2024
Premier's Prizes for Science & Engineering

GOVERNMENT HOUSE
SYDNEY

Wednesday 30 October 2024

NSW GOVERNMENT

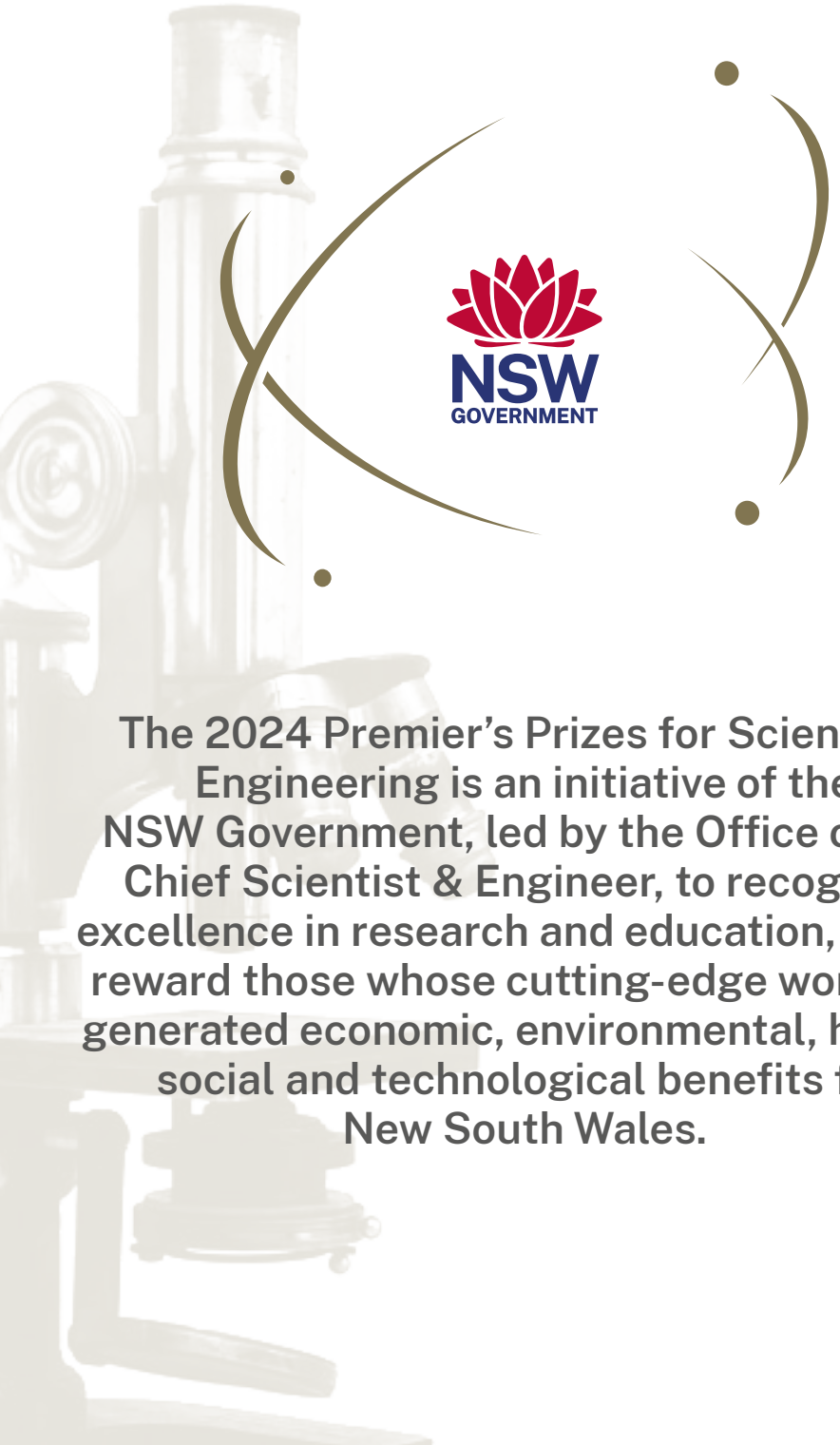
The Honour Roll
NSW Scientists of the Year

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

2024

Premier's Prizes for Science & Engineering

NSW GOVERNMENT



The 2024 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 2024 Premier's Prizes for Science & Engineering, hosted at Government House, Sydney, on Wednesday 30 October 2024.

Introduction

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

Keynote Address

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

Premier's Address

The Honourable Christopher Minns MP
Premier of New South Wales

2024 Premier's Prizes for Science & Engineering Presentation Ceremony

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

Address by the 2024 NSW Scientist of the Year

The Premier's Prizes for Science & Engineering event, Government House Sydney, Wednesday 15 November 2023.

