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ROYAL SOCIETY NEW SOUTH WALES

The Bulletin 509
October 2026

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A message from the President

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



Artificial intelligence, productivity, supply chains and climate resilience dominated public debate throughout September. Geoffrey Hinton warned of a '10 per cent chance' that artificial intelligence could ultimately pose an existential threat to humanity, a concern echoed by voices across the technology sector. At the same time, Australia's Treasurer drew attention to the nation's declining productivity, while global attention focused on yet another strategic choke point, the Bab el-Mandeb Strait, under threat amid Middle Eastern tensions. Questions surrounding data centres, energy consumption and data sovereignty also featured prominently in public discussion.

Our own busy program reflected many of these themes.

We began on 1 September with *Ideas@the House*, where the Vice-President of the Australian Olympic Committee, Matt Allen AM, spoke on the importance of sport in fostering community, particularly in a digitally mediated and increasingly fragmented society.

On 2 September, following the 1344th Ordinary General Meeting, Scientia Professor Richard Kingsford AO FRSN spoke about his work in north-western New South Wales and the Strzelecki Desert, restoring ecosystems and reintroducing locally extinct species. The remarkable success of this decade-long project has been recognised with a further ten years of support. It stands as powerful evidence of the value of sustained investment and demonstrates that the impacts of

climate change and historical human intervention can, in some circumstances, be reversed or effectively managed.

On 9 September, Emeritus Professor Roy Green AM FRSN presented an online discussion of his new book with Philip Toner, *Understanding Productivity*, in a joint event hosted by the Society, UTS, Portal Global and the Spark Foundation. Roy's own productivity is remarkable. He has also recently launched a second book with Dr John H. Howard, *Turning AI into Productivity*. He argues that Australia failed to capitalise fully on the resources boom and must now strengthen sovereign capability, particularly in advanced industrial production.

The question of sovereign capability was further explored on 15 September at the Union, University and Schools Club luncheon organised by Dr Don Hector. Dr John Gattorne, Deborah Ellis and Associate Professor Sanjoy Paul discussed Australia's supply-chain security under the theme *Sovereign Supply Chain Capability and Economic Resilience*. COVID-19, followed by the conflicts in Ukraine and the Middle East, exposed the fragility of global supply chains. The panel described the extraordinary efforts undertaken by governments and private enterprise to maintain essential supplies of food and fuel. In an increasingly volatile geopolitical environment, sovereign control of both physical supply chains and strategic data assets is becoming ever more important.

Finally, on 22 September, together with Maria McNamara of Portal Global, the Spark Foundation and UTS, we joined representatives hosted by the Boston Consulting Group to discuss *Agentic AI Transformation in Government*. Victor Dominello outlined a vision of AI-assisted public administration while emphasising the importance of transparency and awareness of the challenges that technological change presents, particularly for older citizens. Miguel Carrasco of BCG presented findings from recent research into Australians' attitudes towards AI in government. While Australians are generally less sceptical than Europeans, they remain considerably less enthusiastic than populations in parts of the Gulf region and Africa. Brad Elliott and Maria McNamara described the speed of transformation occurring in Abu Dhabi, where the ambition is to achieve whole-of-government adoption of agentic AI by 2028. If implemented responsibly- and that is a significant qualification- the productivity gains could be substantial.

Our regional branches also continued to deliver outstanding programs. In the Southern Highlands, Professor Geraint Lewis spoke on 17 September about *The Shortest History of Reality*. On 24 September, Professor Ravi Naidu addressed the Hunter Branch on *Healthy Soils, Healthy Hunter: Building a Sustainable Future*.

This level of activity is both impressive and demanding. The Society depends heavily on the voluntary contributions of those who organise events and undertake the many tasks required to sustain our activities. In the coming months, I will be seeking expressions of interest from Fellows and Members willing to take on Council and leadership roles. While I may be exaggerating only slightly, the availability of committed volunteers is increasingly an existential issue for the Society. Our future depends upon the active engagement of Fellows and Members who are willing to contribute their time, expertise and enthusiasm to our shared mission.

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 coming 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.

- 1345th Ordinary General Meeting and Open Lecture (Wednesday, 7 October 2026, 6.00–7.30 pm AEST, Michael Crouch Room, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney) *Reformulating the visualisation of climate disasters,* Scientia Professor Dennis Del Favero FRSN FAHA, Professor of Digital Innovation and Executive Director, iCinema Research Centre, UNSW Sydney
- Royal Societies of Australia Food Security Conference (Thursday and Friday, 8–9 October 2026, 9.00 am – 5.00 pm AEDT, The Forum, Melbourne Connect, 700 Swanston St, Melbourne, Victoria) F*acing the Future*
- Southern Highlands Branch Meeting 2026-9 (Thursday, 15 October 2026, 6.30–7.30 pm AEDT, RSL Mittagong Carrington Room) *The latest news on the evolution of our Australian crocodiles*, Dr Michael Stein, Palaeoscientist, Archer Palaeontology Laboratory, UNSW Sydney.
- Royal Society of NSW and Learned Academies Forum 2026 (Thursday, 5 November 2026, Government House, Sydney, by invitation and live streaming) *A Hinge of History: Tipping Points and Existential Risks*
- RSNSW Visits Program 2026-2 (Tuesday, 17 November 2026, from 5.30 pm) *The Australian Museum: Partners in Discovery: Celebrating Two Centuries of Science—and looking to the Future* — Preliminary Notice
- Southern Highlands Branch Meeting 2026-10 (Thursday, 19 November 2026, 6.30–7.30 pm AEDT, RSL Mittagong Carrington Room) *Revolutionising Paleontology with Neutron Imaging*, Dr Joseph Bevitt, Instrument Group Manager and Senior Instrument Scientist, Australian Centre for Neutron Scattering, ANSTO
- 1346th Ordinary General Meeting and Open Lecture (Wednesday, 2 December 2026, 6.00–7.30 pm AEDT, Michael Crouch Room, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney) *Big Ideas from Small Patients: Improving the Outcomes of Children with Cancer,* Professor Michelle Haber AM FAHMS FAA, Co-Group Leader, Experimental Therapeutics and Molecular Oncology, Children's Cancer Institute

