



Royal Society of New South Wales 2023

Awards Winners 2023

The Awards for 2023 were announced at the 1318th Ordinary General Meeting of the Society, held on Wednesday, 29 November 2023. There has been a revision of the Awards this year, as is described below.

Four Career Excellence Awards

James Cook Medal

Scientia Professor Helen Cristensen AO FASSA FAHMS

Edgeworth David Medal

Professor Qilin Wang FRSN

Aboriginal and/or Torres Strait Islander Scholars Medal

Aunty Francis Bodkin

Ida Browne Early Career Medal

Dr Brendon Neuen

Five Discipline Awards and Lectureships

Clarke Medal and Lecture in Earth Sciences

Professor Moninya Roughan FRSN

Walter Burfitt Award in Medical and Veterinary Sciences and Technology

Professor Maria Kavallaris AM FRSN FAHMS

Award in the Social and Behavioural Sciences

Scientia Professor Kaarin Anstey FRSN FASSA FAHMS

Award in the History and Philosophy of Science

Professor Hans Pols FRSN FAHA FASSA

Jak Kelly Award

Mr Jamie Andres Alvarado-Montes

Two Bicentennial Postgraduate Scholarships

Ms Sasha Bailey, Mr Jayden McKinnon

Three Bicentennial Early Research Career Scholarships

Dr Jacinta Martin, Dr Abhimanu Pandey, Dr Shoujin Wang

Two Royal Society Service Awards

Royal Society of NSW Medal

Judith Wheeldon AM FRSN

Royal Society of NSW Citation

Mr Jason Antony MRSN

The Awards

James Cook Medal

Scientia Professor Helen Cristensen AO FASSA FAHMS

The James Cook Medal is awarded for the most meritorious lifetime contributions to knowledge and society in Australia or its territories made by an individual and conducted mainly in New South Wales. The recipient may be resident in Australia or elsewhere. The James Cook Medal was established by the Council in 1943 following a donation made by Henry Ferdinand Halloran to celebrate his 50 years as a member of the Society and it has been awarded periodically since 1947. In 2023, the Council determined to award it annually.

Helen Christensen, from the Black Dog Institute, UNSW Sydney, is a highly innovative scientist who has achieved an unparalleled level of impact on internet-mediated mental health both in Australia and worldwide. She is internationally recognised as founding the use of digital and online technology to deliver evidence-based prevention and intervention therapy for common mental illnesses. Her ground-breaking contributions have spawned a vast international research effort that incorporates academia, business, clinics and community, not only leading the research field internationally but also greatly improving the lives of many, many Australians living with mental illness.

Seven Awards for Research Excellence

Edgeworth David Medal

Professor Qilin Wang FRSN

The Edgeworth David Medal is awarded for the most meritorious contributions to knowledge and society in Australia or its territories, conducted mainly in New South Wales by an individual who is from 5–15 years post-PhD or equivalent on 1 January of the year of the award. The recipient may be resident in Australia or elsewhere. The Edgeworth David Medal was established by Council in 1943 in honour of Sir T. W. Edgeworth David FRS, who compiled

the first comprehensive record of the geology of Australia, following a donation made by Henry Ferdinand Halloran to celebrate his 50 years as a member of the Society. It has been periodically awarded since 1948; in 2023, the Council determined to award it annually.

Qilin Wang, from the University of Technology Sydney, has achieved international recognition for his contributions to sustainable wastewater treatment and wastewater-based epidemiology. His patented technology can convert wastewater treatment plants into carbon-neutral energy generators by ingeniously harnessing a waste by-product on-site. In addition to this energy innovation, Professor Wang's technology significantly reduces the environmental impact of wastewater treatment by effectively preventing pollution — including antibiotic resistance genes, pathogens, nitrogen, microplastics, and “forever chemicals” — from entering the environment while minimising waste production and land usage.

Furthermore, Professor Wang has pioneered the development of an accurate prediction tool that can forecast hospital admissions due to COVID-19 up to four weeks in advance, relying on wastewater-based epidemiology. His outstanding contributions have been recognised through numerous research and industry awards, including Eureka Prize for Outstanding Early Career Researcher, Eureka Prize for Applied Environment Research, Australian Research Leader in Water Supply & Treatment, NSW Young Tall Poppy, Prime Minister's Prize Finalist, MIT *Technology Review* Innovator, and Australia's Most Innovative Engineer. He secured a tenured full professorship only seven years after PhD completion, a German Humboldt Fellowship for Experienced Researcher, an ARC DECRA Fellowship only six months after PhD completion, and an ARC Future Fellowship — Level 2, only five years after PhD completion.

Aboriginal and/or Torres Strait Islander Scholars Medal

Aunty Francis Bodkin

The Aboriginal and/or Torres Strait Islander Scholars Medal is awarded for the most meritorious contributions to knowledge and society made by scholars identifying as Australian Aboriginal or Torres Strait Islander and conducted mainly in New South Wales. Recipients may be resident in Australia or elsewhere. The Aboriginal and/or Torres Strait Islander Scholars Medal was established by the Council in 2023 to reflect the full scope of the Society's values.

Francis Bodkin, of Western Sydney University, has made significant contributions to Aboriginal knowledge across multiple disciplines, including Medicine, Linguistics, the Environment and Psychology. Since her first publication in 1986 on native and exotic plants in Australia, Aunty Fran has contributed to 36 different works spanning fields of knowledge such as native flora and fauna, environmental sustainability, Dreamtime and Ancestral knowledge, climate, D'harawal Language, medicine, and psychology. Her D'harawal Pharmacopeia consists of 1,885 pages of native plants prevalent to D'harawal Country (the Sydney region), their medical uses and associations with other native plants. Aunty Fran has dedicated herself to teaching others in higher education, schools, community organisations, and to documenting her knowledge in literature for future generations. Without the contributions of Aunty Fran, undoubtedly a significant amount of Indigenous cultural knowledge would have been lost.

