ROYAL SOCIETY NEW SOUTH WALES

The Bulletin 506

July 2026

In this newsletter:

- A message from the President
- For your diary
- News
- Events
- Branch and Program Reports
- The Society and Social Media
- YouTube recordings of recent events

A message from the President

Dear <<First Name>> <<Last Name>>

Over June, I have been travelling and then based in London. The turbulence of the times cannot be ignored. The theme for our November Forum, 'The Hinge of History', has now become a trope in the popular media. From the impacts of the wars in the Gulf and Europe, through political and economic upheavals, climate change, and debates about the regulation of AI, there is a growing sense of interconnected crises across the world.

Reading Alexander von Humboldt and Darwin as we followed—very partially—in their route, I was struck by how each brought to their science a profound sense of the interconnectedness of nature and humanity. In *The Invention of Nature*, Andrea Wulf argues that Humboldt's vision of geological change and global climate prefigured modern understandings of climate change. She goes further: Humboldt's friendship with Goethe and the Jena circle of philosophers and artists, she suggests, shifted him from a classificatory mode of science to one in which art, literature, and imagination were integral to scientific insight. Kantian puzzles about the self, she argues, were not peripheral but central to scientific development. Darwin, of course, relied heavily on Humboldt and Lyell. Richard Holmes' new biography of Tennyson – 'The Boundless Deep: Young Tennyson, Science and the Crisis of Belief' argues the converse case, that Tennyson's poetry was shot through with the scientific debates of his youth.

At the Royal Society of NSW, we are—modestly—attempting something similar: bringing science and the arts into conversation, recognising that imagination and inquiry are mutually sustaining.

June's events illustrate the breadth of this endeavour. On 10 June, Professor Sami Kara FRSN FACATECH (UNSW Sydney) and Professor Michael Hauschild (Technical University of Denmark) delivered a lecture following the OGM on 'The Circular Economy: A Pathway to Environmental Sustainability?' On 16 June, at a most successful Ideas@theHouse, the Governor offered a characteristically elegant introduction to the distinguished architect, Leone Lorrimer LFRAIA, who spoke on 'City Futures: From Challenge to Opportunity – By Design.' On 18 June, the Southern Highlands Branch welcomed palaeoscientist Dr Michael Stein (UNSW Sydney), who spoke on Roaming Reptiles of the Eocene. On 25 June, at the Hunter Branch, Dr Jacinta Martin presented 'Forever Chemicals, Future Generations: What Environmental Pollution Means for Reproductive Health' at the Newcastle Exhibition Centre. Reports on the OGM lecture, the Ideas@theHouse presentation, and the Southern Highlands Branch event are included in this issue of the Bulletin

While I have been absent, I have caught up with the recordings on YouTube. The Vice-President, Secretary, and Branch Chairs have provided a rich and stimulating program, for which I am most grateful.

June also brought the King's Birthday Honours. The Royal Society of NSW warmly congratulates the following members recognised for their distinguished contributions: Professor Attila Brungs AO FRSN FTSE, Vice-Chancellor of UNSW; Professor Elizabeth Elliott AO FRSN FAHMS, Distinguished Professor of Paediatrics and Child Health, University of Sydney; Professor Claude Roux AO FRSN, Distinguished Professor of Forensic Science at UTS; Professor Ross Griffith AM FRSN, Emeritus Professor at UNSW Sydney; and Associate Professor Joanna Mendelssohn AM FRSN, Honorary Senior Fellow at the University of Melbourne.

Christina Slade FRSN
President
Royal Society of New South Wales

For your diary

The Society's annual events program is published in the online Events Calendar, which is updated regularly. Upcoming events, organised by the Society in the next two months, are listed below and, in greater detail, in the following Events section. Events by cognate and partner organisations are included in the events section of this newsletter.

- 1342nd Ordinary General Meeting and Open Lecture (Wednesday, 1 July 2026, 6.00–7.30 pm AEST, Gallery Room, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney) *Thin-film photovoltaics—the enabling engine for next-generation tandem solar cells* Scientia Professor Xiaojing Hao FAA FTSE, ARC Laureate Fellow and Deputy Director, ARC Research Hub for Photovoltaic Solar Panel Recycling and Sustainability, School of Photovoltaic and Renewable Energy Engineering, UNSW Sydney

- Lunchtime series: Provocations and Inspirations—July 2026 (Tuesday, 14 May 2026, 12.15 for 12.30 – 2.00 pm AEST, Union University and Schools Club, 25 Bent Street, Sydney) *Energy: Cost and Enabling Technologies*, Tim Buckley, Founder of the public interest think tank, Climate Energy Finance
- Southern Highlands Branch Meeting 2026-6 (Thursday, 16 July 2026, 6.30–7.30 pm AEST, RSL Mittagong Carrington Room) *Not just a gentleman's club: The origins and significance of the Royal Society of NSW*, Dr Anne Coote, Author and Historian
- 1343rd Ordinary General Meeting and Open Lecture (Wednesday, 5 August 2026, 6.00–7.30 pm AEST, Michael Crouch Room, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney) *The Cultural Value of Water and the Importance of Understanding Water Quality and Climate Change for Aboriginal People,* Professor Bradley Moggridge FRSN FTSE, Associate Dean (Indigenous Leadership and Engagement), Faculty of Science, University of Technology Sydney
- Southern Highlands Branch Meeting 2026-7 (Thursday, 20 August 2026, 6.30–7.30 pm AEST, RSL Mittagong Carrington Room) *The Weather Underwater, and Why it Matters*, Associate Professor Shane Keating, School of Mathematics and Statistics, UNSW Sydney

Return to the Table of Contents

News

King's Birthday Honours 2026

The Society was delighted to learn of the awards to the following Society Fellows and Members who appeared in the 2026 King's Birthday Honours List.