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News

Society Fellow, Sami Kara, appointed as President of CIRP, the International Academy for Production Engineering

The Royal Society of NSW was delighted to learn that **Professor Sami Kara FRSN FCIRP FACATECH** of the School of Mechanical and Manufacturing Engineering at UNSW Sydney has just been appointed as President of CIRP — The International Academy for Production Engineering.

The International Academy for Production Engineering is a global community dedicated to advancing excellence and innovation in production engineering. Through world-class research,

collaboration, knowledge exchange, and engagement with industry and academia, CIRP brings together leading experts and emerging professionals to address the challenges shaping the future of manufacturing.

The Council of the Society extends its warm congratulations to Professor Kara on his appointment as President of CIRP.



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Society Fellow, Andrew Dzurak, awarded the 2026 Australian Institute of Physics Walter Boas Medal



The Royal Society of NSW was delighted to learn of the awarding of the Australian Institute of Physics Walter Boas Medal for 2026 to **Scientia Professor Andrew Dzurak FRSN FAA** of UNSW Sydney and the start-up company Diraq for excellence in pioneering advances in silicon-based quantum computing.

Professor Andrew Dzurak is an innovator and entrepreneur in the global quantum technologies ecosystem, leading teams in both industry and academia. He is CEO and Founder of Diraq, a full-stack quantum computing company employing the silicon CMOS qubits developed by his team at UNSW Sydney over the past two decades. He is also concurrently a Scientia Professor in Quantum Engineering at UNSW Sydney, an ARC Laureate Fellow and a Member of the Executive Board of the Sydney Quantum Academy. He was elected as a Fellow of the Royal Society of NSW in 2015 and as a Fellow of the Australian Academy of Science in 2026.

The AIP Walter Boas Medal was established in 1984 to promote excellence in research in Physics and to commemorate the life and work of Walter Moritz Boas, who was an AIP Honorary Fellow.

The Council of the Society extends its warm congratulations to Professor Dzurak on this most recent recognition of his outstanding research career.

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Society Fellow, Yansong Shen, among the winners at the 2026 Eureka Prizes

The Royal Society of New South Wales was delighted to learn that two of its Fellows, **Professor Maree Teeson AC FRSN FASSA FAHMS** from the University of Sydney and **Professor Yansong Shen FRSN FTSE** from UNSW Sydney, were awarded Eureka Prizes in the 2026 round.



Professor Maree Teesson received a double accolade, winning the Eureka Prize for Leadership in Science and the Eureka Prize for Societal Impact in Science as part of the OurFutures Vaping Program team.

Professor Teeson is an international leader in mental health and substance use research, especially the overlap between these disorders.

As Director of the University of Sydney Matilda Centre, the largest research centre of its kind, Professor Teeson has advanced prevention and treatment, including school-based programs reaching 300,000 students in Australia and overseas.



Professor Yansong Shen, who was the winner of the RSNSW 2024 Edgeworth David Medal, has developed a low-cost, scalable, portable process to recover the valuable metals and silicon from used solar panels.

With an estimated 60–78 million tonnes of panels requiring recycling by 2050, this end-to-end technology could recover valuable metals, including silver, and support more sustainable solar-waste management.

Professor Shen is the Director of the UNSW SCoPE Lab for Green Metals and also the Director of the ARC Research Hub for Solar Panel Recycling,



The Council of the Society warmly congratulates Professor Teeson and Professor Shen on their achievements and on this further recognition of the impact of their outstanding research.

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Society Fellow, Kit Kelen, wins the inaugural Southerly Prize

The Council of the Royal Society of NSW was delighted to learn that **Emeritus Professor Kit Kelen FRSN** has been awarded the prestigious inaugural Southerly Poetry Prize for 2026 for his poem “Now, Here, This.”

First published in *Southerly* almost fifty years ago, Kit Kelen is a well-known name in Australian poetry, as an editor, translator, academic and poet.

In 2024, he won the biggest Australian prize for a poem – the Newcastle Poetry Prize.

The judges, Paul Dawson, Bronwyn Lea, and Kate Fagan, read 661 anonymised entries before selecting a shortlist and winner for the Southerly Prize. Here is what they said:



"Now • Here • This" stands out for its linguistic verve, its lyric expression of a soul on the cusp of, in contemplation of, death. A celebration of mortality, the poem's clipped utterances, imperatives, reflections, and interrogations populate caesura-packed couplets that are typically end-stopped yet spill across stanzas in an effortless rhythm. The poem displays the virtue of the art form where meaning is abundant yet elusive, like the speaker, both an embodied self and an anonymous lyric voice.