Ida Browne Early Career Medal

Dr Brendon Neuen

The Ida Browne Early Career Award recognises the most meritorious contributions to knowledge and society in Australia or its territories by an individual from 0–5 years post-PhD or equivalent on 1 January of the year of the award and conducted mainly in New South Wales. The recipient may be resident in Australia or elsewhere. The Ida Browne Medal was established by the Council in 2023 in honour of Ida Browne DSc, a palaeontologist and the first woman President of the Royal Society of NSW, serving from 1953–1954.

Brendon Neuen is a Nephrologist and Director of the Kidney Trials Unit at Royal North Shore Hospital, and Senior Research Fellow at The George Institute for Global Health, UNSW Sydney. He is widely recognised for his expertise in cardio-renal-metabolic medicine. Dr Neuen established the SGLT2 Meta-Analysis Cardio-Renal Trialists' Consortium, bringing together data on more than 90,000 patients to better understand the effects of this class of medicines in different types of patients. His work has directly informed more than 25 major international and national guidelines, position papers and scientific statements which optimal care for people with type 2 diabetes and kidney disease.

Discipline Awards and Lectureships

Clarke Medal and Lecture in Earth Sciences

Professor Moninya Roughan FRSN

The Clarke Medal and Lecture is awarded for distinguished research in any area of the sciences affecting the planet, excluding Medicine and Veterinary Science, and Agricultural and Environmental Science, and conducted mainly in New South Wales. Recipients may be resident in Australia or elsewhere. The Medal honours the Rev. William Branwhite Clarke, a geologist, and a significant figure in the history of the Royal Society of NSW, who served for a decade as a highly influential Senior Vice-President of the Society (noting that in the early years, the Governor of NSW was the President of the Society).

Moninya Roughan, from UNSW Sydney, is an outstanding oceanographer and authority on the dynamics of the East Australian Current (EAC), ocean observing and prediction systems and their application to understanding western boundary currents and continental shelf processes. She currently leads the Coastal and Regional Oceanography Lab at UNSW, where she has made important, far-reaching contributions to our understanding of continental-shelf processes and western boundary current warming through the use of new technologies. An internationally acknowledged leader in her field, she is also dedicated to the training of the next generation of scientific leaders.

Walter Burfitt Award in Medical and Veterinary Sciences and Technology

Professor Maria Kavallaris AM FRSN FAHMS

The Walter Burfitt Award recognises distinguished research in any area of the Medical and Veterinary Sciences and Technologies, conducted mainly in New South Wales. Recipients may be resident in Australia or elsewhere. The Walter Burfitt Award honours the life and

work of Walter F. Burfitt BA MB ChM BSc, an eminent Sydney surgeon in the 1950s. It was established as a prize with generous support from Dr Burfitt and his wife, and was first awarded in 1929.

Maria Kavallaris, from the Children’s Cancer Institute, UNSW Sydney, is an exceptional cancer research leader, innovator, mentor and role model who has made seminal discoveries on mechanisms of clinical drug resistance and tumour aggressiveness in childhood and adult cancers. Recognised as a world leader in cancer and microtubules, her discoveries have led to both patents and industry partnerships for the development of cancer therapeutics. Crucially, in complement to her exceptional research record, Professor Kavallaris has made outstanding contributions to NSW and Australia via highly influential medical research advocacy and mentoring the next generation of Australian cancer research leaders.

Award in the Social and Behavioural Sciences

Scientia Professor Kaarin Anstey FRSN FASSA FAHMS

This award recognises distinguished research in any area of the Social and Behavioural Sciences, including Psychology, Economics, Management, and related disciplines, conducted mainly in New South Wales. Recipients may be resident in Australia or elsewhere. This Award was established by the RSNWS Council in 2023 to reflect the full scope of the Society’s founding values.

Kaarin Anstey, from Neuroscience Research Australia, UNSW Sydney, is a world leader in cognitive ageing and dementia risk reduction. Her program of research has contributed greatly to the evidence base on dementia prevention through the identification and quantification of risk factors for dementia, the development of risk assessment tools and the implementation of interventions. Moreover, her work has directly informed public policy and guidelines, both within Australia and globally, particularly in her collaboration with the World Health Organization. As a consequence, she has made an important, sustained, positive impact on the lives of tens of thousands of people in Australia and around the world.

Award in the History and Philosophy of Science

Professor Hans Pols FRSN FAHA FASSA

This Award recognises distinguished research in the History and Philosophy of Science conducted mainly in New South Wales. Recipients may be resident in Australia or elsewhere. The Royal Society of NSW History and Philosophy of Science Award was established by the Council in 2013 to reflect the founding values of the Society and was first awarded in 2014.

Hans Pols, from the University of Sydney, is the preeminent historian of science and medicine in Indonesia and Southeast Asia and a leading international scholar of the development of the global neurosciences. His principal work, *Nurturing Indonesia: Medicine and Decolonisation in the Dutch East Indies*, transforms our understanding of the connections of scientific research with nationalism and decolonization, at the same time as it makes key contributions to the global history of science. His ground-breaking studies in the history of twentieth-century psychiatry are exemplars of science historiography, illuminating contemporary predicaments and showing how scientific insight is shaped by and shapes national projects and global concerns.

Jak Kelly Award

Mr Jamie Andres Alvarado-Montes

The RSNSW Jak Kelly Award recognises excellence in postgraduate research in physics annually. The winner is selected from presenters at each year's Australian Institute of Physics NSW Branch Postgraduate Awards, as advised to the Awards Committee of the Royal Society of NSW. This Award honours the life of Jak Kelly (1928–2012), Professor and Head of Physics at the University of NSW (1985–1989), Honorary Professor at the University of Sydney (2004), and President of the Royal Society of NSW (2005–2006). It was first awarded in 2010.

