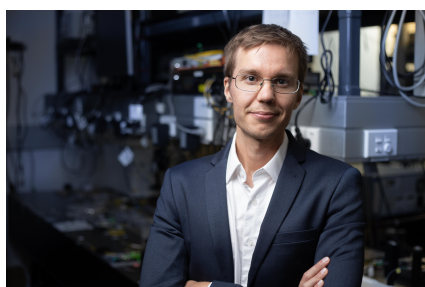


The New Zealand Association of Scientists Awards for 2024

Hill Tinsley Medal 2024

Associate Professor Miro Erkintalo (Waipapa Taumata Rau, University of Auckland) is the 2024 winner of the Hill Tinsley Medal.

Dr Erkintalo is a leading laser physicist working in the Department of Physics at The University of Auckland, Waipapa Taumata Rau. He combines theoretical



analyses, numerical modelling, and laboratory experiments to explore and develop novel sources of laser light for a host of applications ranging from telecommunications to sensing. He has made many pioneering contributions that have substantially advanced several emerging photonic technologies, including ultrashort pulsed mode-locked fibre lasers, nonlinear optical frequency converters, and microresonator optical frequency combs. Dr Erkintalo's research has had broad impact, with many highly cited publications in the most prestigious journals of his field, including five articles in Nature journals over the past three years. He is a firm believer in collaborative research and ascribes his success to the many outstanding students and colleagues he has had the privilege to work with.

Cranwell Medal 2024

Dr Colin Miskelly (Museum of New Zealand Te Papa Tongarewa) is the 2024 winner of the Cranwell Medal.



Dr Miskelly has been Curator Vertebrates at the Museum of New Zealand Te Papa Tongarewa since 2010 and prior to that worked for the Department of Conservation since the early 1990s. Dr Miskelly is one of Aotearoa's leading and most passionate ornithologists, specialising in bird conservation and the history of science. He has a strong record of public engagement across a range of platforms and has given

numerous interviews to the national and international media. He has written over 200 Te Papa science blog posts, contributed to several museum exhibitions and edited several popular books. Perhaps his most significant science communication project to date was his development of

New Zealand Birds Online – the digital encyclopaedia of New Zealand Birds. This website went live in 2013 and is the definitive guide to New Zealand birds, with a webpage for every living, extinct, fossil, vagrant and introduced bird species. Dr Miskelly obtained funding, managed over 100 expert authors who wrote species texts, over 500 photographers who collectively contributed more than 13,000 images, as well as writing a fifth of the species accounts himself. The site receives over 1 million views per annum and Dr Miskelly continues to administer the website himself and add new material.

Shorland Medal 2024

Professor Chris Bumby (Te Herenga Waka, Victoria University of Wellington) is the 2024 winner of the Shorland Medal.

Prof. Bumby is a recognised international expert in the development of high-temperature superconducting (HTS) flux pumps, and has made a significant contribution to the fundamental understanding of these devices, developing a theory that describes the key physics that underpins their highly unusual behaviour. This insight has enabled the design, demonstration and development of a series of novel engineering prototype devices by researchers at VUW's Robinson Research Institute, which have attracted the interest of research groups around the world. As a result, HTS Flux pumps are now considered to be key enabling component for future high power-density HTS magnets and machines. Today, Prof. Bumby's work and patents underpin a variety of research efforts into the applications of high-temperature superconductors, including by international collaborations developing new technologies for application in fields as diverse as superconducting electric aircraft, high-speed electric trains, and fusion energy generation. Beyond Planet Earth, HTS Flux pumps are also now being adopted by space engineers to realise entirely new concepts for compact, lightweight electromagnetic propulsion thrusters using high-temperature superconductors.



Prof. Bumby's research also spans other areas of materials science and engineering. Over the last 7 years he has driven a rejuvenation of New Zealand's R&D capability in the extractive metallurgy of titanomagnetite ironsand - New Zealand's indigenous iron ore resource. He has built a research team who have together conceived, designed and demonstrated a novel industrially-scalable process for hydrogen-reduction of NZ ironsand, an approach which can

eliminate CO2 emissions from NZ's steel industry. This work has received widespread attention from government and industry alike, and was awarded the 2020 HERA Innovation award for its potential to deliver significant benefits to the NZ steel industry.

Marsden Medal 2024

Professor Mike Dragunow (Waipapa Taumata Rau, University of Auckland) is the 2024 winner of the



Marsden Medal. Professor Dragunow is a world leading neuropharmacologist based at the University of Auckland, Waipapa Taumata Rau researching the causes and developing treatments for disorders and cancers of the brain. He has published over 340 research articles and book chapters identifying key

neurochemical mechanisms that underpin a range of brain disorders which have been cited over 37,000 times. He has served on multiple editorial boards, grant funding and Royal Society committees, as well acting as a consultant and Scientific Advisory Board Member for Biotech's. He has been awarded over 55 million dollars in research grants and has supervised over 100 graduate students as well as teaching neuropharmacology to thousands of undergraduate science and medical students. He has established world leading research platforms notably the Hugh Green Biobank and the Freemasons Neurosurgery Research Unit utilizing human brain tissue generously donated by patients and families to grow and study human brain cells in the lab and most importantly to use these to test and identify new treatments for brain disorders. Mike has made impactful world leading contributions to the health sciences nationally and internationally.

NZAS Awards

Hill Tinsley Medal

Awarded for outstanding fundamental or applied research in the physical, natural or social sciences published by a scientist or scientists within 15 years of their PhD.
<https://scientists.org.nz/Hill-Tinsley-Medal>

Shorland Medal

Awarded in recognition of major and continued contribution to basic or applied research that has added significantly to scientific understanding or resulted in significant benefits to society.
<https://scientists.org.nz/Shorland-Medal>

Marsden Medal

Awarded for a lifetime of outstanding service to the cause or profession of science, in recognition of service rendered to the cause or profession of science in the widest connotation of the phrase.
<https://scientists.org.nz/Marsden-Medal>

Cranwell Medal

Awarded to a practising scientist for excellence in communicating science to the general public in any area of science or technology.
<https://scientists.org.nz/Cranwell-Medal>

The Scientific Workers Medal

New in 2025 The Scientific Workers Medal is awarded for essential and significant contributions to science through application of technical skill and knowledge by those in a technical support role.
Details TBD

Awards applications open in June and run through to the end of July. All information on awards, applications and past recipients can be found at <https://scientists.org.nz/Awards>.