His latest books of poetry are:

- *In Early Light – Aubades* (Walleah Press), and
- *FOOD OF LOVE – Concert Pieces* (Flying Islands Books)

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Society Fellow, Merlin Crossley, appointed as Chief Scientist of the Australian Museum

On Friday, 4 September 2026, the Australian Museum announced the appointment of **Professor Merlin Crossley AM FRSN** as Chief Scientist of the Australian Museum.



Professor Crossley is currently UNSW Deputy Vice-Chancellor (DVC) Academic Quality and previously as DVC Education and Dean of Science. He is a molecular biologist, specialising in using CRISPR gene editing to understand and treat human genetic diseases. He is also a dedicated supporter of science communication and research. He is also the Chair of The Conversation Media Group and Chair of the Royal Society of NSW Awards Committee.

Ms Kim McKay AO, Australian Museum Director and CEO, said that'In addition to his many scientific achievements as a geneticist, Merlin has been a long-standing and valued supporter of the Australian Museum (AM), from serving on the AM Trust to having a spectacular luminous squid, *Iridoteuthis merlini*, named in his honour. It is especially meaningful that Merlin will join the AM team in early 2027 as we mark the 200th anniversary, celebrating the AM's role as one of Australia's most significant cultural and scientific institutions.

Professor Crossley will join the Australian Museum Research Institute in early 2027 and also continue his molecular genetics research via joint arrangements with UNSW.

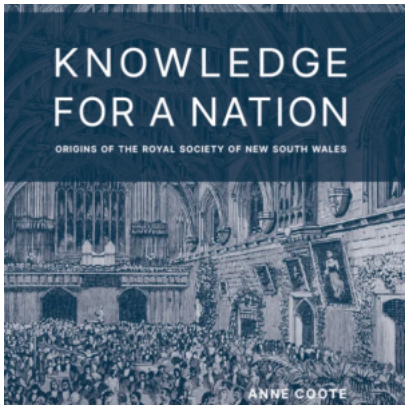
The Council of the Society warmly congratulates Professor Crossley on his new appointment and looks forward to building our connections with him and the Australian Museum in this exciting new stage in his career.

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Society history book, 'Knowledge for a Nation', is now available for downloading in pdf format

The Society's history book, *Knowledge for a Nation*, authored by historian Dr Anne Coote and published in October 2024, is now available in pdf format for downloading from the RSNSW website.

Hard copies are still available through our online shop at the member price of $50.



DOWNLOAD

Click here to download the pdf file

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Events

1345th OGM and Open Lecture — 7 Oct. 2026

Reformulating the visualisation of climate disasters



Scientia Professor Dennis Del Favero FRSN FAHA
Professor of Digital Innovation and
Executive Director, iCinema Research Centre
UNSW Sydney

Date and Time: Wednesday, 7 October 2026, 6.00–7.30 pm AEDT
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 AEDT on Wednesday, 7 October 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 before
Wednesday, 7 October at 2.00 pm AEDT

Business of the Meeting

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

Summary: Climate disasters have doubled in frequency and scale since 2000 and are expected to double again by 2035. As seen in Australia 2019/2020 and in Los Angeles 2025, climate disasters such as extreme and catastrophic wildfires are new singular events whose unforeseen and ferocious life-threatening behaviour challenge picturing. Their singularity, such as the unpredictable creation of new weather events, such as firestorms, resists the patterns and repetitions that make coherent aesthetic depiction and safe engagement possible. As they pose an unprecedented threat, we need to ask: "*How do we aesthetically picture such singular events so that we can meaningfully understand and safely prepare?"*

Artistic picturing imagines powerful engagement with known scenarios, while technological picturing, such as *WRF-SFIRE* simulations, abstractly maps the data patterns of typical fires. On their own, neither form of picturing can perceptually and sensorially depict the unpredictable dynamics of climate disasters and experientially engage artistic research and first response stakeholders with their uncertainty so they can safely interpret and interact. To address this gap, recent reports outline the urgent need for a form of picturing that leverages advances in art and technology.

This demands the modelling of complex processes imperceptible to human cognition, requiring the speed and scale of AI to learn patterns and render behaviours, integrated with the power of art to experientially engage stakeholders in compelling and dynamic scenarios. Professor Del Favero's research addresses this problem through an aesthetic that fuses art and AI and enables the experiential picturing of unforeseen scenarios. By converting scientific simulations into dynamically evolving, immersive aesthetic experiences, it will allow stakeholders to generate possible 'what if' scenarios that rehearse unexpected threats to build anticipatory understanding and situational deliberation. This research demonstrates that an immersive visual aesthetic—where users feel proactively present in unanticipated settings as they interactively rehearse their engagement with threats in advance can provide open-ended experiences that enhance risk apprehension and response.

Dennis Del Favero is a research artist, Scientia Professor and ARC Laureate Fellow, Director of the iCinema Research Centre at the University of New South Wales, Sydney, Honorary Professor, University of Melbourne (Australia), Visiting Professor, Royal College of Art (UK), Editorial Board Member of Quodlibet Studio Corpi (Italy) and the inaugural winner of the Royal Society of NSW Award in the Creative and Performing Arts in 2025.. He is the former Executive Director of the Australian Research Council | Humanities and Creative Arts and inaugural Visiting Professorial Fellow, ZKM Centre for Art and Media (Germany).