Jamie Andres Alvarado-Montes, originally from Colombia, is a PhD candidate in the School of Mathematical and Physical Sciences at Macquarie University. His research focusses on the planetary sciences, with an emphasis on extrasolar planets, moons, rings, asteroids, and comets. His award-winning presentation at the 2023 Australian Institute of Physics NSW Postgraduate Awards was titled “Tidal Evolution and Detectability of Close-in Extrasolar Systems.” In this talk, he discussed how close-in planetary systems, composed of giant bodies, can help us test tidal models and work as a probe to constrain the interior structure of stars and planets and showed how tidal interactions affect the evolution of planetary systems. He concluded by noting that despite the plethora of exoplanets discovered to date, none of them have the same characteristics as those of our unique solar system and that research, such as his, can provide a better understanding of how features of our solar system, yet to be discovered around other stars, may eventually be detected through improved models of planetary tidal evolution.

Bicentennial Postgraduate Scholarships

The RSNSW Bicentennial Postgraduate Scholarships are awarded each year to recognise outstanding achievements by young researchers in any academic field. Applicants must have completed an undergraduate degree within NSW or the ACT and must on 1 January of the year of nomination be enrolled as research students in the first or second year of their first higher degree at a university or other research institution in NSW or the ACT.

For 2023, two RSNSW Scholarships have been awarded:

- Ms **Sasha Bailey** — PhD Candidate, University of Sydney
- Mr **Jayden McKinnon** — PhD Candidate, University of Wollongong

Sasha Bailey is a second-year PhD and research assistant in the Matilda Centre for Research in Mental Health and Substance Use at the University of Sydney, having previously completed a BA in Philosophy and a Master of Public Health, also at the University of Sydney. Since commencing her PhD in March 2022, she has received 19 awards/prizes and has published two journal articles as a first author with a further 12 first-author publications under review. In addition to her research program, Sasha holds a number of leadership and governance roles in the Matilda Centre and the wider LGBTQA+ community.

The focus of Sasha's research is on improving the understanding and prevention of mental ill-health and substance use among gender- and sexuality-diverse (LGBTQA+) young people in Australia and internationally. Using data from the Longitudinal Study of Australian

Children, she has produced Australia's first-ever population-level, nationally representative estimates of the number of LGBTQA+ young people affected by mental ill-health, substance use, victimisation, and discrimination, within Australia, identifying just how much an LGBTQA+ affirming school climate can protect and buffer against the mental ill-health effects of victimisation and discrimination. Her research is complemented by her active advocacy for improved LGBTQA+ public health action, with her nominators noting that she is called upon routinely by senior executives at the University to deliver speeches about LGBTQA+ visibility at the University.

Jayden McKinnon is a PhD student in the Molecular Horizons Research Institute and the School of Chemistry and Molecular Biosciences at the University of Wollongong, following his BMedSc (Hons) degree studies at UoW. His PhD studies are in the field of mass spectroscopy imaging, the aim of which is the development of innovative methods for the detection of metabolites in tissues.

Now in his second year of his PhD, he has achieved a first-author paper in the journal, *Analytical Methods*. In addition, he has been recognised through two significant awards at the University of Wollongong Higher Degree Research Symposium — the Student Choice Award for Best Oral Presentation and the Best Oral Presentation Award. In addition to his research studies, Jayden has also taken on academic and scientific leadership positions, notably as the Vice President of the Medical and Health Sciences Association at the University of Wollongong from 2018–2020, and currently as a student representative on the board of the Australian and New Zealand Society for Mass Spectrometry.

Bicentennial Early Research Career Scholarships

The RSNSW Bicentennial Early Career Research and Service Citations are awarded each year to recognise outstanding contributions to research and service to the academic and wider community. Applicants must on 1 January of the year of nomination be no more than 5 years after the award of their PhD or equivalent by a university or other research institution in NSW or the ACT.

For 2023, three RSNSW Early Career Citations have been awarded:

- Dr **Jacinta Martin** — University of Newcastle
- Dr **Abhimanu Pandey** — Australian National University
- Dr **Shoujin Wang** — University of Technology Sydney

Since 2021, **Dr Jacinta Martin** has been a Lecturer and postdoctoral researcher in the University of Newcastle (UoN) College of Engineering, Science and Environment and the Hunter Medical Research Institute (HMRI) Infertility and Reproduction Research Program. She works with a multidisciplinary group of researchers using human and animal models to characterise the processes of gamete maturation — the process by which oocytes and spermatozoa are formed. The goal of her research is to improve the understanding of factors that lead to infertility and pregnancy loss in women.

After graduating from UoN with a PhD in 2019, Jacinta has established a strong academic record that includes 24 research articles and nearly \$1 million in research funding. During her PhD, Jacinta received the Best HDR Publication Award in 2016 and 2018 and received a

number of travel grants that allowed to to present her work at major international meetings. Following her PhD, she undertook post-doctoral research at the McGill University Health Centre in Montreal, Canada, from 2019–2021. Dr Martin’s academic career extends beyond her personal research performance into the development of her discipline. She has served the Society for the Study of Reproduction (USA) on the Board of Directors as their trainee representative and has had significant professional roles at McGill University, HMRI, and the University of Newcastle as a facilitator, chair, adjudicator, and committee member.