Her Excellency examining incubated seahorses, part of the Seahorse Research Project, with a Port Stephens Fisheries Institute research scientist, NSW Department of Primary Industries, 28 June 2024.

GOVERNMENT HOUSE
SYDNEY

Message from Her Excellency The Honourable Margaret Beazley AC KC Governor of New South Wales

The 21st century has seen the unprecedented acceleration of scientific invention and innovation. Technologies are blurring the lines between the physical, digital, and biological sciences; the development of capabilities in quantum, robotics and medtech are critical in meeting some of the biggest challenges of our time; and an estimated 75 per cent of jobs in the fastest growing industries require workers with STEM skills.

Tonight, in recognising the continuum of education, innovation, and research and development, from primary school through to our universities and research institutes, we celebrate those who are at the forefront of Science and Engineering in New South Wales. Through their dedication, innovative genius and multidisciplinary collaboration, we are assured of a future which is not only exciting but also essential for our social, physical, environmental and economic well-being.

In celebrating the achievements of our scientists, researchers, engineers and educators, I also express my thanks to our Chief Scientist & Engineer and his Office for the work they do to promote "scientific knowledge and research so it can be adapted and used to benefit the people, environment, industry and economy of NSW." I also acknowledge the invaluable support of the university, industry and government sectors.

In June this year, I visited the DPI Fisheries Institute at Port Stephens, one of the largest aquaculture research facilities in the country. Recognising the importance of these magical creatures to the marine ecosystem, the Project is directed to reversing the massive depletion of the seahorse population due to human use of our waterways and the more recent natural disasters and is another example of excellence in scientific research in our State.

As proud Patron of the NSW Premier's Prizes for Science & Engineering, I thank everyone engaged in the vital work of these sectors and congratulate this year's winners and finalists.

Her Excellency the Honourable Margaret Beazley AC KC
Governor of New South Wales

Message from the Premier of New South Wales

On behalf of the NSW Government, I congratulate all the winners of the 2024 Premier's Prizes for Science & Engineering.

For 10 years, these prizes have honoured the wonderful innovators, leaders, teachers and early-career scientists who are making their mark across science and engineering.

They also showcase the cutting-edge research, leading discoveries and life-changing advancements being made by incredible individuals in the field.

The people of NSW have benefited greatly from the hard work and dedication of our scientists and engineers.

This work is needed now more than ever, as we tackle the challenges of today and innovate for tomorrow.

Your achievements cover a diverse range of fields, but all share a passion for improving lives.

Thank you for making our State a better place and for inspiring a new generation to follow in your footsteps.

Congratulations, once again. I wish you all the best in your careers and future endeavours.

Chris

The Honourable Chris Minns MP
Premier of New South Wales

RNA Research and Pilot Manufacturing Facility sod turn event, Macquarie University Wallumattagal Campus, 9 September 2024.

Message from the NSW Chief Scientist & Engineer

Welcome to the NSW Premier's Prizes for Science & Engineering. My thanks once again to our Patron, the Governor of NSW, Her Excellency the Honourable Margaret Beazley AC KC, and Mr Dennis Wilson for their ongoing support and for allowing us to hold tonight's ceremony at Government House.

This annual event is an opportunity to celebrate research excellence and, more crucially, the profound impact that such innovative thinking can have on our world.

Ensuring that our best ideas end up solving our State's most difficult problems has become an increasingly important focus of my office, through several programs which support the development and commercialisation of new systems and technologies from high-tech NSW small businesses.

This year has seen three companies funded through our newest program, the BioSciences Fund, we've supported 10 projects through the Natural Hazards Technology Program and the nine successful companies receiving Proof-of-Concept grants through Small Business Innovation & Research program were announced two weeks ago. Next month, we'll also be announcing the successful recipients in the fifth round of the Physical Sciences Fund. My office has also delivered the NCRIS Support Program – investing $15.2 million, over two years into critical research infrastructure in the State including nanofabrication, microscopy, imaging, marine science, astronomy and more.

On 9 September this year, I stood with the Premier, Minister Chanthivong, Minister Harris and leaders from the NSW Government and our research and business sectors, celebrating the commencement of construction of the RNA Research and Pilot Manufacturing Facility at Macquarie University's Wallumattagal Campus. This new facility will rapidly enhance our sovereign capability to develop and produce RNA-based vaccines and therapeutics, with the potential to treat infectious diseases, cancers, genetic diseases and other conditions, both in humans and animals.

