

# AUSTRALIAN MUSEUM ANNOUNCES WINNERS OF 2024 EUREKA PRIZES

*THE NATION'S MOST COMPREHENSIVE SCIENCE AWARDS*

SYDNEY, NSW, AUSTRALIA, September 4, 2024 /EINPresswire.com/ -- Innovative research advancing pest control, pioneering melanoma imaging techniques and impactful work on immune cell development are among the achievements celebrated in Australia's premier science awards, the 2024 Australian Museum Eureka Prizes.

Winners were announced at a black-tie awards ceremony at Sydney Town Hall this evening, gathering hundreds of scientists from across the nation. A total of \$180,000 in cash prizes was distributed among 19 Australian Museum Eureka Prizes, celebrating outstanding achievements in Research and Innovation, Leadership, Science Engagement, and School Science.

The Australian Museum Eureka Prizes, now in its 34th year, continue to recognise the country's brightest scientific minds. Over the past three decades, more than \$4.7 million in prize money and a total of 509 Eureka Prizes have been awarded.

Australian Museum Director and CEO, Kim McKay AO, congratulated this year's winners and highlighted the critical role of Australian scientific innovation in addressing global challenges.

"The winners of the 2024 Australian Museum Eureka Prizes epitomise the extraordinary impact of Australian science on an international scale. By recognising those who have made significant contributions to science research in areas ranging from regenerative medicine to ocean forecasting and sustainable practices, the crucial role of science in driving progress and fostering a brighter future is reaffirmed," McKay said.

Australian Museum Research Institute Director and Chief Scientist, Professor Kris Helgen said receiving an AM Eureka Prize can lead to paradigm-shifting ideas, allocation of funding and increased awareness of a research topic. It can also cement the shift from a local player to the global stage.

"Awards create positive role models in the wider community as they help elevate the bar of scientific progress. Striving for excellence is key to remaining competitive in a global economy and defining how our world will evolve in the 21st century. Through the AM Eureka Prizes we honour those who are devoted to making a difference in their respective field and sharing their

knowledge with us," Helgen said.

The 2024 AM Eureka Prize winners are:

## Research & Innovation

### Eureka Prize for Environmental Research

Sensory Conservation Team, University of Sydney

Olfactory misinformation is a new, humane approach to pest control. This team's research focuses on sensory cues that attract animals – like the smell of wheat for mice or plants for wallabies – and distributes synthetic odours to confuse pest animals, effectively 'hiding' foods they damage. This approach has reduced pest damage by approximately 70%, without using poisons or traps.

### Australian Institute of Botanical Science Eureka Prize for Excellence in Botanical Science

Professor David Keith, University of New South Wales.

Professor David Keith has developed the world's first method to catalogue and describe all ecosystems on Earth. Adopted by the United Nations and already applied in Australia, the framework has been instrumental in formulating effective conservation strategies and is helping to maintain plant diversity in the face of increasing environmental change.

### Aspire Scholarship Eureka Prize for Excellence in Interdisciplinary Scientific Research

ACRF Australian Centre of Excellence in Melanoma Imaging and Diagnosis, University of Queensland

With more than 18,000 cases of melanoma diagnosed annually in Australia, the ACRF Australian Centre of Excellence in Melanoma Imaging and Diagnosis leads efforts to improve early detection and build a national targeted melanoma screening program. Drawing from a multidisciplinary team, they utilise AI-assisted 3D imaging technologies to conduct the world's largest preventive melanoma study.

### Australian Research Data Commons Eureka Prize for Excellence in Research Software

Professor Gordon Smyth, Walter & Elizabeth Hall Institute of Medical Research

Professor Gordon Smyth is the lead developer of the world's most downloaded software package of its type – Limma – which has been used to make biomedical discoveries published in more than 70,000 scientific papers. Limma helps identify and interpret changes in DNA material, significantly improving the confidence in statistical information used in biomedical research.

### Australian Infectious Diseases Research Centre Eureka Prize for Infectious Diseases Research

StrepA Outbreak Prevention Team, University of Queensland; University of Melbourne; CONACYT; and University of Wollongong

StrepA bacteria – responsible for common throat infections – are also a major cause of childhood diseases such as scarlet fever and septicaemia which contribute to child deaths globally. Responding to a post-COVID-19 infection surge, researchers from the StrepA Outbreak

Prevention Team are tracking disease spread to mitigate clinical impact and leading efforts to develop a much-needed vaccine.