Dr Abhimanu Pandey is a postdoctoral researcher at the John Curtin School of Medical Research (JCSMR) at the Australian National University, following the completion of his PhD at JCSMR in 2022 and undergraduate studies in India prior to that. He works in the research group of Professor Si Ming Man FRSN which studies innate immunity and inflammasomes. At the time of the application for this award, he has 15 peer-reviewed publications, nine of which were generated during his PhD, and has been awarded three early career research grants. In his research, he has identified a novel biomarker for bowel cancer that can sense DNA and inhibit the development and progression of bowel inflammation and cancer. The identification of precise structural locations within the immune protein that are druggable, using small molecule drugs, is expected to be transformational in the improvement of treatment outcomes in patients with inflammation and cancer.

In addition to his research profile, Dr Pandey has demonstrated leadership within his profession. Within JCSMR, he organised the first School HDR Student Conference in 2022, while within the wider University, he volunteers and raises funds for the Multiple Sclerosis Mega Swim event, and serves as a mentor for undergraduate science students. Externally, he is a reviewer for five international research journals.

Dr Shoujin Wang is a Lecturer in Data Science at the University of Technology Sydney, following the completion of his PhD at UTS in 2019. His research interests are in data mining, machine learning, recommender systems, and fake news mitigation, and in the past five years he has authored 60 publications that have received 2,400 citations. His research record includes a number of IEEE awards and a growing research grant profile.

His research activities have a range of real-world applications and impacts, notably his pioneering work on fake news mitigation via recommendation that is helping to mitigate disinformation on the web. His work addresses challenges faced across a range of sectors, including infrastructure, banking, accounting, and agriculture, and involves collaborators that include EY, Sydney Water, Suncorp, and Agriweb. His work with Sydney Water has led to a novel prediction model that automatically and effectively provides early detection of water-quality issues in reservoir catchments.

Royal Society Service Awards

2023 Royal Society of NSW Medal

Judith Wheeldon AM FRSN

The Royal Society of New South Wales Medal recognises an individual who has made meritorious contributions to the advancement of knowledge in any field, and also to the Society’s

administration, organisation, and endeavours. The RSNSW Medal was first awarded in 1884, revived in 1943, and has been awarded periodically thereafter.

Judith Wheeldon is first mentioned in the annual report of the RSNSW in 2013, being one of four panellists in the Society’s third Forum at the Powerhouse Museum. Elected as a Fellow of the Society and Councillor in 2014, there began a continuous and meritorious involvement with the Society for the next decade. Her Fellowship citation reads “Judith Wheeldon is recognised for eminent and long-standing service to Australian secondary education at senior levels and for service to professional organisations.”

Judith was elected to the RSNSW Council as a member in 2014 and as Vice-President in 2015, a position she held until her retirement in 2023. In addition, she served as a member of the Fellows, Nominations, Membership, Events, Voice and Outreach, Community Engagement, and Fundraising Committees. Her contributions to the Society are typified by her work to establish strong relationships with other organisations including the State Library of NSW, the Sydney Mechanics School of Arts, and Government House in Sydney where she established the series “Ideas@theHouse.”

Judith’s impact in the wider community is as a leader in education and the arts. She is a recognised innovator in the education of girls through her roles as principal or headmistress of four schools, including Abbotsleigh and Queenwood. As a director on the Australian Learning and Teaching Council, Judith contributed to the management and planning of teaching across Australia and was a Trustee of the Museum of Applied Arts and Science (Powerhouse Museum). She was honoured as a Member of the Order of Australia in 2006 in “Recognition of contribution to Australian public life, specifically in education leadership and pro bono work in the community.”

2023 Royal Society of NSW Citation

Mr Jason Antony MRSN

The Royal Society of New South Wales Citations recognise individuals who have made significant contributions to the Society, but who have not been recognised in any other way. The RSNSW Citation was first awarded in 2019.

Jason Antony has been indispensable in the production of fifteen issues of the *Journal & Proceedings of the Royal Society* since 2016, and as editor (and producer) of 28 issues of the *Bulletin* from 2020 to 2023. To appear, publications — both on-line and printed — require knowledge, skills, and effort. Providing all of these, Jason has contributed hugely to the improved presentation and appeal of both publications, which are very important for the Society’s outreach, heritage, and communications. This Citation is a measure of his value and continuing importance to the Society.



Events in 2023

Meetings held by the Society in four places: Sydney; Newcastle by the Hunter Branch; Mittagong by the Southern Highlands Branch; and western NSW by the Western NSW Branch.

1310th OGM and Open Lecture

“Drones, Smart Munitions, and Cyberspace: the 21st Century Defence of Ukraine and its implications for Australia,” Major General (Retd) Fergus (Gus) McLachlan AO & Colonel (Retd) Andrew Condon CSC; 1 February, Venue: Gallery Room, State Library of NSW, Shakespeare Place, Sydney

Southern Highlands Branch Meeting 2023-1

“A comprehensive review of the safety and efficacy of COVID-19 vaccines,” Dr Phillip Altman; February 16, Venue: RSL Moss Vale

Ideas@theHouse: March 2023

Ideas@theHouse presented by Her Excellency the Honourable Margaret Beazley AC KC, Governor of NSW. “Aristotle on life and thought in the sub-lunary sphere,” Dr John Vallance FRSN FAHA State Librarian of NSW; March 2, Venue: Live streamed from Government House Sydney

RSNSW 2023 Annual Dinner and Presentation of Awards

March 10, Venue: Sydney Modern, Art Gallery of NSW

1311th OGM and 2022 Student Award Presentations

Royal Society of NSW 2022 Student Award Presentations: Shankar Dutt, ANU, Clara Liu Chung Ming, UTS, Thomas Mesaglio, UNSW Sydney, Anyang Zhao, ANU. March 15, Video presentation: YouTube video