The facility's realisation is a testament to both our research excellence in NSW and the collaborative drive shared by government, research and industry to ensure that innovation is supported to deliver real-world benefits.

Please join me tonight in celebrating the achievements of 10 exceptional trailblazers in science, engineering and education, each of whom is making their own impact on our world.

H. Durrant-Whyte.

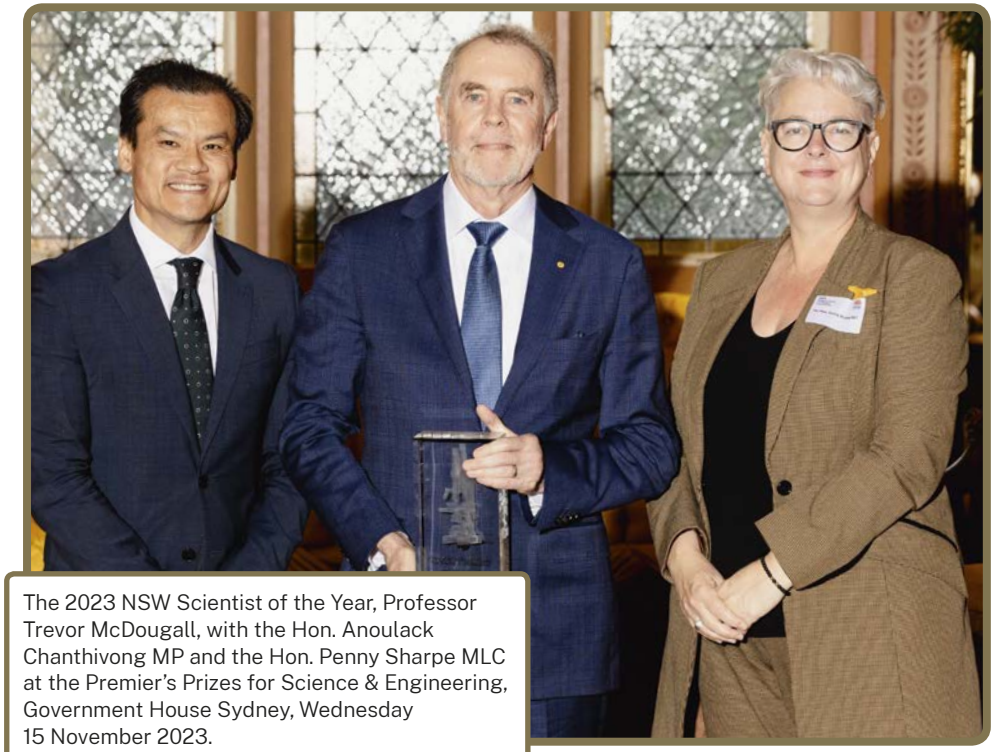
Professor Hugh Durrant-Whyte
NSW Chief Scientist & Engineer

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 which has benefited or has the potential to benefit the people of New South Wales.



The 2023 NSW Scientist of the Year, Professor Trevor McDougall, with the Hon. Anoulack Chanthivong MP and the Hon. Penny Sharpe MLC at the Premier's Prizes for Science & Engineering, Government House Sydney, Wednesday 15 November 2023.

2024 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
9. Innovation in Science, Technology, Engineering or Mathematics Teaching in NSW

