SCIENTIST OF THE YEAR



Ian has published more than 400 peer-reviewed journal articles, including in *Nature* and *Science*, which have received over 115,000 citations, reflecting exceptional global influence. He has an h-index of 141, is an ISI Highly Cited Researcher, and Thomson Reuters has identified him as one of the world's 3,000 most influential scientific minds.

Ian has an active public profile. In Australia, he has appeared in television, radio and newspaper interviews, helping to communicate complex scientific advances to a broad public audience and promoting awareness of synthetic biology, antimicrobial resistance and the broader impact of biotechnology.

Ian's contributions have been recognised through numerous prestigious honours. He is a Fellow of the Australian Academy of Science and a Fellow of the Royal Society of NSW. He has also received several major awards including the Australian Museum Eureka Prize for Leadership in Science (2025), the NSW Premier's Prize for Excellence in Biological Sciences (2024), and the Macquarie University Research Excellence Award (2024).





The 2025 Premier's Prizes for Science & Engineering (l to r): the Hon Anoulack Chanthivong MP, Minister for Innovation, Science and Technology (front), Dr Brad Law, Distinguished Professor Vivian Tam, Professor Nalini Joshi, 2025 NSW Scientist of the Year, Professor Paul Keall, Associate Professor Catriona Macdonald, representing Distinguished Professor Brajesh Singh, Mr Simon Draper, Secretary, Premier's Department, the Hon Margaret Beazley, Governor of NSW, Professor Anita Ho-Baillie, Mr Ryland O'Connell, Mr Dennis Wilson, Scientia Professor Kaarin Anstey, Dr Felix Rizzuto, Dr Jennifer Matthews, Professor Hugh Durrant-Whyte, Chief Scientist & Engineer.




NSW
GOVERNMENT