His work explores the use of AI aesthetics and immersive visualisation to picture and engage with uncertain scenarios, such as extreme fires, to enhance preparedness and response. His AUD $31M in funding has delivered a range of cutting-edge projects, including: *iCASTS*, an immersive training system for the Australian and Chinese mine industries, educating 30,000 miners, reducing injury by 65% with no fatalities *iDesign*, a 3D stage design prototyping system for Sydney Theatre Company; *iFire*, a 3D immersive simulation system for the international emergency sectors, for training 7,000 firefighters; *netARCHIVE*, a networked display system for multi-located museum collection experience for Powerhouse Museum, Sydney; and *memorySCAPE*, an intelligent memorialisation database VR system for the Australian War Memorial, Canberra. These outputs form part of significant commercialisations of immersive visualisation technologies, such as with Shenyang Design & Research Institute of the China Technology & Engineering Group. His work has been exhibited in over 140 major exhibitions, including Sprengel Museum Hannover and the Smithsonian. He is represented by Galerie Schenkweitzdoerfer, Cologne and Gallery Mais Wright, Sydney.

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Royal Societies of Australia Food Security Conference: 8–9 Oct.



Facing the Future



Date: Thursday and Friday, 8–9 October 2026
Time: 9.00 am – 5.00 pm AEDT
Venue: The Forum, Melbourne Connect, 700 Swanston St, Melbourne, Victoria
Bookings: RSNSW Members and Fellows: $250;
Early-bird rate: $340.00 before 23 September 2026;
Full registration: $400.00.
Registration: Registration through Humanitix includes attendance, casual lunches and refreshments
Conference Flyer: Downloadable from this link
Conference website: Via this link
Enquiries: via email to the Royal Societies of Australia
All are welcome

REGISTER NOW

PROGRAM FLYER

RSNSW Members and Fellows: $250
Early-bird: $340 before 23 September
Full registration: $400 thereafter

Purpose

The conference is aimed at a broad audience: food producers, distributors, retailers, government agencies, researchers, policy makers and so on. The underlying premise of the conference is that we have to achieve a transition to many new ways of addressing food and resilience issues now, which are consistent with Australia's unique social and natural systems.

Background — the new normal

The economic, social and food production systems that we have taken for granted are being increasingly disrupted. Geopolitical shocks and changing climate and weather patterns show how dramatic these disruptions can be, with serious consequences for food security and jeopardy for the resilience of our current systems, from farm to consumer. Continual environmental degradation will limit food production potential. Rising inequality means more people will suffer food insecurity.

We can be confident that the overall framework we will have in the years to come will be different from now in ways we cannot easily predict. There will continue to be international and natural influences we cannot control. We must, therefore, review where we are now to identify potential problems which, if left unattended, may decrease food security and hamper achieving resilient food systems. The RSA Food Security conference will do this. In addition, it will examine how we develop new frameworks and delineate our preferred futures, and how we implement them. Simply extrapolating from history will not be good enough. We cannot become captive to the past.

Addressing the Issues

At the conference, experts from academia, government, industry, peak bodies and not-for-profits working in areas including food production, food safety and nutrition, trade, transport and logistics, social inclusion, national security and the environment will examine the issues that

require attention now to bring together practical cross-sector solutions as the world around us changes. These issues include:

1. *The burden of history* – reliance on food customs, and production and farming techniques imported here by waves of migration and imposed on the different Australian circumstances – acclimatisation persists, even though the inherited and imported ways of thinking and patterns of living we have deployed here simply do not fit this land.

2. *The changing world*, with its cascading impact of geopolitical disruptions, technological developments, demographic changes, and damaging global changes to the natural world – climate change, coastal zone damage, soil degradation, biodiversity loss, and the continuing impact of diseases, pathogens and pest plants and animals.

3. *Perverse laws and incentives* affecting producers and consumers – maintaining our natural environment is fundamental to food production and resilient food systems, but environmental law is easily overridden by other laws, or by the way they are administered, and there is still no general agreement on incentives and information strategies needed to support a transition to effective food security and resilient food systems.

4. *Poverty and health* – poverty, inadequate access to health care and to dietary knowledge limit capacity to take advantage of food systems, regardless of how good they are.

Speakers include:

Professor Julianne Schultz – Griffith University
How we see ourselves and how this affects food issues

Professor Andrew Campbell – Triple Helix Consulting
Reviving land and sea care

Dr Mark Stafford Smith – CSIRO
Impacts of accelerating changes in the natural world

Professor Simone Warner – Agriculture Victoria Research
Better biosecurity efforts are critical

Professor Euan Ritchie – Deakin University
New environmental law – does it fall short?

Hon Professor Mary Graham – University of Queensland
Land, law and relationships

Dr Jessica Danaher – RMIT University
Our food plate is changing

Dr Courtney Quinn – University of Tasmania and CSIRO
Tipping points – challenges and opportunities

Conference outcomes

The two-day conference program aims to generate:

1. awareness of the changing world that provides the context for challenges to our food security and to our food systems, while highlighting the problems we will face from trying to continue with a business-as-usual approach, or from just making marginal changes within our existing framework,

2. suggestions for changes in the overall framework to transition to a brave new world within which food systems exist if the identified challenges are to be met, and if we are to maximise value from the many more specific initiatives now underway

3. useful inputs into the *Feeding Australia: A National Food Security Strategy* processes, into the AgriFutures project *Systems Thinking: how agriculture can drive national resilience* and into decision-making affecting inequality issues, the structure of the Australian economy and Australia's international relations.