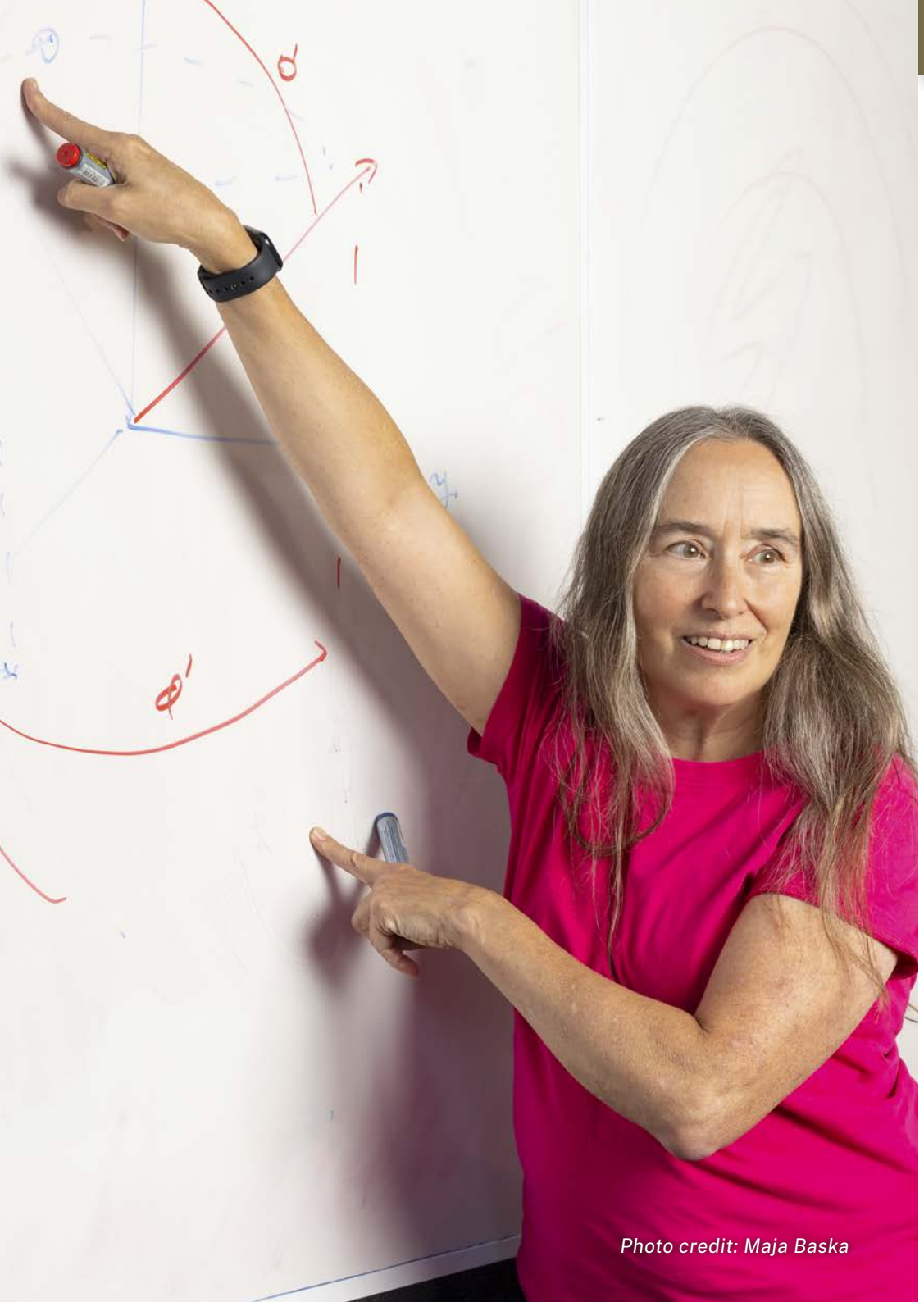


Photo credit: Maja Baska

CATEGORY 1

Excellence in Mathematics, Earth Sciences, Chemistry or Physics

Professor Susan Coppersmith

FRSN FAIP MNAS FAA

UNSW Sydney

Professor Susan Coppersmith is a renowned theoretical physicist who has made fundamental advances in the study of multiple complex condensed matter systems, including granular materials, biomaterials and quantum computers. Her work has significantly enhanced our understanding of crystalline components and developed unifying theories across diverse areas such as population biology and superfluidity.

In the past five years, Susan's contributions include insights into increasing the fidelities of qubits hosted in silicon-germanium and germanium quantum dots. Her research has also improved our understanding of how quantum computation could enhance the discovery potential of dark matter experiments. Additionally, she developed a theory demonstrating quantitatively that the quantum tunnelling of the magnetisation of individual iron atoms displays stochastic resonance, a nonlinear phenomenon previously shown to operate in classical complex systems.

Her theoretical results have had practical implications, such as influencing Intel's quantum computing group to investigate modified silicon-germanium structures. This work strengthens the position of NSW in developing quantum computing hardware and its potential applications, offering transformative performance enhancements and fostering new types of spintronics devices.

Susan has served as the Head of the School of Physics at UNSW Sydney and has been a member of the Sydney Quantum Academy's Technical Advisory Committee since 2020. Her accolades include election to the Australian Academy of Science and the US National Academy of Sciences. She was also selected as the Australian Institute of Physics, Women in Physics Lecturer for 2024.

Susan has published 194 journal articles, attracting over 10,500 citations. She has an h-index of 56 and is an inventor on three US patents.

CATEGORY 2

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

Distinguished Professor Ian Paulsen FRSN FAA FASM

Macquarie University

Distinguished Professor Ian Paulsen is a world-leading researcher in microbiology and a pioneer in microbial genomics and synthetic biology. He has developed the infrastructure and capabilities to harness the potential of synthetic biology, positioning Australia as a global leader in this transformative field.