The following Fellows were honoured as Officers of the Order of Australia (AO).

Professor Attila Brungs AO FRSN FTSE, Vice-Chancellor of the University of New South Wales and former Vice-Chancellor of the University of Technology Sydney, for distinguished service to tertiary education leadership, to research and innovation, and to social justice and equity.

Professor Elizabeth Elliott AO FRSN FAHMS, Distinguished Professor of Paediatrics and Child Health at the University of Sydney and Consultant Paediatrician, Children's Hospital Westmead, for distinguished service to paediatric medicine, to women's health, and to medical and social understanding of Fetal Alcohol Spectrum Disorder.

Professor Claude Roux AO FRSN, Distinguished Professor of Forensic Science at the University of Technology Sydney, for distinguished service to forensic science, technological development, law enforcement, ethics, and tertiary education.

The following Fellows have been honoured as Members of the Order of Australia (AM).

Professor Ross Griffith AM FRSN, Emeritus Professor at the University of New South Wales, for significant service to tertiary education, to the textile industry, and to the community.

Associate Professor Joanna Mendelssohn AM FRSN, Honorary Senior Fellow at the University of Melbourne, for significant service to art history as a researcher and author.

Should we have missed the names of other members of the Society who have been honoured in the 2026 King's Birthday Honours list, please let us know by email so that we can update the record.

Return to the Table of Contents

Royal Societies of Australia Pre-conditions of Well-being Project

The Royal Societies of Australia (RSA), the umbrella organisation advocating for and supporting Australia's six Royal Societies, one in each state, has set up a project that aims to develop a platform of public policy measures conducive to allowing Australians to thrive. It will do this by tracing cause-and-effect in the conditions that lead to good health and well-being, and conversely, to disease, ill health and frustrated potential. The objective is to improve policy formulation across the Australian public sector for the benefit of all sectors of the population.

The project is intended to expand beyond the traditional role of a scientific academy in producing and publishing information, to identifying the core reasons why scientific and medical knowledge is not embedded more thoroughly into public policy and budgets and suggesting how these problems could be overcome.

To develop recognition and momentum, the project is starting by using the RSA's Australia-wide coverage to generate a series of opinion pieces from well-being policymakers to be published online following expert scrutiny by an Editorial Review Panel.

As part of this project, a conceptual framework will be developed to provide 'sockets' for remedies to the causative factors of lack of well-being. It will also attempt to identify the ideological undercurrents animating the politicians and business leaders who have allowed these ills to become entrenched.

The overall objectives are, desirably, to identify issues of government and market failure and deficits in leadership, with recommended remedies.

Your support for this important work is greatly appreciated. Just click on this link to help move the project forward: https://chuffed.org/project/183940-promoting-well-being-in-australia.

We will provide updates on project progress in future newsletters.

The RSA Project Team
June 2026

Return to the Table of Contents

Royal Society of NSW 2026 Awards: Call for Nominations

The Royal Society of NSW has long recognised distinguished achievements and excellence across the gamut of knowledge through its Awards Program. Its awards are amongst the oldest and most prestigious in Australia.

In 2023, the Society broadened and streamlined its Awards portfolio to recognise recent and evolving fields and disciplines, and emerging as well as established research stars. Today, the Society Awards are made in two main classes reflecting the Society's history: Career Excellence Medals and Discipline Awards and Medals, with additional Awards,

Scholarships, and Citations, including Internal Awards for distinguished service to the Society and community.

The Council of the Society is pleased to announce the **call for nominations for the 2026 Awards**, which will commence on 1 July 2026 and close on 30 September 2026. Winners of the Awards will be announced at the final Ordinary General Meeting for 2026 to be held at the State Library of NSW on the evening of Wednesday, 2 December.

This year, nominations are called for the following awards. Please follow the links below for information about each award, specific conditions, nomination instructions, and nomination forms.

Career Excellence Medals
RSNSW Aboriginal or Torres Strait Islander Scholar Medal
RSNSW James Cook Medal — for lifetime career contributions
RSNSW Edgeworth David Medal — for mid-career researchers
RSNSW Ida Browne Early Career Medal

Discipline Awards and Lectureships
RSNSW Clarke Medal and Lectureship in the Earth Sciences
RSNSW Walter Burfitt Award in Medical and Veterinary Sciences and Technologies
RSNSW Award in the Social and Behavioural Sciences
RSNSW Award in the History and Philosophy of Science
RSNSW Award in Computer Science and Information Technology (new award in 2026)

Scholarships, Early Career, and Student Awards
RSNSW Bicentennial Postgraduate Scholarships
RSNSW Bicentennial Early Career Research and Service Citations
RSNSW Jak Kelly Postgraduate Award

RSNSW Service Awards
RSNSW Medal
RSNSW Citations

Please consider nominating your colleagues, early career researchers, and postgraduate students who you believe meet the criteria for these awards — an outcome that will certainly recognise their achievements and boost their careers.