Hunter Branch Annual General Meeting 2023 and Branch Meeting 2023-1

“From floods to drought? What might this year bring and what is causing these extremes,” Dr Danielle Verdon-Kidd, Associate Professor, Environmental and Life Sciences, University of Newcastle; March 16, Venue: 40 Newcomen Street, Newcastle

Southern Highlands Branch Meeting 2023-2

“The Kindness Revolution,” Hugh Mackay AO FRSN; March 16, Venue: RSL Mittagong

Annual Meeting of the Four Societies 2023

“Energy in Germany and Europe — 2022 and beyond,” Franziska Teichmann, Head, German Secretariat for Energy Cooperation with Australia and New Zealand. A joint meeting of the Australian Institute of Energy, the Australian Nuclear Association, the Sydney Division of Engineers Australia, and the Royal Society of NSW; March 21, Venue: Engineers Australia Sydney Auditorium, 44 Market Street, Sydney

Frontiers of Science Forum 2023

“Exploring major discoveries and theories in physics, mathematics, biology, and chemistry,” Hon Prof Robert Booy, University of Sydney; Dr Anna Romanov, UNSW Sydney; Assoc Prof David Bishop, UTS; Assoc Prof Susanna Guatelli, University of Wollongong. A joint meeting of the Australian Institute of Physics (AIP), the Teachers’ Guild of NSW (TGNSW), the Royal Australian Chemical Institute (RACI), and the Royal Society of NSW. March 24, Venue: Concord Golf Club, 190 Majors Bay Road, Concord

1312th OGM and 2019 Clarke Memorial Lecture; 156th Annual General Meeting

“Reconstructing ancient oceans, sea-level fluctuations, the deep carbon cycle and biodiversity,” Professor Dietmar Müller FAA FAGU, Professor of Geophysics School of Geosciences, University of Sydney; April 5, Venue: Gallery Room, State Library of NSW, Shakespeare Place, Sydney, video

Western NSW Branch Meeting 2023-1

“Children should be seen AND heard: the importance of communication so children can thrive,” Professor Sharynne McLeod FRSN FASSA, Professor of Speech and Language Acquisition, School of Education, Charles Sturt University; April 20, Venue: Engineering Building, Building 1305, Charles Sturt University, Bathurst, video

Southern Highlands Branch Meeting 2023-3

“Most of our universe is missing — Adventures in the dark side of the cosmos,” Professor Geraint Lewis FRSN FLSW, Professor of Astrophysics, Sydney Institute of Astronomy, University of Sydney; April 20, Venue: RSL Mittagong, Alexandra Room

RSNSW Online Lecture 2023-1

“Artificial Intelligence myths debunked — how AI is transforming humanity for the global good,” Professor Michael Blumenstein FACS, Professor and Acting Dean, Faculty of Engineering & IT, University of Technology Sydney; May 3, Venue: Zoom webinar

Hunter Branch Meeting 2023-2

“Invention, Innovation, Impact — the I’s have it!,” Kevin Galvin FAA FTSE FIEAust CPEng, Laureate Professor and Director, ARC Centre of Excellence for Enabling Eco-efficient Beneficiation of Minerals, Newcastle Institute for Energy and Resources, University of Newcastle; May 11, Venue: Hunter Room, Newcastle City Hall, 290 King St, Newcastle

Southern Highlands Branch Meeting 2023-4

“Brief Encounters: Literary Travellers in Australia,” Susannah Fullerton OAM FRSN, Author, Literary Lecturer, and Tour Leader; May 18, Venue: Chevalier College, Performing Arts Centre

1313th OGM and Open Lecture

“Making rights a reality — the need for a Human Rights Act for Australia,” Emeritus Professor Rosalind Croucher AM FAAL, President, Australian Human Rights Commission; June 7, Venue: Gallery Room, State Library of NSW, Shakespeare Place, Sydney, video

Ideas@theHouse: June 2023

Ideas@theHouse presented by Her Excellency the Honourable Margaret Beazley AC KC, Governor of NSW. “Importance of scientific ideas and discovery to Australia’s future,” Dr Cathy Foley AO PSM DistFRSN FAA FTSE, Australia’s Chief Scientist; June 14, Venue: Live streamed from Government House Sydney

Southern Highlands Branch Meeting 2023-5

“Machines behaving badly: the morality of AI,” Professor Toby Walsh FAA FACM FAAAS, Scientia Professor of Artificial Intelligence, UNSW Sydney; June 15, Venue: RSL Mittagong, Carrington Room

Western NSW Branch Meeting 2023-2

“A new history of Australian political thought,” Professor Wayne Hudson FAHA, Adjunct Research Professor, Australian Centre for Christianity and Culture, Charles Sturt University, Canberra; June 15, Venue: Charles Stuart University, 15 Blackall Street, Barton, ACT, video

Joint AIP, RACI, RSNSW, and ANSTO Presentation

“The Invisible Revealed,” Dr Joseph Bevitt, Senior Instrument Scientist, ANSTO, June 20, Venue: Hybrid — ANSTO Discovery Centre, New Illawarra Road, Lucas Heights NSW, video

RSNSW Online Presentation 2023-2

“What we need to know about the Voice — before we vote,” Panel comprising: Peter Baume AC DistFRSN, Megan Davis FRSN FASSA, Christopher Puplick AM, and Dean Ashenden, July 5, Venue: Zoom webinar, video

Hunter Branch Meeting 2023-3

“Groundwater: When will we learn we can’t drink money?” Professor Craig T. Simmons FAA FTSE FAGU, Pro Vice-Chancellor, College of Engineering, Science, and Environment, University of Newcastle; July 20, Venue: Hunter Room, Newcastle City Hall, 290 King St, Newcastle