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Southern Highlands Branch Meeting 2026-9 — 15 Oct. 2026

The latest news on the evolution of our Australian crocodiles



Dr Michael Stein
Palaeoscientist
Archer Palaeontology Laboratory
UNSW Sydney

Date: Thursday, 15 October 2026, 6.30–7.30 pm AEDT
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (please note: cashless payments only)
All are welcome

ENQUIRIES

By email to the Branch Chair

Summary: The dinosaur extinction 66 million years ago, in the period known as K-PG, was later followed by the evolution of the Australian-unique branch of crocodiles. In his earlier lecture to the RSNSW Southern Highlands branch in June 2026, Dr Michael Stein intrigued his audience with data from Australian-New Zealand palaeontology which revealed the labyrinthine extent of crocodile evolution in the Southern hemisphere following the huge extinction event. It was then that Australia's unique branch began to make a seemingly un-crocodilian push back onto the land. Dr Stein's latest research with new anatomical insights will be the focus of his return lecture.

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 ecomorphological plasticity, particularly niche diversification among predatory hunting ecologies and the capacity of lineages to reposition in trophic webs.

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RSNSW & Learned Academies Forum 2026: 5 Nov. 2026



Date: Thursday, 5 November 2026, 8.30 am for 9.00 am – 5.00 pm AEDT.
Venue: Government House, Sydney: in person by invitation and by live streaming.
Registration: Members of the Royal Society of NSW have been invited to apply for a face-to-face place at the event. Registration for the livestream is now open through this link.
Program: The day's program is now available on the website event notice
Entry: No charge.

The Forum is held under the auspices of Her Excellency the Honourable Margaret Beazley AC KC, Governor of New South Wales. The Royal Society of New South Wales acknowledges the generous support of Her Excellency and the Office of the NSW Chief Scientist and Engineer.

LIVE STREAM

Please click here to register for the live stream

Summary

Derek Parfit writes: “We live during the hinge of history… If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period… What now matters most is that we avoid ending human history.” (On What Matters, 2011 vol. 2)

Humanity may be entering a period in which actions of a single generation shape the long-term trajectory of civilisation. Climate instability, rapid technological transformation, geopolitical tension, and social fragmentation are converging in ways that may constitute a “hinge of history”.

The RSNSW Forum brings together leading thinkers across science, medicine, technology, governance, economics and philosophy to examine whether we are indeed at such a hinge point —and what this means for Australia’s future prosperity, security, and resilience.

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RSNSW Visits Program 2026-2 — 17 Nov. 2026

The Australian Museum
Partners in Discovery: Celebrating Two Centuries of Science—and looking to the Future



Date: Tuesday, 17 November 2026 from 5.30 pm AEDT
Venue: The Australian Museum, cnr William and College Streets, Sydney
Cost: To be advised
Registration: Registration information to follow
Enquiries: By email to RSNSW Programs

The Royal Society of NSW has built on its heritage over the last few years with a tour from ‘Padua to Cambridge’ exploring the roots of science in the Western tradition, followed by a series of field visits to the Institutions of Science that paired with the Royal Society in the 19th century, to provide the bedrock science on which our standing today is built.

The fourth and final visit in this series is to the Australian Museum for a special evening – an absolute “must be there” occasion! Our previous visits covered Botany, Astronomy and Institutions. The Australian Museum complements these by providing the taxonomy and species description for vertebrate and invertebrate zoology, and by becoming the reference centre for identification, classification of fossils and their use in strata dating. Foundation activities for both disciplines.

For more than two centuries the Royal Society of NSW and the Australian Museum have helped shape Australian science. Both emerged from the early scientific ambitions of colonial New South Wales, with generations of scientists contributing to both organisations through research, publications and public engagement. Together they helped lay the foundations of scientific inquiry in Australia.

As Australia's first museum prepares to celebrate its 200th anniversary in 2027, the Museum Director and CEO, Kim McKay, has extended an invitation to the Royal Society's Visits Program to join a special preview event recognising the long and remarkable relationship between our two institutions.

The evening will include a preview screening of the Museum's new Bicentenary documentary, a panel discussion, audience questions, drinks and canapes.

This promises to be a fascinating opportunity to celebrate the shared heritage of two of Australia's oldest scientific institutions while gaining an early insight into the Australian Museum's Bicentenary celebrations.

Details to follow. **Save the date: Tuesday, 17 November 2026 from 5.30 pm**

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Southern Highlands Branch Meeting 2026-10 — 19 Nov. 2026

Revolutionising Palaeontology with Neutron Imaging



Dr Joseph Bevitt
Instrument Group Manager and Senior Instrument Scientist
Australian Centre for Neutron Scattering
ANSTO

Date: Thursday, 19 November 2026, 6.30–7.30 pm AEDT
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (please note: cashless payments only)
All are welcome

ENQUIRIES

By email to the Branch Chair

Summary: Palaeontology and evolutionary studies are dependent on the physical measurement of bone dimensions to determine relationships between organisms, age at death, interpret lifestyles, predator-prey interactions and physical adaptations to a constantly changing world. These measurements demand the physical extraction of specimens from their surrounding rock, risking damage to small and fragile bones and loss of contextual information associated with the environment at that time. For this reason, 3D imaging using X-rays has become a critical tool for the investigation and preservation of fossilised remains, which can now be investigated while remaining in their original matrix.

For many fossil localities, the applicability of X-rays is limited due to the prevalence of minerals that are opaque to X-rays, and therefore obscure the fossil remains. This is where neutron imaging comes in.

The application of neutron imaging to palaeontology has been pioneered at ANSTO. It remains a relatively new tool for palaeontology, yet it has revolutionised the field for two reasons: a high sensitivity to hydrogen, and greater ability to penetrate through iron-rich minerals such as pyrite.