As Founder and Director of the ARC Centre of Excellence in Synthetic Biology, Ian aims to catalyse a bioeconomy based on alternatives to fossil fuel-derived products. The Centre develops microbes that convert agricultural biomass into high-value plastics, chemicals, fertilisers and fuels. In just three years, it has spun out nine companies, raising over $180 million in venture capital and producing innovations such as a methane emission-reducing cattle feed supplement.

Ian co-founded and directs the Australian Genome Foundry, a world-class facility for automated microbe construction and testing. He also co-directs Australia's node of Yeast 2.0, an international consortium building the world's first complex synthetic organism.

His work addresses critical global challenges such as food security, waste management, water quality and decarbonisation, with significant implications for NSW. Ian's research has the potential to create new economic opportunities by leveraging the state's rich biomass resources. His commitment to training future synthetic biology researchers fosters a skilled workforce driving innovation and growth across NSW.

Ian is a fellow of the Royal Society of NSW and Australian Academy of Science, and a former ARC Laureate Fellow. His research has secured over $100 million in funding and he has published over 380 journal articles, attracting over 100,000 citations with an h-index of 132. His publications are cited 251 per cent more than the global average for his field, marking him as a Highly Cited Researcher by the Institute for Scientific Information.

CATEGORY 3

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

Professor Stuart Tangye
FAHMS FCIS FRSN FAA FASM

The Garvan Institute of Medical Research and UNSW Sydney

Professor Stuart Tangye is a Senior Principal Research Fellow at the Garvan Institute of Medical Research and an international leader in human molecular and cellular immunology and inborn errors of immunity (IEI).

Stuart's research has uncovered the molecular requirements for human immune cells to effectively protect us against infectious diseases. His work reveals how single gene defects disrupt the proper functioning of immune cells, leading to immune diseases such as severe and recurrent infection, autoimmunity, allergies and malignancies. These discoveries have significantly advanced our understanding of human immunology and genetic disorders that impact the immune system.

To address diagnostic delays of patients with IEIs, Stuart established and leads the Clinical Immunogenomics Research Consortium Australasia (CIRCA), a multi-centre interdisciplinary collaboration representing Australia's first patient-focused integrated immunogenomics program. Through CIRCA and the Garvan Institute, Stuart has discovered novel IEIs and broadened the clinical phenotype of known IEIs. This work has enabled targeted and improved therapies for many affected individuals. This remarkable advancement benefits Australians, particularly those in NSW, facing challenging diagnoses.

Stuart was awarded the 2011 Gottschalk Medal from the Australian Academy of Science, the President's Award from the Clinical Immunology Society of North America (CIS), and is a Fellow of the Australian Academy of Health and Medical Sciences and of the CIS. Last month, he won the 2024 UNSW Eureka Prize for Scientific Research.

Recognised as a Clarivate Highly Cited Researcher since 2018, Stuart has over 280 peer-reviewed publications, more than 40,000 citations, and an h-index of 104.

CATEGORY 4

Excellence in Engineering or Information and Communications Technology

Distinguished Professor Willy Susilo FIEEE FIET FACS FAAIA

Australian Laureate Fellow

University of Wollongong

Distinguished Professor Willy Susilo is a global leader in the field of cybersecurity, cryptology and information security. His research focuses on enhancing cybersecurity through innovative solutions and cryptographic algorithms, with applications in cloud computing, blockchain and enterprise systems. His pioneering work on post-quantum cryptography aims to secure data and transactions in the quantum computer era.

Willy's research has significantly impacted cybersecurity in NSW and Australia, benefiting key government bodies including the Department of the Prime Minister and Cabinet, the Australian Signals Directorate and CSIRO. Global industry leaders such as Samsung, Gemalto and IBM have adopted his research outcomes, demonstrating the practical applications of his work.

His expertise enabled Tide, a Sydney-based company, to commercialise consumer data rights protection services, enhancing data security for consumers. Recognising his contributions, the NSW Government appointed Willy as an advisor to the iVote committee, securing technology-assisted voting for state elections.

Willy's significant contributions to cybersecurity and cryptography have seen him elected as a Fellow of the Institute of Electrical and Electronics Engineers, Australian Computer Society, Institution of Engineering and Technology, and Asia-Pacific Artificial Intelligence Association. He was awarded the prestigious Australian Research Council Laureate Fellowship in 2023, named Australian Field Leader in Cryptography multiple times between 2019 and 2023, and received the Computer Science in Australia Leader Award consecutively from 2022 to 2024.

His prolific career has produced over 700 publications, attracting over 27,000 citations with an h-index of 86. Willy's research has been cited in over 65 international patents, demonstrating its substantial impact on industry.