Southern Highlands Branch Meeting 2023-6

“A recent study of nuclear energy usage in Canada and the USA,” Robert Parker, Founder, Nuclear for Climate Australia; July 20, Venue: RSL Mittagong, Carrington Room

1314th OGM and Open Lecture

“Convergence: the hybridisation of the future,” In conversation: Associate Professor Catherine Ball Futurist, Author, Researcher, Rebel and Maria MacNamara Director, Government Affairs and Innovation Strategy, Kyndryl; August 2, Venue: Gallery Room, State Library of NSW, video

Charles Perkins Centre Annual Lecture 2023

“Public health sovereignty and public reason: a comparative perspective,” Professor Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies, Harvard Kennedy School; August 2, Venue: University of Sydney, Camperdown Campus

Ideas@theHouse: August 2023

Ideas@theHouse presented by Her Excellency the Honourable Margaret Beazley AC KC, Governor of NSW. “Ideas for marine stewardship and sustainability in a time of acceleration,” Professor Emma Johnston AO FRSN FAA FTSE, Deputy Vice-Chancellor (Research), University of Sydney; August 10, Venue: Live streamed from Government House Sydney

Western NSW Branch Meeting 2023-3

“Behavioural data science as a game changer for understanding the interface between human and digital systems in the new digital economy,” Professor Ganna Pogrebna, Executive Director, Artificial Intelligence and Cyber Futures Institute, Charles Sturt University; August 16, Venue: Engineering Building, video

Southern Highlands Branch Meeting 2023-7

“Can plant breeding help us manage the challenges of climate change and food insecurity?” Professor Richard Trethowan, Director, Plant Breeding Institute, Sydney Institute of Agriculture, University of Sydney; August 17, Venue: RSL Mittagong, Carrington

1315th OGM and Open Lecture

“Challenges for Open Enquiry and Scholarship in a Divided Age,” Professor Alan Davison, Professor and Dean, Faculty of Arts and Social Sciences, University of Technology Sydney; September 6, video

Southern Highlands Branch Meeting 2023-8

“Gender dysphoria: emerging teen challenges,” Clare Rowe, Principal Psychologist and Director, Rowe & Associates; September 21, Venue: RSL Mittagong, Joadja/Nattai Room

1316th OGM and Open Lecture

“Australia’s nuclear future: a new discourse for the 2040s,” Helen Cook, Principal, GNE Advisory and Dr Adi Paterson FRSN FTSE, Former Chief Executive Officer ANSTO; October 4, Venue: Gallery Room, State Library of NSW, Shakespeare Place, Sydney, video

Southern Highlands Branch Meeting 2023-9

“Are our weeds becoming new native species?” Professor Angela Moles FRSN, Ecology and Evolution Research Centre, UNSW Sydney; October 19, Venue: RSL Mittagong, Joadja/Nattai Room

Hunter Branch Meeting 2023-4

“Electrical Energy Supply. So what’s all the fuss about,” Professor Colin Waters, Professor of Physics, University of Newcastle; October 26, Venue: Hunter Room, Newcastle City Hall

Joint UNE SRI and RSNSW Presentation

“CleanTech Futures 2023: Electrification and opportunities for community and business,” Professor Renate Egan, Executive Director, Australian Centre for Advanced Photovoltaics, UNSW Sydney; October 30, Venue: NOVA, 122 Faulkner Street, Armidale NSW 2350, video

RSNSW and Learned Academies Forum 2023

“Our 21st Century Brain,” November 2, Venue: Live streaming from Government House Sydney Video presentations: YouTube. The proceedings will appear in the *Journal & Proceedings* of June 2024.

1317th OGM and 2022 Clarke Memorial Lecture

“Caves as observatories of groundwater recharge,” Professor Andy Baker FRSN FAGU, School of Biological, Earth, and Environmental Sciences, UNSW Sydney; November 8, Venue: Metcalfe Auditorium, State Library of NSW, Macquarie Street, Sydney, video

Western NSW Branch Meeting 2023-4

“Thirst for power — the rivers of conflict in Southeast Asia,” Professor Lee Baumgartner, Executive Director, Gulbali Institute for Agriculture, Water, and Environment, Charles Sturt University; November 16, Venue: Gum’s Cafe, Thurgoona, Charles Sturt University, Albury

Southern Highlands Branch Meeting 2023-10

“Secrets of cultural heritage revealed at ANSTO,” Dr Joseph Bevitt, Senior Instrument Scientist, ANSTO; November 16, Venue: RSL Mittagong, Joadja/Nattai Room

1318th OGM and Open Lecture

“What do we really know about 20th- and 21st-century sea-level change?” Emeritus Professor John Church AO FAA FTSE FAMS FAGU, Climate Change Research Centre, UNSW Sydney; November 29, Venue: Gallery Room, State Library of NSW, Shakespeare Place, Sydney, video



Note on Gazetting

The Government Gazette of the State of New South Wales is managed by the New South Wales Parliamentary Counsel's Office and has published Government notices, regulations, forms and orders since 1832. It went on line in 2001 and since 2014 is only to be found at <https://legislation.nsw.gov.au/gazette>.



Government Gazette

of the State of
New South Wales

Number 273—Other
Friday, 23 June 2023

On the initiative of RSNSW Fellow Robert Whittaker AM FRSN, the Society approached His Excellency the Governor to formally gazette fellows of the Society. All current fellows were included in the first gazetting in 2018, and subsequently at the beginning of each year fellows elected in the previous year will appear in the Gazette.

As the Gazette of Friday 23 June 2023 says:

“Her Excellency the Honourable Margaret Beazley AC KC, Governor of New South Wales, as Patron of The Royal Society of New South Wales and in furtherance of the aims of the Society in encouraging and rewarding the study and practice of Science, Art, Literature and Philosophy, is pleased to advise and acknowledge the election of the following as Fellows of the Society in 2022.”