This presentation draws on high-profile palaeontological studies conducted using the DINGO neutron imaging instrument at ANSTO to demonstrate not just the complementarity of neutrons with X-rays, but the unprecedented discoveries being made. The method has become a game-changer for Australian palaeontology, attracting specimens for study from around the globe. This talk highlights the advantage of neutrons in revealing cartilaginous soft-tissue remains, complete internal organs, stomach contents and entire organisms that are invisible to traditional X-ray tomography.

The talk will wrap up with recent, unpublished technical developments in neutron imaging at ANSTO, and the future direction for neutron capabilities and applications in Australia.

Dr Joseph Bevitt is a 3D imaging scientist and group manager for the Imaging and Strain Scanning Group at ANSTO's Australian Centre for Neutron Scattering. Joseph pioneers the use of neutrons, often in combination with synchrotron X-rays, to digitally excavate and reveal fossils, their exceptionally preserved soft-tissue structures, stomach contents and environmental interactions.

Joseph obtained a PhD in Chemistry from the University of Sydney in 2006, weaving a career in teaching, research policy, administration and management before transitioning to research in 2018. Joseph is a former NSW Branch President of the Royal Australian Chemical Institute (RACI), Research Fellow of the Jilin University Dinosaur Evolution Research Centre, recipient of the RACI Nyholm Lectureship, AONSA Neutron Award and Powerhouse Research Fellowship Member of the IUCr Commission on Crystallography in Art and Cultural Heritage.

He actively engages the public imagination, reaching global audiences via the media with diverse discoveries such as the partially digested remains of a dinosaur in the stomach of an ancient crocodile, evidence of recycling of mummified animal offerings in Ancient Egypt, the world's oldest fossilised heart, and the earliest evidence of fruit-eating by animals. His research has featured in Science, Nature, National Geographic, The Conversation, Catalyst, natural history documentaries, Australian postage stamps and coins. Aiming to bridge the gap between science and art, his works have been exhibited in the MAAS Powerhouse Museum's *Out of Hand* and *The Invisible Revealed* exhibitions, the latter achieving the Museum and Galleries National Award for Research in 2022.

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1346th OGM and Open Lecture — 2 Dec. 2026

Big Ideas from Small Patients: Improving the Outcomes of Children with Cancer



Professor Michelle Haber AM FAHMS FAA
Co-Group Leader, Experimental Therapeutics and Molecular Oncology
Children's Cancer Institute

Date and Time: Wednesday, 2 December 2026, 6.00–7.30 pm AEDT
Venue: Michael Crouch 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 2.00 pm on Wednesday, 7 October
Entry: OGM: Members, $20; Non-members, $30; Students, $0
All are welcome

REGISTER NOW

Please register before 2.00 pm AEDT on Wednesday, 2 December 2026

Business of the Meeting

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

Summary: Childhood cancer has seen remarkably improved rates of survival over the past 80 years. Despite increased survival rates, many child cancers remain refractory to current treatments. Prrofessor Haber's team has identified critical genes that drive childhood cancers, developed novel therapies that translate to the clinic, and has developed novel diagnostics to avoid relapse and death

Professor Michelle Haber is Co-Group Leader, Experimental Therapeutics and Molecular Oncology, at Children's Cancer Institute, having stepped down as Executive Director, a role she held for 25 years. She is internationally recognised for her research developing novel therapeutic and diagnostic approaches to improve outcomes for children with acute lymphoblastic leukaemia and neuroblastoma. She has identified and validated several molecular targets that drive the growth and development of childhood cancer, identified promising new drugs to inhibit the action of these targets, and combined existing and new treatments into novel therapeutic approaches that have been translated into international clinical trials. She has brought new standards of care to Australian children with cancer, exemplified by her establishment and leadership of the ZERO Childhood Cancer national personalised medicine program, which is enabling every Australian child with cancer to have therapy tailored to the specific genetic and biological characteristics of their individual tumour.

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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.



Presentation Report: Ideas@theHouse—1 Sept. 2026



The seventeenth 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, 1 September 2026, in the Ballroom of Government House, Sydney.

Matthew Allen AM, a distinguished ocean sailor, a multiple winner of the Sydney Hobart Yacht Race, and presently the Vice-President of The Australian Olympic Committee and Chair of The Australian Olympic Community Foundation, was the speaker on this occasion, addressing the topic of 'The increasing importance of sport in today's world.'

Matthew Allen's presentation argued that sport is one of Australia's most important forms of social infrastructure, and not merely recreation or elite competition. Drawing on his sailing career, involvement with the Australian Olympic Committee, and observations of events such as the Sydney Marathon and the Olympic Games, he emphasised sport's power to create belonging, unity, resilience and shared national purpose.

He warned that Australia is facing rapid social and economic change: AI, remote work, fragmented communities, declining institutional membership and rising loneliness are weakening traditional sources of connection. In this context, local clubs, teams, volunteers and informal sporting communities become even more important, arguing that sport helps children build confidence, teaches teamwork and humility, supports physical and mental health, and gives older Australians ways to stay active and connected.

Mr Allen also highlighted pressures on sport: falling participation in some areas, stretched volunteers, compliance burdens, and competition for land from housing and commercial development. He argued that governments and communities must protect sporting facilities, support volunteers, and plan infrastructure for broad, long-term participation.