#### ANSTO Eureka Prize for Innovative Use of Technology

Associate Professor Aaron McFadyen, Queensland University of Technology

Associate Professor Aaron McFadyen has developed new world-leading drone management technologies. In collaboration with aviation authorities and industry, these technologies are now embedded in automated flight planning, assessment and approval processes for drone operations. This has enhanced safety, efficiency and utilisation of airspace in Australia and overseas.

#### Macquarie University Eureka Prize for Outstanding Early Career Researcher

Dr Mengyu Li, University of Sydney

Motivated by the United Nations Sustainable Development Goals, Dr Mengyu Li's research quantifies the true cost of global demand for services and consumer goods – for example, food and energy. Through advanced computer modelling, her work maps intricate international supply chains, revealing their toll on society and the environment, while suggesting sustainable pathways for the future.

#### Department of Defence Eureka Prize for Outstanding Science in Safeguarding Australia

Bluelink Global Ocean Science Team, Bureau of Meteorology and CSIRO

The Bluelink Global Ocean Science Team has developed the world's most accurate global ocean forecast system, predicting its sea level and three-dimensional temperature, salinity and ocean currents. The large performance gains over previous Australian and comparable international systems provides the Australian Defence Force with information superiority for seaborne operations that safeguard Australia.

#### UNSW Eureka Prize for Scientific Research

Professor Stuart Tangye, Garvan Institute of Medical Research

Defects in immune cell development affect up to five in every 10,000 births globally. These inborn errors of immunity cause rare diseases that are difficult to diagnose and treat. Professor Stuart Tangye's research identifying novel immune defects and mechanisms of disease has significantly improved diagnosis, helping target treatment for more than half of diagnosed cases in Australia.

#### University of Sydney Eureka Prize for Sustainability Research

Sustainable Omega-3 Oil, CSIRO and Nuseed

In the most complex genetic engineering of a plant to reach commercial production, the Sustainable Omega-3 Oil Team has produced and commercialised omega-3 long-chain polyunsaturated fatty acids from canola crops. This could save the need for unsustainable harvests of wild-caught fish, and double the world's supply of omega-3, which is essential for good health.

## Leadership

### Eureka Prize for Emerging Leader in Science

Dr Jiao Jiao Li, University of Technology Sydney

Motivated by the belief that everyone is entitled to healthy ageing, Dr Jiao Jiao Li leads transdisciplinary research in regenerative medicine to find new treatments for bone and joint diseases, turning medical discoveries into new therapies for patients. She is also a leader and enabler in STEM engagement and career building for others, particularly under-represented groups.

### Eureka Prize for Leadership in Science

Distinguished Professor Calum Drummond AO, Royal Melbourne Institute of Technology

A transformational leader, Distinguished Professor Calum Drummond has revamped research and innovation ecosystems in public and private institutions, so they are more efficient and effective. He has established molecular assembly design rules and experimental methods to fast-track discovery and application, leading to new, high performance materials for use in medicine, energy storage and the resources sector.

### University of Technology Sydney Eureka Prize for Outstanding Mentor of Researchers

Professor Kate Jolliffe, University of Sydney

Professor Kate Jolliffe's research and leadership have enhanced Australia's standing in the relatively young field of supramolecular chemistry. To help close the gender gap she supported the foundation of the international 'Women in Supramolecular Chemistry' network. Her committed mentorship has resulted in more than 150 researchers appointed to senior academic and industry roles.

## Science Engagement

### Department of Industry, Science and Resources Eureka Prize for Innovation in Citizen Science

Presented by the Hon. Ed Husic MP Minister for Industry and Science.

#### Insect Investigators

Students have named 17 new insect species across Australia since 2019 through Insect Investigators' multi-state school-based program that combines insect surveys with DNA sequencing and taxonomy. The 1,800 students from 54 schools have helped increase knowledge of Australia's biodiversity by documenting more than 5,000 insect species using DNA.

### Celestino Eureka Prize for Promoting Understanding of Science

Professor Euan Ritchie, Deakin University

In the face of dual climate change and extinction crises, Professor Euan Ritchie is a sought-after voice. From writing popular articles and influential opinion pieces, live-tweeting field research and creating the much loved 'Australian Mammal of The Year' competition, he guides policy and fosters public understanding of nature, wildlife and how science can help overcome environmental challenges.