Fellows

Proven leaders and experts in their field, entitled to use the post nominal FRSN. Please note Professorial titles — including adjuncts, conjoint, and professors of practice — have been used where applicable. Details as to their field of expertise, their resident university (or universities) or institution may be ascertained from the Royal Society of New South Wales.

ADKINS, Professor Lisa Adkins FRSN

AHARONOVICH, Professor Igor Aharonovich
FRSN

BALDOCK, Professor Clive Baldock FRSN

BROUGH, Professor Sarah Brough FRSN

CAIRNEY, Professor Julie Marie Cairney FRSN

COHN, Dr Geoffrey Stephen Cohn FRSN

CUNNINGHAM, Professor Anthony Lawrence
Cunningham FRSN

DOWLING, Professor Robyn Dowling FRSN

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EVANS, Mark Griffith Evans FRSN
FILIPOVIC, Professor Miroslav Filipovic FRSN
GREEN, Professor Roy Herbert Green FRSN
HEISER, Professor Gernot Alexander Heiser FRSN
HO-BAILLIE, Professor Anita Wing Yi Ho-Baillie FRSN
KAGIOGLOU, Professor Michail Kagioglou FRSN
KEEGAN, Professor Peter Keegan FRSN
LEISHMAN, Professor Michelle Leishman FRSN
LEMCKERT, Professor Charles James Lemckert FRSN
LEON, Professor Renée Elmina Leon FRSN
LUPTON, Professor Deborah Lupton FRSN
MARSHALL, Professor P David Marshall FRSN
MCGREEVY, Professor Paul Damien McGreevy FRSN
NGUYEN, Professor Tuan Van Nguyen FRSN
PARFITT, Professor Andrew James Parfitt FRSN
POORE, Professor Alistair Gary Beresford Poore FRSN
QUINN, Professor Jane Catherine Quinn FRSN
RAE, Judith Maree Rae (Ms) FRSN
REID, Professor Anna Reid FRSN
RENEWICK, Dr James George Renwick FRSN
RICHARDSON, Professor Desi Raymond Richardson FRSN
ROSS, Professor Allen Guy Patrick Ross FRSN
ROSS, Professor Shawn Adrian Ross FRSN
ROUGHAN, Professor Moninya Roughan FRSN
SOMERVILLE, Professor Margaret Somerville FRSN
SUBRAMANIAM, Professor Rathana Markandan Subramaniam FRSN
SULLIVAN, Professor Elizabeth Sullivan FRSN
THORDARSON, Professor Pall Thordarson FRSN
VAN NUNEN, Mr David John van Nunen FRSN
VAN NUNEN, Professor Sheryl Anne van Nunen, FRSN
WALLMAN, Professor James Wallman FRSN
WIGHTWICK, Professor Glenn Wightwick FRSN

Distinguished Fellows

Those Fellows of exceptional distinction, elected in 2020 by their peers, entitled to use the post nominal DistFRSN.

FOLEY, Dr Catherine Foley AO DistFRSN FAA FTSE

List of Fellows to be degazetted

BARNETT, Professor Allen Barnett
BATHURST, Hon Thomas Frederick Bathurst AC KC
BEAUMONT, Professor Joan Errington Beaumont
BONTHORNE, Mr Ross Bonthorne AM
BUCHAN, Dr Jennifer Buchan
CORKISH, Dr Richard Corkish
CRAIN, Professor Stephen Crain
CROSSLEY, Maxwell John Crossley
DODDS, Professor Susan Dodds
DUNN, Professor Kevin Mark Dunn
FORGAS, Professor Joseph Paul Forgas AM
FOSTER, Professor Neil Russell Foster
GOODING, Professor Justin Gooding
HALL, Professor Kevin Hall
HARLEY, Professor Ross Harley

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|--|--|
| HEIMANS, Mr Ralph Heimans AM | NIXON, Professor Brett Nixon |
| HISCOCK, Professor Peter Hiscock | OLDROYD, Professor Benjamin Paul Oldroyd |
| HOGARTH, Professor William Hogarth | PALMER, Mr George Alfred Palmer AM QC |
| HOLMES, Professor Scott Holmes | PAYNE, Professor Richard Payne |
| HOWE, Professor Brian Leslie Howe AO | PEREZ, Professor Pascal Perez |
| JACOBS, Professor Ian Jacobs | PRICE, Professor William E. Price |
| KEWLEY, Professor Lisa Kewley | PYKE, Professor Graham Harvey Pyke |
| KRISHNA, Professor Venni Krishna | RAMAGGE, Professor Jacqui Ramagge |
| LEVY, Dr David Charles Levy | REDMOND, Professor John Redmond |
| LONDON, Professor Kerry Anne London | SILBEBERG, Dr Ron Silbeberg AO |
| LOVELL, Professor Nigel Hamilton Lovell | SINCLAIR, Professor David Sinclair |
| LUCK, Associate Professor Morgan Joel Luck | SMITH, Professor Roger Smith AM |
| MACKIE, Professor Vera Christine Mackie | TURNER, Professor Simon Turner |
| MAITZ, Professor Peter Karl Maria Maitz AM | WARTON, Professor David Iain Warton |
| MATTHEWS, Dr Michael R Matthews | WEBB, Professor John K Webb |
| MCCALMAN, Professor Iain Duncan McCalman | WHITWELL, Professor Gregory Whitwell |
| MCMILLEN, Professor Caroline McMillen | WILLIAMSON, Professor Geordie Williamson |
| MESSERLE, Professor Barbara Ann Messerle | WOO, Mr Eddie Woo |
| MILLER, Professor Seumas Roderick Miller | YOUNG, Dr Robert William Young |
| NEILAN, Professor Brett Neilan | |