The Australian Olympic Committee's role was presented as broader than winning medals. It supported athletes, schools, Indigenous scholarships, community programs and Olympic values. Looking ahead to the Brisbane 2032 Olympic Games, Allen saw a once-in-a-generation opportunity to strengthen Australia's health, inclusion, Pacific relationships and national identity — provided that the legacy was measured by lasting community benefit, not just ceremonies or medal counts.

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 FRSN
Bulletin Editor

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Presentation Report: 1344th OGM —2 Sept. 2026



On Wednesday, 2 September 2026, an audience of approximately 40 people who attended the 1344th Ordinary General Meeting of the Royal Society of NSW heard a masterful presentation, titled 'Ecosystem restoration at scale, reintroducing native species and managing threats – nearly a decade of the Wild Deserts project', delivered by **Scientia Professor Richard Kingsford AO FRSN**, Director, Centre for Ecosystem Science at UNSW Sydney,

Professor Richard Kingsford's presentation described the Wild Deserts project, a large-scale conservation and ecosystem restoration initiative in Sturt National Park, north-western New South Wales. Against the backdrop of severe global biodiversity decline, he highlighted Australia's exceptional record of mammal extinctions since European colonisation, driven largely by feral cats, foxes, rabbits and overgrazing.

The project, led by UNSW in partnership with NSW National Parks and others, manages about 40,000 hectares of national park. Its core work has been building predator-free exclosures, removing feral animals, and reintroducing locally extinct mammals including bilbies, bandicoots, bettongs, mulgaras and quolls. Most reintroductions have exceeded success thresholds, with populations breeding and recruiting, although stick-nest rats failed to establish.

Kingsford stressed that safe havens alone were not enough. Some animals become predator-naïve or overpopulate without functioning food webs. The team therefore created a 100-square-kilometre "wild training zone", where low numbers of cats were deliberately managed to create selection pressure, helping reintroduced animals become more predator-aware while preventing extinction.

The presentation also covered innovations in feral cat control, including Felix grooming traps, shooting, baiting, satellite tracking, detection dogs and possible protection implants. Kangaroo management is another major challenge, addressed through one-way gates that reduce grazing pressure.

A major theme of his talk was evidence-based conservation. The team uses camera traps, drones, satellite imagery, machine learning, soil studies and ecological monitoring to measure ecosystem change. Professor Kingsford argued that effective restoration must combine science, management, partnerships, public education, First Nations engagement and transparent monitoring.

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 is now available for viewing and downloading.

Lindsay Botten FRSN
Bulletin Editor

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Presentation Report: Provocations and Inspirations—15 Sept. 2026



The eighth in the Society's lunchtime series of Provocations and Inspirations was delivered by **Dr John Gattorna**, **Deborah Ellis** and **Associate Professor Sanjoy Paul** on the topic of 'Australia's supply chain security: Sovereign supply chain capability and economic resilience' at the Union, University and Schools Club on Tuesday, 15 September 2026.

The session explored Australia's vulnerability to supply-chain disruption and made the case for a stronger, more coordinated approach to national resilience. The presentation began by characterising supply chains as complex networks of suppliers, manufacturers, distributors and customers, connected by the movement of goods and information. Although technology and data have improved visibility and decision-making, human behaviour — such as consumer expectations, purchasing patterns and organisational culture — continues to shape how supply chains operate.

The presenters explained that disruptions are becoming more frequent and severe. Events such as oil shocks, the global financial crisis, COVID-19, blocked shipping routes and geopolitical conflict demonstrate how quickly interconnected supply networks can fail. COVID-19 was particularly significant because it disrupted manufacturing and freight while simultaneously creating extraordinary demand for medical supplies, protective equipment and vaccines. It also revealed Australia's dependence on international sea and air freight, especially because much of its air cargo normally travels on passenger aircraft.

Several national vulnerabilities were highlighted. Australia imports most of its refined fuel and medicines, has limited fuel storage and refining capacity, and relies heavily on overseas processing of critical minerals. Fertiliser, batteries and pharmaceutical supplies were also identified as areas where greater domestic capability could improve security. At the same time, Australia's successful emergency freight program during the pandemic showed that government and industry can respond effectively when empowered leadership, strong relationships and clear authority are in place.

The presentation concluded that Australia should identify critical industries and dependencies through a national, top-down review with recommended modelling of disruption scenarios, prioritising risks by impact and recovery time, investing selectively in domestic capability, and establishing permanent preparedness and rapid-response functions. The central message was that Australia cannot prevent every crisis, but it can reduce their consequences through planning, collaboration and decisive leadership.

A gallery of images from the occasion is available for viewing and downloading, and a recording of this presentation is available on our YouTube channel.

Lindsay Botten FRSN
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Southern Highlands Branch Report — 17 Sept. 2026

Presentation Report— 17 September 2026

The Shortest History of Reality

Professor Geraint Lewis FRSN FLSW FAIP
Professor of Astrophysics
School of Physics
University of Sydney



Geraint Lewis is an internationally recognised astrophysicist and an accomplished communicator to general audiences. This intriguing lecture was based on his most recent book, 'The Shortest History of Reality.'

Lewis posed the simple question, 'Where does colour come from?' to illustrate the point that reality is easily open to various interpretations. For example, we tend to think of colour as an inherent property of objects — that a rose is simply red or the sky simply blue. But that is not necessarily true. The physical world provides us with wavelengths of electromagnetic radiation, while the human eye and brain transfer those signals into the rich experience we call colour. In the human retina, there are three principal types of cone cells. Different wavelengths stimulate the cones to different degrees. Then the brain combines and interprets those signals to produce our perception of colour.