Please direct any queries by email to the RSNSW Awards Committee.

Return to the Table of Contents

Events

1342nd OGM and Open Lecture — 1 July 2026

Thin-film photovoltaics — the enabling engine for next-generation tandem solar cells

Scientia Professor Xiaojing Hao FAA FTSE
ARC Laureate Fellow and Deputy Director, ARC Research Hub for Photovoltaic Solar Panel Recycling and Sustainability
School of Photovoltaic and Renewable Energy Engineering, UNSW Sydney

Date and Time: Wednesday, 1 July 2026, 6.00–7.30 pm AEST
Venue: Gallery Room, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney
Pre-meeting drinks: A cash bar will operate from 5.30 pm
Registration: Please register before Wednesday, 10 June at 2.00 pm AEST
Please note: credit card payments only (Visa and Mastercard)
Entry: OGM: Members, $20; Non-members, $30; Students, $0
All are welcome

REGISTER NOW

Please register for the OGM/Lecture before Wednesday, 1 July at 2.00 pm AEST

Business of the Meeting

The Agenda for the Ordinary General Meeting is now available on the Meetings page of the website.

Summary: Solar energy is already transforming the world, but meeting the demands of a net-zero future will require photovoltaic technologies that go beyond the limits of silicon alone. Tandem solar cells offer a powerful next step: by combining silicon with a wide-bandgap top cell, they can capture more of the Sun's spectrum and deliver substantially higher efficiencies. Realising this vision, however, depends on solving a central materials challenge. The top cell must combine high efficiency, long-term stability, low cost, and scalable manufacturing — an exceptionally challenging combination to achieve in any one material system. In this talk, Xiaojing Hao will discuss our advances in earth-abundant thin-film top-cell technologies and show how we develop strategies to enable the next generation of tandem solar cells. Beyond higher efficiency, these developments point to a broader opportunity: more sustainable, affordable, and widely deployable solar energy for the future.

Xiaojing Hao is a Scientia Professor and ARC Laureate Fellow at UNSW, Sydney. She obtained her PhD in the School of Photovoltaic and Renewable Energy Engineering of UNSW in 2010. Her research focuses on low-cost, high-efficiency thin-film solar cells and tandem solar cells for both solar photovoltaic and solar fuel applications. She has led her group to achieve several efficiency records for emerging thin-film solar cells, including wide-bandgap chalcogenides (kesterite, chalcopyrite, antimony chalcogenide) and perovskites.

Professor Hao has published more than 250 peer-reviewed journal papers, including a number of publications in Nature Energy, Nature Photonics, and Energy and Environmental Science. She has been awarded more than 20 prestigious awards/prizes, including the

2020 Prime Minister's Prizes for Science: Malcolm McIntosh Prize for Physical Scientist of the Year, and the 2021 Australian Academy of Science Pawsey Medal. Professor Hao is an elected Fellow of both the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering. Most recently, she was the winner of the 2026 Royal Society of NSW Edgeworth David Medal.

Return to the Table of Contents

Lunchtime series: Provocations & Inspirations—14 July 2026

Australia's energy security: Technology options in an uncertain world

Tim Buckley
Founder of the public interest think tank, Climate Energy Finance

Date: Tuesday, 14 July 2026, 12.15 for 12.30 – 2.00 pm AEST
Venue: Union University and Schools Club, 25 Bent Street, Sydney (corner of Bent and Philip Streets)
Enquiries: by email to RSNSW Events
Registration: Registration is required before 2.00 pm AEDT on Thursday, 9 July 2026
Cost: $75 (RSNSW or UUSC members); $85 (non-members/guests). A warm meal and wine will be served.
UUSC Dress Code: Business Dress. To avoid embarrassment, please note that a jacket and tie are required. Denim, trainers and shoes with white soles are not permitted. Attendees not dressed appropriately may be refused entry by the Club.
Flyer: Downloadable from this link

REGISTER NOW

Please register before
2.00 pm AEST on Thursday, 9 July 2026

The war in the Middle East has brought the dependence on fossil fuels into very sharp focus. Despite the seemingly endless optimism of financial markets, the global economy is likely to be substantially disrupted over the next several months, regardless of what peace terms can be negotiated between the US, Iran and Israel. The uncertainty about ship movements through the Strait of Hormuz, depletion of international reserves and the damage and disruption to refining capacity in the Persian Gulf will almost certainly cause sharp fluctuations in the cost and availability of liquid fuels, particularly diesel.

Diesel accounts for around 70% of Australia's total liquid fuel demand. If our supply chain for diesel were to be seriously disrupted for a long period, there would be major economic consequences to both the domestic economy and to agricultural and mineral exports.

This series started as an exploration of the *Future Made in Australia* (FMiA) program that will see investment of $22.7 billion over the next decade, focused on two major

streams: *Net zero transformation*, and *Economic security and resilience*. Nothing could have greater relevance in the current geopolitical circumstances.