CATEGORY 5

NSW Early Career Researcher of the Year (Biological Sciences)

Dr Ira Deveson

The Garvan Institute of Medical Research and UNSW Sydney

Dr Ira Deveson is an early career researcher in clinical genomics dedicated to adopting novel genomic technologies to improve human health outcomes.

Ira has established strong networks with industry, clinical and academic collaborators, delivering nationally significant translation research outcomes. In 2020, he led research establishing sequencing methods for rapid SARS-CoV-2 genomic surveillance in NSW, adopted by public health teams nationwide, becoming a key tool in Australia's COVID strategy.

Awarded a competitive Medical Research Future Fund (MRFF) grant, Ira leveraged his expertise in long-read sequencing technologies and new analysis approaches to improve genetic disease diagnoses. Collaborating with the National Centre for Indigenous Genomics, he sequenced the genomes of participants from remote Aboriginal communities, uncovering unique and previously undescribed genomic variation. This work aims to improve genetic disease diagnosis by expanding genetic reference databases and promoting more equitable outcomes from genomic medicine in Australia.

Ira's work has resulted in 70 publications, attracting over 2,400 career citations and achieving an h-index of 21. As the senior author, his work has been published in prestigious journals such as *Nature*, *Nature Communications* and *Nature Biotechnology*, garnering significant recognition in the field.

As a chief investigator, Ira has secured over $28 million in competitive grant funding, including an MRFF Early-Mid Career Researcher Grant, MRFF Genomics Health Future Mission Grants, National Health and Medical Research Council (NHMRC) Investigator Grants and a Cancer Institute NSW Early Career Fellowship. This funding underscores the importance and potential impact of Ira's work and marks him as an emerging leader in clinical genomics.

CATEGORY 6

NSW Early Career Researcher of the Year (Physical Sciences)

Dr Jiayan Liao

University of Technology Sydney

Dr Jiayan Liao is an expert in nanotechnology, specialising in developing next-generation bioanalytical and imaging tools, as well as advanced detection techniques. She established techniques and protocols for high-performance nanoprobes, enabling high-precision single-molecule assays and multiplexed cancer biomarker testing at the nanoscale. Her innovative approaches are revolutionising early disease detection and monitoring.

Jiayan's multidisciplinary research applies pioneering techniques to realise highly sensitive disease detection, establishing her as an emerging leader in the field with extensive networks across industry, clinical and academic domains. A notable contribution was leading the development of the photonics-based iStrip technology for SARS-CoV-2 at Alcolizer Technology, which has significantly enhanced COVID-19 test reliability and speed. This breakthrough bolstered NSW's response to the pandemic and contributed to Australia's overall COVID strategy, earning the 2022 KCA Award for Best New Invention and a Highly Commended 'External Impact' distinction in the 2021 Dean's Awards.

Additionally, Jiayan has formed partnerships with Australian small to medium enterprises such as SpeeDX and Minomic International Ltd, focusing on commercialising ultrasensitive single oligonucleotide molecule assays. This technology, known for its affordability and user-friendliness, has improved diagnostics for various diseases and has the potential to transform medical practices. Her collaboration with Mercy Hospital for Women and the University of Melbourne is advancing the rapid and precise detection of protein-coding genes from pregnant patients, further enhancing diagnostic accuracy and treatment efficacy.

Jiayan holds an NHMRC Emerging Leadership Fellowship and a UTS Chancellor's Research Fellowship. Her innovative work in early cancer detection was recognised with the 2023 NHMRC Bernie Banton Investigator Grant Award as the highest-ranked applicant, underscoring her leadership in biomedical research. With over 80 journal articles, a US patent, more than 1,500 citations and an h-index of 35 within just three years of receiving her PhD, Jiayan is a dynamic and innovative leader, driving significant advancements in nanotechnology, clinical genomics and diagnostics.

CATEGORY 7

Leadership in Innovation in NSW

Distinguished Professor Karu Esselle FRSN, FIEEE, FIEAust

University of Technology Sydney

Professor Karu Esselle is a world leader in electromagnetic, antenna and radio frequency engineering. His pioneering work has significantly advanced the fields of telecommunications and defence.

Among his many research innovations is the 2023 Eureka Prize-winning 'MetaSteering', a novel antenna beam steering method that has been adopted worldwide by industry, governments and academics to solve challenges in telecommunications and defence systems.

Karu has also made substantial contributions to satellite communication technology. In collaboration with the NSW Telco Authority, a major satellite operator and two NSW small to medium enterprises, and supported by $2.6 million in funding from the NSW and Commonwealth governments, he developed a unique, energy-efficient satellite communication terminal.

