ROYAL SOCIETY NEW SOUTH WALES

The Bulletin 496
August 2025

In this newsletter:

A message from the President

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

The winter has been unprecedently active for the Society, and particularly for our Sydney branch, with face-to-face events at the State Library, Government House, the Union, University, and Schools Club, the University of Sydney, and History House. The overarching themes for the year have been the critical issues of our time — productivity, health, the environment, and technological change. I wish to thank all those involved in organising the events, dinners and locations, welcoming speakers, managing the Q&As, and welcoming guests.

As is evident from each of the face-to-face events and the YouTube recordings of these, the quality has been outstanding. Professor Jason Sharples FRSN FTSE of UNSW Canberra, who won the Society's Aboriginal and Torres Strait Scholar Medal last year, talked alarmingly, yet with optimism, about 'Extreme wildfires in a warming world' for Ideas@theHouse on 26 June. Professor Alex McBratney AM FAA delivered the RSNSW Poggendorff Lecture for 2024 at the University of Sydney on the topic of 'Agriculture over the Horizon' on 2 July, as described in the event report later in this newsletter. Dr Cathy Foley, AO PSM DistFRSN FAA FTSE, Australia's former Chief Scientist (2021–2024) addressed 'The Productivity Challenge: the role of innovation and R&D in Australian business' at the Provocations and Inspirations series luncheon at the Union, Universities and Schools Club on 23 June, while there was a joint meeting with the Royal Australian Historical Society on 16 July at which Dr Anne Coote presented 'Not just a gentleman's

club: The origins and significance of the Royal Society of NSW'. This is, in my experience, the greatest number of face-to-face events held by the Sydney Branch over the winter months — or at any time of the year. And it does not include events at the Branches – where the Southern Highlands welcomed Dr Hugh McKay AO FRSN and Dr Michael de Percy FRSN, and the Western Branch which had an online session by Distinguished Professor Jing Sun on 'Hidden causes of rising disability and death in the working population'.

I know many of you have contributed, but I do want to single out Emeritus Professor Lindsay Botten, who is not only Vice-President and webmaster, video editor, quality controller, market analyst, news provider, and event coordinator, but also virtual president.

The Executive Committee of the Council met on 9 July. The Vice-President provided an analysis of our current membership, including data on Fellows and Members, their university or other affiliations, professions, and gender, along with some data on the age distribution. We are looking to expand our fellowship and membership. Council member, Professor Sean Brawley, leads a working group that is considering categories of membership and fellowship, including consideration of future corporate memberships, associate fellowships, and life memberships. We also discussed reports from the Society's Librarian, Professor Stephen Garton, who is managing the donation of the Royal Society collection to the State Library, and from Council member, Dr Sarah Jones, who leads the effective communication working group.

I have been able to attend a number of meetings, including planning meetings for the Royal Society and Learned Academies Forum, and the Annual Awards Dinner next year. I do remind you to set aside the dates — 6 November this year for the Forum and 27 February 2026 for the Awards Dinner. I was able to drop into an event at the Royal Society in London at which academics, teachers, and civil servants discussed the report 'A new approach to mathematical and data education'.The arguments about mathematical education in the age of data, large language models, and AI are ones that are sure to interest the mathematicians among us and which have an impact on us all. This year's Forum, 'AI: the Hope and the Hype', to be held at Government House, will touch on these issues. On another related note, the Hunter Branch meets on 21 August when Laureate Professor Jennifer Gore AM FASSA of the University of Newcastle will discuss 'An elegant solution to enduring problems in education"

We have a full program coming up. On 6 August, following the 1333rd OGM, Associate Professor Ian Wright from Western Sydney University will discuss 'PFAS in New South Wales: Is it under control?' in the Michael Crouch Room of the State Library. The topic is one that is being discussed increasingly in Europe, where it had gone under the radar for many years. On 19 August at the Union, University and Schools Club, 25 Bent Street, Sydney, Ross Gittins AM FRSN FASSA, the Economics Editor of the *Sydney Morning Herald,* will discuss the topic, 'Solving Australia's Productivity Crisis.' On 28 August, in the final Ideas@theHouse for the year, Professor Bamini Gopinath, Cochlear Chair in Hearing and Health at Macquarie University, will discuss the topic: 'Busting Myths, Bridging Gaps: Public Health Approaches to Hearing Loss in Adults.'