Tim Buckley will explore the accelerating global energy system transformation options, with a focus on China's growing leadership role, particularly in light of these energy security challenges and the other trade headwinds caused by the Trump administration's policies.

Tim Buckley is the founder of the public interest think tank, Climate Energy Finance.

Climate Energy Finance (CEF) is an independent, non-partisan, and philanthropically funded Australian think tank established in 2022 that works *pro bono* in the public interest to accelerate the transition in Australia to net zero in line with climate science.

CEF conducts research and analyses of the current strategic, financial and geopolitical issues that are shaping the global energy transition and their implications for the Australian economy, with a focus on the challenges and opportunities for Australian investments, industry and exports. This involves tracking and providing independent commentary on developments in China and other key trading partners in the Asia-Pacific region, as well as advocating for stronger mutually beneficial collaboration with these partners. CEF also examines the convergence of global technology trends in power, transport, mining and industry in accelerating decarbonisation.

Tim has 35 years of financial market experience covering the Australian, Asian and global equity markets and is a highly influential energy finance commentator. He has written more than 100 reports on the global energy transition and the roles of finance and policy in accelerating critical decarbonisation trends.

Tim was previously the Australasian Director of the global Institute for Energy Economics and Financial Analysis, 2013-2021. Prior to this, he was a top-rated equity research analyst, including Head of Equity Research in Singapore at Deutsche Bank, Managing Director, Head of Equity Research at Citigroup for 17 years, Head of Institutional Equities at Shaw & Partners and co-Managing Director of Arkx Investment Management Pty Ltd, a global, listed clean energy investment start-up, jointly owned with Westpac.

Return to the Table of Contents

Southern Highlands Branch Meeting 2026-5 — 16 July 2026

Not just a gentleman's club: The origins and significance of the Royal Society of NSW

Dr Anne Coote
Author and Historian

Date: Thursday, 16 July, 6.30–7.30 pm AEST
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (cashless payments onlyplease)
All are welcome

ENQUIRIES

By email to the Southern Highlands Branch Chair

Summary: The Royal Society of NSW is a twenty-first-century organisation with a long history in the intellectual culture of Sydney and beyond. In this talk, Anne Coote will discuss the origins of this learned society, its character and social position in nineteenth-century NSW, and the significant contribution it made to the development of an active colonial research community.

Historian **Dr Anne Coote** works in the areas of public history and cultural history, including the cultural history of science in colonial Australia. For many years, she held an adjunct position at the University of New England. More recently, as an associate of the Centre for Applied History at Macquarie University, she contributed to a research project investigating the history of shale-mining settlements in the Blue Mountains, New South Wales. She has written entries for the *Dictionary of Sydney* and published academically on the influence of literate culture on popular perceptions of community and sovereignty in mid nineteenth-century New South Wales, popular science journalism, notable collectors of natural history specimens, the intersection of specimen collection with ideas about class, and the trade in specimens at a local and global level. Dr Coote is a graduate of the University of Sydney and the University of New England, Armidale.

Return to the Table of Contents

1343rd OGM and Open Lecture — 1 July 2026

The Cultural Value of Water and the Importance of Understanding Water Quality and Climate Change for Aboriginal People

Professor Bradley Moggridge FRSN FTSE
Associate Dean (Indigenous Leadership and Engagement), Faculty of Science
University of Technology Sydney

Date and Time: Wednesday, 5 August 2026, 6.00–7.30 pm AEST
Venue: Michael Crouch Room, Mitchell Building, State Library of NSW
Pre-meeting drinks: A cash bar will operate from 5.30 pm
Registration: Please register before 2.00 pm AEST on Wednesday, 5 August 2026
Entry: OGM: Members, $20; Non-members, $30; Students, $0 (Visa and Mastercard credit card payments only)
Enquiries: via email to RSNSW Events
All are welcome

REGISTER NOW

Please register for the OGM/Lecture before
Wednesday, 5 August at 2.00 pm AEST

Business of the Meeting

The Agenda for the Ordinary General Meeting will be made available on the Meetings page of the website.

Summary: Australia is the driest inhabited continent on Earth, yet it has been the traditional land of its original inhabitants, Australia's First Peoples (its Indigenous people), for thousands of generations—65,000 years, plus. Protecting water landscapes (surface and groundwater) in a dry place like Australia, along with the protection of cultural values, has always been a high priority for Aboriginal people, and protecting water remains a cultural obligation. Water connects people to Country, carries songs, dances and language through the generations. This connection and understanding of climate are no different; observations, adaptation and lived experience (already having survived sea level rise) put First Peoples of Australia in a place to provide solutions for a modern issue like climate change. Aboriginal and Torres Strait Islander people are adapting now to a changed climate. Seasonal changes, culturally significant species are also adapting and evolving. Through his research and experience, Bradley Moggridge feels very privileged to work towards solutions combining both my ancestral Traditional Knowledge and qualifications in Western science for water and climate.

Bradley Moggridge is a proud Murri from the Kamilaroi Nation living on Ngunnawal Country in Canberra and a Professor of Science and Associate Dean (Indigenous Leadership and Engagement) at the University of Technology Sydney (UTS). He has a PhD in Science from the University of Canberra, an MSc in Hydrogeology from UTS, and a BSc in Environmental Science from the Australian Catholic University.