The Australian-invented-and-manufactured SATCOM user terminal is designed to close the digital divide in rural and regional NSW, enhancing quality of life by improving connectivity for communities, schools, hospitals, government services and small businesses. The terminal's ability to be transported, rapidly deployed and operated using renewable energy makes it essential for NSW Emergency Services, especially during crises when traditional power and communication infrastructure fail.

Karu is a Fellow of The Royal Society of New South Wales, the Institute of Electrical and Electronics Engineers (IEEE) and Engineers Australia. He was named Australia's Professional Engineer of the Year 2022 and received the 2019 Motohisa Kanda Award for the most cited paper in the IEEE Transactions on Electromagnetic Compatibility. Karu has secured over $33 million in research grants and contracts, and authored more than 750 publications with over 15,800 citations and an h-index of 61.

CATEGORY 8

Innovation in NSW Public Sector Science and Engineering

Dr Annette Cowie

NSW Department of Primary Industries and University of New England

Dr Annette Cowie is a prominent climate scientist and policy advisor known for her cross-disciplinary research on climate change mitigation in the land sector. Internationally recognised as an authority in her field, Annette's work balances production and environmental objectives, promoting sustainability and enhancing resilience to climate change and other shocks.

Annette's research informs climate change policy at local, national and international levels, and supports the transition to a circular bioeconomy. She leads pivotal projects, including an emissions reduction roadmap to support NSW's Net Zero 2050 target, development of methods and standards for greenhouse gas (GHG) accounting for the land sector, and sustainable options for durable carbon dioxide removal using biochar.

Annette's innovative leadership has significantly influenced climate change and land management policy in NSW and globally. She was a lead author on the seminal Intergovernmental Panel on Climate Change (IPCC) reports, including the Sixth Assessment Report (AR6) and the Special Report on Climate Change and the Land. She co-leads an International Energy Agency Bioenergy research group and co-led the development of the Scientific Conceptual Framework for Land Degradation Neutrality, that underpins land management in over 130 countries.

Annette contributes to many cross-agency technical advisory and working groups at state, national and international levels. Her research has been applied in GHG accounting through the Australian Carbon Credit Unit Scheme, international voluntary carbon market platforms, ISO standards and IPCC guidelines for national GHG inventories.

In the last decade, Annette has attracted over $15 million in research funding. She was recognised as a Clarivate Highly Cited Researcher from 2018 to 2020 and has published in prestigious journals such as *Nature* and *Nature Climate Change*, amassing over 27,000 citations and an h-index of 75.

CATEGORY 9

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

Jodie Attenborough

Tottenham Central School and the NSW Department of Education

Jodie Attenborough is a dedicated mathematics educator with a deep commitment to public education, particularly in rural and remote settings. Recognised for her innovative approach, Jodie creates accessible and engaging educational content that fosters a diverse and positive learning environment, enhancing student interest and participation.

Jodie has utilised her profound knowledge of mathematics curricula, assessment and pedagogy to transform the Numeracy Content Endorsed Course into an online platform for the Western Access Program. This initiative supports HSC students in rural and regional areas by offering specialised teaching resources online, significantly enhancing their numeracy skills and equipping them with essential problem-solving tools relevant to real-life situations.

Beyond the classroom, Jodie is a vital mentor and leader in professional development for educators, particularly through the NSW Mathematics Retraining Program. After her own retraining, her passion for teaching mathematics deepened, leading her to hold mentor sessions, team meetings and school visits that have notably improved engagement and results in regional and remote schools. She serves as a maths network leader, sharing resources and leading the ‘Ask an Expert’ platform within the Mathematics Statewide Classroom, supporting teachers from the Snowy Mountains to Sydney.

Jodie’s dedication to enhancing mathematics education is evident in her commitment to student engagement and success, and the professional growth of teachers. Her innovative strategies and comprehensive resources have established her as an invaluable asset to Tottenham Central School and the broader educational community. Through her efforts, Jodie ensures that both students and teachers receive the robust support they need to excel in their educational endeavours.

2024 NSW SCIENTIST OF THE YEAR

Scientia Professor Helen Christensen AO FASSA FAAMHS

Honorary Professorial Fellow, Black Dog Institute

Discipline of Psychiatry and Mental Health, UNSW Sydney

Scientia Professor Helen Christensen is a renowned international expert in digital mental health research, recognised for her transformative contributions to mental health research and policy. Specialising in digital interventions and suicide prevention, her work has significantly influenced mental health care practices both in Australia and globally.