Members

The following 162 people were Members of the Royal Society on 8 December 2023.

| | |
|------------------------|-------------------------|
| ABBASI, Shahrzad MRSN | BELL, Brian MRSN |
| ABI-ARRAJ, Jeanne MRSN | BETTEGA, Dyone MRSN |
| ADAM, Wendy MRSN | BLACK, Peter MRSN |
| AHYONG, Shane MRSN | BOCHAN, Chad MRSN |
| ALLEN, Tina MRSN | BOLAND, James MRSN |
| ANTONY, Jason MRSN | BOSCHIERO, Luciano MRSN |
| BAILEY, Philip MRSN | BRAKEL, Albert MRSN |
| BAKER, Eveline MRSN | BROOME, Matthew MRSN |
| BAZZANA, Susan MRSN | BROWN, Trevor MRSN |
| BEALE, David MRSN | BRYCE, Ian MRSN |

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| BURRELL, Anthony MRSN | GACUTAN, Jordan MRSN |
| BUSBY, Robert MRSN | GAMBACORTA, Salvatore MRSN |
| CAMERON, Margaret MRSN | GARRETT, Geoffrey MRSN |
| CAMERON, John MRSN | GIBB, Zamira MRSN |
| CAMPBELL, Mary MRSN | GORRIE, Catherine MRSN |
| CARR, Andrew MRSN | GREEN, Thomas MRSN |
| CARRUTHERS, Kate MRSN | GREY, Anthony MRSN |
| CARTER, Catherine MRSN | GRIFFITH, Selena MRSN |
| CHADWICK, Robert MRSN | HASKI-LEVENTHAL, Debbie MRSN |
| CHAO, Sophie MRSN | HEDGER, Michael MRSN |
| CHARTERS, James MRSN | HELBIG, Daniela MRSN |
| CIOFFI, Jane MRSN | HENNESSY, Liam MRSN |
| CODA, Andrea MRSN | HERDEAN, Andrei MRSN |
| COSMAN, Peter MRSN | HIBBERT, Cecilia MRSN |
| CRONIN, Daniel MRSN | HICKS, Ronald MRSN |
| DENG, Wei MRSN | HOBBINS, Peter MRSN |
| DICKSON, Melvyn MRSN | HOLDOM, Robert MRSN |
| DOBLIN, Martina MRSN | HOLMAN, Benjamin MRSN |
| DUNNET, John MRSN | HOWELL, David MRSN |
| DYSON, Laurel MRSN | HUMPHRIES, Michelle MRSN |
| ENEVOLDSEN, Wendy MRSN | HYDE, Brendon MRSN |
| EUSTACE, Peter MRSN | JACOBS, Brent MRSN |
| FABIAN, Robert MRSN | JEFFARES, Paul MRSN |
| FAERBER, David MRSN | JENSEN, Donna-Maree MRSN |
| FARLOW, Diana MRSN | JEPHCOTT, Jonathan MRSN |
| FELLOWS, Christopher MRSN | JEREMY, Peter MRSN |
| FELTON, Elizabeth MRSN | JONAS, Michael MRSN |
| FIELDHOUSE, Ann MRSN | JONES, Terry MRSN |
| FIRKINS, Arthur MRSN | JOVANOVIC, Boris MRSN |
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| LUCIRE, Yolande MRSN | RUSKIN, Christopher MRSN |
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| MACNAMARA, Maria MRSN | SAMMUT, David MRSN |
| MAJUMDAR, Budhaditya MRSN | SEARLE, Janette MRSN |
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WILMOT, Clive MRSN

WILSON, Ian MRSN

WYNDHAM, Diana MRSN

YATES, Christopher MRSN

YEATS, Christine MRSN

YU, Zile MRSN



Archibald Liversidge: Imperial Science under the Southern Cross

Roy MacLeod

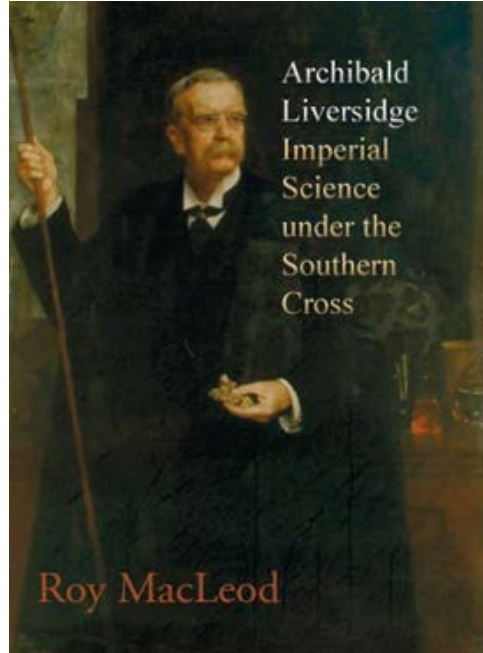
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When Archibald Liversidge first arrived at the University of Sydney in 1872 as Reader in Geology and Assistant in the Laboratory, he had about ten students and two rooms in the main building. In 1874, he became Professor of Geology and Mineralogy and by 1879 he had persuaded the University Senate to open a Faculty of Science. He became its first Dean in 1882.

In 1880, he visited Europe as a trustee of the Australian Museum and his report helped to establish the Industrial, Technological and Sanitary Museum which formed the basis of the present Powerhouse Museum's collection. Liversidge also played a major role in establishing the *Australasian Association for the Advancement of Science* which held its first congress in 1888.

This book is essential reading for those interested in the development of science in colonial Australia, particularly the fields of crystallography, mineral chemistry, chemical geology and strategic minerals policy.



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