Professor Moggridge is the Immediate Past President of the Australian Freshwater Science Society (President, 2022–2024), a current Board member with the NSW Environmental Protection Authority, and previously was a member of the Biodiversity Council and the National Youth Science Forum (NYSF). He was appointed as Lead Author for IPCC AR7 Chapter 10, and was accepted as a Fellow of the Academy of Technological Science and Engineering (ATSE) in 2025, and as a Fellow of the Royal Society of NSW (FRSN) in 2026. He is a member of the Wentworth Group of Concerned Scientists and is a Governor of WWF Australia. He is an alumnus of the International Water Centre.

Professor Moggridge has won several awards, including the 2026 RSNSW Aboriginal Scholar Medal, and has presented widely, including at the 2023 UN Water Conference (New York) and at the 2022, 2023 and 2025 SIWI World Water Week (Stockholm), and COP29 in Baku. He has published in his area of expertise in Indigenous Water Knowledge and Climate Change, also finding himself on many committees (local, national and international), adding to his 25 years in water and environmental science, cultural knowledge, regulation, water planning and management. He hopes to encourage Indigenous generations to pursue interests in science and promote his ancestors' knowledge.

Return to the Table of Contents

Southern Highlands Branch Meeting 2026-7 — 20 August 2026

The Weather Underwater, and Why it Matters

Associate Professor Shane Keating
School of Mathematics and Statistics
UNSW Sydney

Date: Thursday, 20 August, 6.30–7.30 pm AEST
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (cashless payments only)
All are welcome

ENQUIRIES

By email to the Southern Highlands Branch Chair

Summary: Earth's oceans are the engine of the global climate system and the source of food and prosperity for over 3 billion people worldwide. At the same time, the global economy relies on the ocean to transport 90% of all traded goods. It is no exaggeration to say that the ocean plays a vital role in humanity's well-being and prosperity.

In this talk, oceanographer Shane Keating will discuss the importance of the dynamic ocean environment --- the ‘weather underwater’ — to the global economy and Earth’s climate system. Travelling from the shores of Loch Long, Scotland, to ‘Eddy Avenue’ off the coast of NSW, Shane will review how our knowledge of Earth's oceans has been methodically built from observational, experimental, numerical and theoretical studies. Finally, Shane will explore some of the ways that artificial intelligence (AI) and data science are enabling new insights and innovations that are changing the way we understand and use the ocean, and how he is creating a ‘Google Maps for the Sea’ to help the shipping industry save fuel and cut emissions.

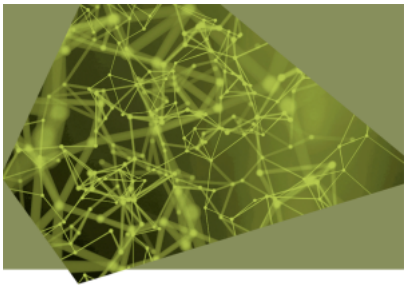
Dr Shane Keating is an Associate Professor of Physical Oceanography in the School of Mathematics and Statistics at UNSW Sydney. His research uses powerful mathematical and data science tools to study our oceans from land, sea, and space. Shane is the founder and CEO of CounterCurrent, a UNSW AI spinout company delivering localised ocean forecasts and intelligent routing for ships. CounterCurrent’s generative AI ocean forecasting system provides crews with customised forecasts 10,000x faster and cheaper than National Weather Centres, helping the maritime industry optimise routes to cut fuel and emissions. Founded in 2025, CounterCurrent was the first Australian startup to be awarded an AWS Compute for Climate fellowship and was named a ‘breakout star’ in the Australian Financial Review. Shane is also a passionate science communicator, and his popular articles about science and mathematics have reached over a million readers.

Return to the Table of Contents

ATSE New Fellows Showcase and Awards Gala Dinner
28 October 2026

Discover brilliant innovators, unsung heroes of Australian ingenuity, and concrete examples of practical technologies that benefit us all at these events.

New Fellows Showcase

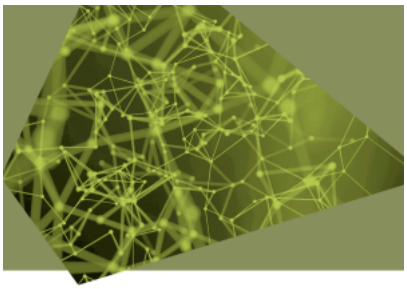


Date: Wednesday, 28 October 2026
Time: 9.00 am – 4.00 pm AEDT
Venue: Hirer's Dining Room, Allianz Stadium, 40/44 Driver Ave, Moore Park NSW 2021
Entry: Early Bird (until 31 July 2026): ATSE Fellows, $200; General Public, $210
Standard (1 August 2026 onwards): ATSE Fellows, $225; General Public, $250
Dress: Business/smart casual
Registration: Registration is required
All are welcome

Featuring ATSE's new Fellows, the showcase will highlight the breakthroughs leading the way into new areas of discovery and prosperity and identify the key opportunities to build Australia's rich innovation future. Innovative panel discussions, keynote presentations, discussion, and networking with over 300 of Australia's STEM champions.