Geraint posed the simple question of what other creatures with different cones see when they look at, say, a colourful flower like the red rose. Bee photoreceptors are shifted towards shorter wavelengths than ours – ultraviolet, blue, and green. To a bee, the red petals can appear almost black. In other words, the same rose is being experienced very differently. The question must be asked, 'What is the colour of the rose really?'

An outstanding lecture.

Anne Wood FRSN
Chair, Southern Highlands Branch

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The Society and Social Media

The Society's presence on our social media channels—Facebook, LinkedIn, X/Twitter, and YouTube—is engaging a growing following as we continue building our event repository on YouTube.

Our YouTube channel now has more than 2,860 subscribers, and the 256 full-length videos and 'shorts' online have received over 970,000 views. This remarkable growth in both total views and

subscribers over the past month is due to a new 'short' cut from the recording of the July 2026 Provocations and Inspirations lunchtime presentation by Tim Buckley on 'Australia's energy security: Technology options in an uncertain world.' The 'short', which reflects on China's marked growth as a renewable energy superpower due to the war in the Middle East, has received over 700,000 views in approximately a month since it was published. The full-length recording is included in the list of recent videos below.

The social media icons at the end of this newsletter will take readers to our pages on these platforms, 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.

Recent recordings uploaded to YouTube

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 the seventh meeting of the Society's Provocations and Inspirations lunchtime series held at the Union, University, and Schools Club in Sydney (14 July 2026), at which Dr John Gattorna, Deborah Ellis, and Associate Professor Sanjoy Paul spoke on *Australia's supply chain security: Sovereign supply chain capability and economic resilience*. 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 1344th Ordinary General Meeting (2 September 2026) on *Ecosystem restoration at scale, reintroducing native species and managing threats – nearly a decade of the Wild Deserts project*, delivered by Scientia Professor Richard Kingsford AO FRSN, Director of the Centre for Ecosystem Science at UNSW Sydney. 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 1 September 2026, Ideas@theHouse titled '*The increasing importance of sport in today's world*', delivered by Matthew Allen AM, Vice-President of the Australian Olympic Committee. The online event notice provides a summary of the lecture and the presenter's biography.



YouTube recording of the presentation from the New England North West Branch Meeting 2026-2 of the Royal Society of NSW (12 August 2026) on *Perspectives on Autism, Neurodiversity, and Resilience*, by Professor Vicki Bitsika AM FRSN, Discipline Convenor of Neuroscience, University of New England and panellists: Dr Wayne Arnold, Jane Weier, Georgia Vu and Assoc. Prof. Tavveer Hussain MRSN (Moderator). A summary of the presentation and brief biographies of the presenter and panellists are available from the online event notice.



In Conversation with Professor Maike Osborne. In this series, Christina Slade, President of the Royal Society of NSW, will be speaking with some of the very many distinguished Australians who live and work outside Australia. The first of these distinguished guests is Maike, formerly Michael, Osborne —a Professor of Machine Learning at Oxford University and a leading figure in Bayesian optimisation, probabilistic modelling, AI safety, and the social impacts of automation. Her journey spans Western Australia, ANSTO, and New College, Oxford. She contrasts Bayesian AI with pattern-based LLMs and describes Mind Foundry's transparent approach to defence sensing and insurance risk. Her influential 2013 paper with Carl Frey reshaped global thinking on automation's labour impacts. As a trans

academic leader, she highlights AI's human dimensions—uncertainty, risk, identity, ethics, and work.



In Conversation with Professor Ian Jacobs. In this, the second in the series of conversations, Christina Slade speaks with Ian Jacobs, a British-Australian medical researcher and university leader, who reflects on his journey from a North London childhood to Cambridge, medical training, and a distinguished career across UCL, Manchester, Cambridge and UNSW, where he served as Vice-Chancellor. Known for pioneering ovarian-cancer screening and founding The Eve Appeal, he discusses how public education shaped his path and compares UK–Australian higher-education systems. He now chairs City St George's, University of London, bringing long experience in research, policy and institutional leadership.



YouTube recording of the presentation from the 1343rd Ordinary General Meeting (1 July 2026) on *The Importance of Understanding Water and Climate Change for Aboriginal People*, delivered by Professor Bradley Moggridge FRSN FTSE, Associate Dean (Indigenous Leadership and Engagement), Faculty of Science, University of Technology

Sydney. 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 sixth meeting of the Society's Provocations and Inspirations lunchtime series held at the Union, University, and Schools Club in Sydney (14 July 2026), at which Tim Buckley, Founder and Director of Clean Energy Finance, spoke on *Australia's energy security: Technology options in an uncertain world*. 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 1342nd Ordinary General Meeting (1 July 2026) on *Thin-film photovoltaics — the enabling engine for next-generation tandem solar cells*, delivered by Scientia Professor Xiaojing Hao FRSN FAA FTSE, an ARC Laureate Fellow and Deputy Director of the ARC Research Hub for Photovoltaic Solar Panel Recycling and Sustainability, School of Photovoltaic and Renewable Energy Engineering, UNSW Sydney. 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 Hunter Meeting 2026-2 of the Royal Society of NSW (25 June 2026) on *Offspring and the Influence of PFAS Exposure during Critical Development Periods*, by Dr Jacinta Martin, Reproductive Biologist and Lecturer of the Hunter Institute of Medical Sciences and the University of Newcastle. 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 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 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.

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

Disclaimer: Positions expressed in this publication by the authors of articles and event presenters do not necessarily reflect those of the Society.

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