Australian Museum Eureka Prize for Science Journalism

Hello AI Overlords, Australian Broadcasting Corporation

Presented in six 25-minute audio episodes, Hello AI Overlords was inspired by the emergence of easy-to-use AI tools in 2022. Featuring interviews with leading experts, it showcases the human stories that shaped today's AI technologies. Subjects include accidents caused by driverless cars and a man wrongly convicted by this emerging technology. Broadcast by ABC Radio National and published as a podcast, October - November 2023.

Department of Industry, Science and Resources Eureka Prize for STEM Inclusion Presented by the Hon. Ed Husic MP Minister for Industry and Science.

Wonder of Science, University of Queensland

Wonder of Science is a program fostering STEM engagement and inclusion, particularly across regional and remote Queensland. Supporting low-income, female, neurodiverse and Indigenous students to build scientific literacy, it has reached 114,000 people since 2012, providing teacher support and STEM challenge tasks for Year 4 – 9 students.

School Science

University of Sydney Sleek Geeks Science Eureka Prize – Primary

Cate Y, Pymble Ladies College, Sydney, NSW

In her fast-paced film about her favourite snack – popcorn – 11-year-old Cate conducts a series of experiments, including blowing the lid off a metal tin to show why popcorn kernels explode. Popcorn Magic: Unlocking the Energy Within covers different varieties of corn, energy and the laws of thermodynamics and solves the mystery of why some corn kernels don't pop.

University of Sydney Sleek Geeks Science Eureka Prize – Secondary

Iestyn R., St John's Anglican College, Qld

Fourteen-year-old Iestyn used animation software and his own illustrations to make Fusion – The Heart of the Sun. His film includes an overview of the proton-proton fusion process that occurs in the Sun's core and shows how the Sun produces enormous amounts of energy – enough to power our planet's processes and support life on Earth.

2024 Australian Museum Research Institute Medal

In addition to celebrating the winners of the AM Eureka Prizes, the 2024 Australian Museum Research Institute (AMRI) Medal was awarded to Professor Shane Ahyong, NSW Senior Principal Research Scientist and Group Manager, Marine Invertebrates, AMRI. In addition to his role at AMRI, Professor Ahyong is also a Professor (Adjunct), School of Biological, Earth and Environmental Sciences at the University of New South Wales and a Research Associate at the National Museum of Natural History, Smithsonian Institution in Washington, DC.

The AMRI Medal is presented to an individual staff member, senior fellow, team from the

Australian Museum Research Institute for outstanding science and communication of their research outcomes.

Professor Shane Ahyong, a renowned marine biologist at the Australian Museum, has been recognised for his more than 30 years of experience as a crustacean taxonomist, and his interest in mentoring the next generation of young scientists.

Professor Ahyong has a very impressive publication record with more than 12,000 citations on Google Scholar and over 350 papers, book chapters and books. He is the author of eight seminal books on marine invertebrates and has twice received the Whitely Award for Best Invertebrate Natural History Book. Professor Ahyong's most recent book, the 900-page "Marine Decapod Crustacea: A Guide to Families and Genera of the World," coauthored with Dr Gary Poore from Museum Victoria is considered the 'bible of marine crustacea.'

Shane holds multiple key international appointments and committee positions, serving as a Commissioner on the International Commission on Zoological Nomenclature (ICZN), on the Steering Committee for the World Register of Marine Species (WoRMS), and the NSW Fisheries Threatened Species Scientific Committee. He is currently included in the Stanford University list of the top 2% most influential scientists worldwide.

Interviews available with finalists

[Media pack, including releases, winner info, images and video HERE](#)

#EurekaPrizes Twitter: @eurekaprizes Facebook: - @eurekaprizes

For more information: [australian.museum/eurekaprizes](http://australian.museum/eurekaprizes).

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#### About the Australian Museum

The [Australian Museum \(AM\)](#) was founded in 1827 and is the nation's first museum. It is internationally recognised as a natural science and culture institution focused on Australia and the Pacific. The AM's mission is to ignite wonder, inspire debate and drive change. The AM's vision is to be a leading voice for the richness of life, the Earth and culture in Australia and the Pacific. The AM commits to transforming the conversation around climate change, the environment and wildlife conservation; being a strong advocate for First Nations cultures; and to continuing to develop world leading science, collections, exhibitions and education programs. With more than 22 million objects and specimens and the Australian Museum Research Institute

(AMRI), the AM is not only a dynamic source of reliable scientific information on some of the most pressing environmental and social challenges facing our region, but also an important site of cultural exchange and learning.

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