REGISTER NOW

ATSE Awards Gala Dinner



Date: Wednesday, 28 October 2026
Time: Pre-dinner drinks: 6.30 pm. Official proceedings: 7.00 pm – 10.30 pm AEDT
Venue: The Ivy Ballroom, Ivy Sydney, 320 George St, Sydney NSW 2000
Entry: Early Bird (until 31 July 2026): ATSE Fellows, $250; General Public, $275
Standard (1 August 2026 onwards): ATSE Fellows, $300; General Public, $325
Dress: Formal/evening wear; business suit is acceptable
Registration: Registration is required
All are welcome

A celebration of Australia's most esteemed and up-and-coming innovators across 6 major national award categories, who are generating new ideas and technologies which are redefining how we live, work and play.

Featuring a distinguished keynote address to be announced and over 300 high-profile participants spanning Federal and State politics, business, government, education, science, technology, engineering, research and the media.

You can receive additional discounts by purchasing the 2026 New Fellows Showcase and Awards Gala Dinner tickets together.

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Return to the Table of Contents

Branch and Program Reports

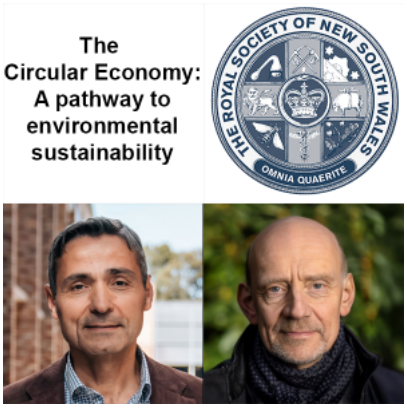
Report from the Activities with Impact Program

The Society provides an active program of events in Sydney and through its Hunter, New England North West, Southern Highlands, and Western NSW branches. With events planned and held recently by the branches reported separately in this Bulletin, this section focuses on the Master Plan's *Activities with Impact* program and events held in Sydney.

ROYAL SOCIETY NEW SOUTH WALES
Activities with Impact

Presentation Report: 1341st OGM & Open Lecture—10 June 2026

On Wednesday, 10 June 2026, an audience of over 50 people who attended the 1341st Ordinary General Meeting of the Royal Society of NSW heard a most illuminating presentation, panel session and audience Q&A on the topic of 'The Circular Economy: A pathway to environmental sustainability?', deliver by **Professor Sami Kara FRSN FCIRP FACATECH** of the School of Mechanical and Manufacturing Engineering at UNSW Sydney and Professor **Michael Hauschild** of the Department of Environmental and Resource Engineering at the Technical University of Denmark.



In their presentation, Professors Hauschild and Kara examined whether the circular economy can genuinely deliver environmental sustainability, arguing that circularity and sustainability are often treated as synonymous when they are not. Professor Hauschild began by framing the sustainability challenge: since the mid-20th century, population, affluence, and economic activity have grown rapidly, but so have environmental pressures such as greenhouse gas emissions, ocean acidification, biodiversity loss, and chemical pollution. Using the IPAT equation (shown in the presentation slides on the YouTube video), he explained that environmental impact is driven by population, affluence and technology. While technology can become more eco-efficient, efficiency gains are often offset by rebound effects, where cheaper or more efficient products lead to increased consumption. Michael Hauschild distinguished between relative and absolute sustainability. Life cycle assessment can show whether one option is less damaging than another, but not whether it stays within planetary limits. Absolute sustainability requires meeting present and future human needs within biophysical boundaries, including climate and ecosystem limits.

Professor Kara then focused on circular economy strategies, noting that many are not new but have evolved from earlier ideas such as closed-loop systems, industrial ecology, remanufacturing and cradle-to-cradle design. He reviewed strategies including recycling, reuse, remanufacturing, product-life extension, sharing models, service-based business models, and dematerialisation through digital substitution. He explained that these strategies can reduce material use and environmental impact under ideal conditions, but that they depend on assumptions such as one-to-one displacement of virgin materials, effective markets for reused goods, durable product design, and limited rebound effects.

Their presentation concluded by noting that circular economy strategies alone are insufficient to achieve absolute sustainability. Recycling and recirculation cannot fully close material loops, and even strong efficiency gains may not offset rising population and affluence. In some cases, circular strategies can even increase environmental impacts if they stimulate additional consumption. The key message is that the circular economy must be accompanied by broader socioeconomic change and genuine demand reduction to decouple human wellbeing from continued material growth.

A video recording of the presentation and Q&A session is now available on the Society's YouTube channel, while a collection of images from the occasion, which also includes the presentation of member certificates, is available for viewing and downloading.

Lindsay Botten
Bulletin Editor

Return to the Table of Contents

Presentation Report: Ideas@theHouse — 17 June 2026

The sixteenth in the series of Ideas@theHouse events, which are joint presentations of Her Excellency, The Honourable Margaret Beazley AC KC, Governor of New South Wales, and the Royal Society of New South Wales, was held on the evening of Tuesday, 16 June 2026, in the Ballroom of Government House, Sydney.

Distinguished architect, **Leone Lorrimer LFRAIA**, was the speaker on this occasion, addressing the topic of 'City Futures: from challenge to opportunity – by design.'