Helen's research is dedicated to using technology to prevent mental health issues and broaden public access to care. In 2000, she developed the digital intervention program, *MoodGYM*, to reduce depression in young people, which pioneered the provision of online self-help courses to address common mental disorders, and which have been used by millions of people across more than 160 countries.

Since then, 14 more software apps, platforms and websites have been developed. These apps and software packages have been evaluated in over 50 randomised controlled trials across the world, with, in some cases, samples of more than 6,000 individuals. These trials demonstrated that online treatment and prevention of depression and anxiety is effective, and that positive improvements can be achieved through self-help rather than through the services of a therapist.

The global use of digital interventions has changed the nature of psychiatry and methods to prevent mental ill health. Helen is currently heading a program of research aimed at using digital signals from smartphones and wearables to predict the onset of ill health, incorporating AI models to improve precision.

Her research has led to systematic approaches to suicide prevention, particularly in NSW. Using the available scientific evidence, she developed a model of suicide, incorporating community, media and medical components that led to a reduction in suicide admissions. This model of suicide prevention has been incorporated into national and state suicide plans, through policy change.

Her extensive leadership at the Black Dog Institute (BDI), where she served as the Executive Director and Chief Scientist from 2011 to 2021, exemplifies her commitment to taking research from the lab and developing practical applications to enhance mental health in schools, online communities, helplines and workplaces.

2024 NSW SCIENTIST OF THE YEAR

Under her guidance, BDI, a medical research institute focused on enhancing mental health through innovative research, clinical services and educational programs, has made major contributions to the prevention and treatment of mental health care, and acts as a model of how research can inform practice. Helen served as a Black Dog Board Director, 2021-2024, steering the institute's ongoing strategies and initiatives.

She is currently a Director of the Ramsay Health Care Foundation, and previously a Non-Executive Director at the 'R U OK?' charity, the Director of the Centre for Mental Health Research at the Australian National University, a member of the Board of Directors of the Association of Australian Medical Research Institutes (AAMRI) and an Advisory Member, Digital Mental Health Advisory Group, Australian Commission on Safety and Quality in Health Care.

Helen's long career has led to new evidence-based care that transcends geographical barriers. Her initiatives bridge the gap between clinical expertise and widespread, accessible care. The integration of digital technology within the mental health field has significantly enhanced individuals' quality of life and advanced healthcare research worldwide.

Helen has authored over 600 journal publications and book chapters, a dozen books and 15 open access websites and apps, accumulating over 92,000 citations and an h-index of 156.

Helen has received significant recognition and awards during her career, including:

2023	James Cook Medal of the Royal Society of NSW
2022	LiFE National Award for Leadership from Suicide Prevention Australia
2019	Officer of the Order of Australia (AO)
2019	Public Health Fellow of NHMRC, Elizabeth Blackman Research Fellow of NHMRC
2019	Lifetime Achievement Award International Society for Research on Internet Interventions
2016	Premier's Prizes for Science & Engineering for Leadership in Innovation in NSW
2015	Fellow, Australian Academy of Health and Medical Sciences
2014	Roddy D Brickell Memorial Award, Division of Child Psychiatry, Columbia University
2014	NHMRC John Cade Fellowship in Mental Health Research
2014	Distinguished Contribution to Psychological Science Award, Aust. Psychological Society
2013	International Soc. for Research on Internet Interventions International Leadership Award
2013	Founders Medal Australian Society for Psychiatric Research
2012	Founders Medal Australian Society for Psychiatric Research
2012	Executive Director of the Black Dog Institute
2009	President - Australasian Society for Psychiatric Research
2009	Senior Principal Research Fellow of National Health and Medical Research Council
2009	President - International Society for Research into Internet Interventions
2005	Director of the Centre for Mental Health Research, ANU
2004	Fellowship of the Academy of Social Sciences (FASSA)

The 2023 Premier's Prizes for Science & Engineering (L to R): Professor Hugh Durrant-Whyte, NSW Chief Scientist & Engineer, the Hon Anoulack Chanthivong MP, Minister for Innovation, Science and Technology, Professor Cathie Sherrington, Dr Chang Xu, Professor Michael Biercuk (rear), Emeritus Professor Trevor McDougall, 2023 NSW Scientist of the Year, Dr Deborah Burnett, Distinguished Professor Jie Lu, Dr Jodi Rowley, Her Excellency the Hon Margaret Beazley AC KC, Governor of NSW, Mr Dennis Wilson, Dr Tony Murphy, Professor Shinichi Nakagawa, Ms Annie-Louise Martin, the Hon Penny Sharpe MLC, Minister for Climate Change, Energy, the Environment and Heritage.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