In her lecture, Leone Lorrimer argued that Sydney's future depends on ceasing urban sprawl in favour of people-centred, well-designed, sustainable communities. She began by stressing the need for an inspiring vision that can be communicated clearly, since urban planning is a 'long game' shaped by transport, population growth and public choices. Looking back at Sydney's development, she traced how roads, rail, trams, the Harbour Bridge, post-war migration and the rise of the private car all encouraged outward expansion and the 'great Australian dream' of detached suburban housing. This model, she argued, had produced disconnected estates, long commutes, traffic congestion and high infrastructure costs.

Ms Lorrimer presented the alternative as a redefined Australian dream: compact, walkable, mixed-use communities located around public transport. She highlighted the Greater Sydney Region Plan's 'metropolis of three cities' and the '30-minute city' vision, as well as Sustainable Sydney 2030's 'city of villages' approach. She emphasised that good design is central to this shift because it creates places that are welcoming, healthy, adaptable, efficient and economically valuable. Architects and urban designers, she said, translate complex technical and social needs into coherent places.

A major focus is on housing supply and affordability. Leone Lorrimer argued that Sydney must increase density, with a mix that includes high, mid and low-rise. She highlighted that adaptive reuse, build-to-rent, student accommodation, social and affordable housing all have roles to play.

She emphasised models that use smaller private footprints supported by shared amenities, strong public transport access and long-term stewardship. She also called for more urgent state-led action on social housing, noting the scale of waiting lists and homelessness.

Finally, she linked future cities to climate responsibility. Buildings and transport each generate a large share of emissions, so better standards, low-carbon materials, prefabrication, digital construction and innovation are needed. Her call to action was to design our way out of crisis through cohesive planning, housing diversity, sustainability, social equity and intergenerational fairness.

A recording of this presentation is now available on the Society's YouTube channel.
A gallery of images from the occasion is also available for downloading from the preceding link.

Lindsay Botten
Bulletin Editor

Return to the Table of Contents

Southern Highlands Branch Report

Presentation Report— 18 June 2026

Roaming Reptiles of the Eocene

Dr Michael Stein
Palaeoscientist
Archer Palaeontology Laboratory
UNSW Sydney

Crocodiles have a deep and varied evolutionary past. Now, researchers are peeling back the layers to discover how the surviving species came to be. Australian-New Zealand palaeontology is beginning to reveal the labyrinthine extent of crocodile evolution in the Southern Hemisphere after the Cretaceous-Paleogene extinction event, K-Pg, when a meteorite collided with Earth approximately 66 million years ago.

Dr Michael Stein is a palaeoscientist with the Archer Palaeontology Laboratory at the University of New South Wales. Both his PhD (2019) and current research with UNSW focus on the remarkable crocodile fauna preserved at the Riversleigh World Heritage Area, along with crocodile paleo-communities across northern to central Australia. This research incorporates studies of locomotory evolution, biomechanics, geometric morphometrics and histology in pursuit of a better understanding of crocodile behaviour and evolution.

Michael's wonderful lecture was presented in the beautiful Carrington Room at the Mittagong RSL, where the huge double screens allowed Michael's videos to be seen in all their glory and excellence. He showed how Australia's unique crocodile branch began to make a seemingly un-crocodilian push back onto the land. Video evidence of this development startled the audience as they watched in amazement as crocodiles adeptly demonstrated their newfound skills of climbing trees, suiting very well Michael's title for this lecture, 'Roaming Reptiles of the Eocene'.

At the end of this amazing presentation, Michael accepted an invitation to return to the Southern Highlands for a sequel. His response was met with huge applause.

Anne Wood FRSN
Chair, RSNSW Southern Highlands Branch

Return to the Table of Contents

The Society and Social Media

The Society's presence on our social media channels—Facebook, LinkedIn, X/Twitter and YouTube—is engaging an increasing following, and we continue to build our repository of events on YouTube.

Our YouTube channel now has over 1,670 subscribers, while the 243 full-length videos and 'shorts' that are online have received more than 200,000 views.

The social media icons at the end of this newsletter will take the reader to our pages on these platforms, from where you can follow, subscribe, and be notified of new content.

As a Society member, please consider subscribing to our social media channels to support the Society's outreach and encourage your friends, colleagues and members of your networks to do so.

YouTube recordings of recent events

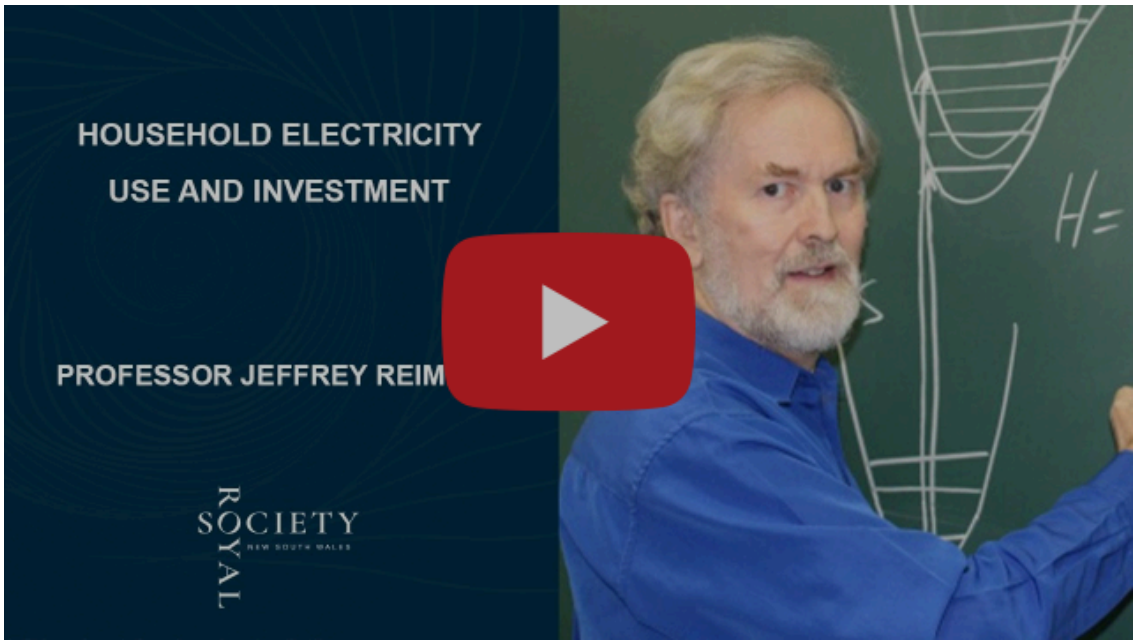
All online presentations and all face-to-face presentations held in Sydney and by the Hunter, New England North West, and Western NSW Branches are recorded and made available on the Society's YouTube channel. These can be accessed directly from our YouTube channel or the Presentations page of the RSNSW website.

For convenience, the video links below provide access to current recordings and recent popular recordings. We hope that these will be of interest to members.

YouTube recording of the presentation from 16 June 2026, Ideas@theHouse titled '*City Futures: from challenge to opportunity – by design*', delivered by the distinguished architect, Leone Lorrimer LFRAIA. The online event notice provides a summary of the lecture and the presenter's biography.

YouTube recording of the presentation from the 1341st Ordinary General Meeting (10 June 2026) on *The Circular Economy: A pathway to environmental sustainability?*, delivered by Professor Sami Kara FRSN FCIRP FACATECH of UNSW Sydney and Professor Michael Hauschild of the Technical University of Denmark. A summary of the lecture and a brief biography of the presenters are available from the online event notice.

YouTube recording of the presentation from the New England North West Branch Meeting 2026-1 of the Royal Society of NSW (25 March 2026) on *One Health for a Changing World: Forests, Farms and Families*, by Professor David Durrheim AM, Director of Health Protection, Hunter New England Health, NSW and University of New England panellists Professor Natkunam Ketheesan (Moderator), Associate Professor Lorina Barker, Professor Susan Wilson, Associate Professor Gal Winter, and Associate Professor Jacqualine Epps. A summary of the presentation and brief biographies of the presenter and panellists are available from the online event notice.



YouTube recording of the presentation from the 1340th Ordinary General Meeting (6 May 2026) on *Household Electricity Use and Investment*, delivered by Professor Jeffrey Reimers FAA FRSN, Director, International Centre for Quantum and Molecular Structures at Shanghai University, China and Adjunct Fellow in the School of Mathematical and Physical Sciences at the University of Technology Sydney. A summary of the lecture and a brief biography of the presenter are available from the online event notice.

YouTube recording of the presentation from the 1339th Ordinary General Meeting (8 April 2026) on *A drone by any other name*, delivered by Dr Catherine Ball, scientific futurist, tech influencer, and robotics expert, and Simon Masters, Deputy Director of the InnovateUK Future Flight program. A summary of the lecture and a brief biography of the presenter are available from the online event notice.

YouTube recording of the presentation from the sixth meeting of the Society's Provocations and Inspirations lunchtime series held at the Union, University, and Schools Club in Sydney (24 March 2025), at which Alex Dronoff, Chair of the Hunter Hydrogen Taskforce and former CEO of Fichtner Australia, spoke on *The Renewable Hydrogen Journey 2015–2026 and Opportunities Beyond*. A summary of the presentation and a brief biography of the presenter are available from the online event notice.

YouTube recording of the presentation from the Hunter Branch Meeting 2026-1 of the Royal Society of NSW (19 March 2026) on *Observing the Faint Universe with the Legacy Survey of Space and Time*, by Professor Sarah Brough FRSN FASA, Head, School of Physics, UNSW Sydney. A summary of the presentation and brief biographies of the presenters and panellists are available from the online event notice.

YouTube recording of the presentation from the 12 March 2026 Ideas@theHouse titled '*Navigating Strategic Uncertainty: Space, Cyber and National Support in a Fractured World*', delivered by Lieutenant General Susan Coyle AM CSC DSM, Chief of Joint Capabilities, Australian Defence Force. The online event notice provides a summary of the lecture and the presenter's biography.

YouTube recording of the presentation from the 1338th Ordinary General Meeting (11 February 2026) on *How many Australians should there be?*, delivered by Dr Abul Rizvi PSM FRSN, former Deputy Secretary of the Department of Immigration and now an expert commentator on such matters. A summary of the lecture and a brief biography of the presenter are available from the online event notice.

Edited by: Lindsay Botten FRSN, Vice-President, Royal Society of New South Wales