Finally, I look forward to visiting the branches and universities on my return, attending events and seeing you all.

Christina Slade FRSN
President

For your diary

The Society's annual events program is published in the online Events Calendar, which is updated regularly.

- 1333rd Ordinary General Meeting and Open Lecture (Wednesday, 6 August 2025, 6.00–7.30 pm AEST, Michael Crouch Room, Mitchell Building, State Library of NSW) *PFAS in New South Wales: Is it under control?*, Associate Professor Ian Wright, School of Science, Western Sydney University
- Lunchtime series: Provocations and Inspirations — August 2025 (Tuesday, 19 August 2025, 12.30 – 2.00 pm AEST, Union, University and Schools Club, 25 Bent Street, Sydney) *Solving Australia's Productivity Crisis*, Ross Gittins AM FRSN FASSA, Economics Editor, The Sydney Morning Herald
- Western NSW Branch Meeting 2025-3 (Wednesday, 20 August 2025, 6.00–7.00 pm AEST, Live streaming) *Nature-based solutions for future farming*, Distinguished Professor Geoff Gurr FRSN, Professor in Applied Ecology, Gulbali Institute, Charles Sturt University
- Hunter Branch Meeting 2025-3 (Thursday, 21 August 2025, 6.00–7.00 pm AEST, Newcastle Exhibition and Convention Centre, 309 King Street, Newcastle West) *An elegant solution to enduring problems in education*, Laureate Professor Jennifer Gore AM FASSA, School of Education, University of Newcastle
- Southern Highlands Branch Meeting 2025-7 (Thursday, 21 August 2025, 6.30–7.30 pm AEST, RSL Mittagong, Carrington Room) *Mining Water on the Moon*, Professor Andrew Dempster, Director, Australian Centre for Space Engineering Research, School of Electrical Engineering and Telecommunications, UNSW Sydney
- Ideas@theHouse: August 2025 (Thursday, 28 August 2025, 6.30–8.00 pm AEST, Government House, Sydney, face-to-face by invitation and online, which is open to all) *Busting Myths, Bridging Gaps: Public Health Approaches to Hearing Loss in Adults*, Professor Bamini Gopinath, Cochlear Chair in Hearing and Health, Faculty of Medicine, Health, and Human Sciences, Macquarie University
- 1334th Ordinary General Meeting and Open Lecture (Wednesday, 3 September 2025, 6.00–7.30 pm AEST, Zoom webinar) *Bringing Financial Reporting into the 21st Century*, Emeritus Professor Peter Wells FRSN, University of Technology Sydney Business School
- Southern Highlands Branch Meeting 2025-8 (Thursday, 18 September 2025, 6.30–7.30 pm AEST, RSL Mittagong, Carrington Room) *Tomorrow's Universe — the discoveries that will change science*, Professor Fred Watson AM, Honorary Professor, School of Mathematical and Physical Sciences, Macquarie University

Return to the Table of Contents

News

Royal Society of NSW 2025 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 Lectureships, 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 2025 Awards, **commencing on 1 July 2025 and closing on 30 September 2025**. Winners of the Awards will be announced at the final Ordinary General Meeting for 2025 to be held at the State Library of NSW on the evening of Wednesday, 3 December.

This year, nominations are called for the following awards. Please follow the links below for information about each of the awards, particular conditions and instructions for nomination, and the 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 Liversidge Award and Lectureship in the Chemical Sciences
RSNSW Warren Award in Engineering, Technology, Architecture, and Design
RSNSW Award in the Creative and Performing Arts
RSNSW Award in the Life Sciences

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

Society Fellow, Richard Payne, awarded a 2025 ARC Laureate Fellowship

Professor Richard Payne FRSN FAA FRACI FRSC, the Professor of Organic Chemistry and Chemical Biology at the University of Sydney, has been awarded an ARC Laureate Fellowship, in an announcement from the Australian Research Council on 26 June 2025.

The Laureate Fellowship is the most prestigious individual award granted by the Australian Research Council and provides research support that includes a contribution towards a professorial salary, funding for two postdoctoral research associates and two postgraduate researchers, and up to $300,000 per year in project expenses for five consecutive years.

Professor Payne was awarded $3.904 million for a project titled ‘Unlocking the Modified Proteome’. In this project, Professor Payne aims to uncover how protein modifications influence biological activity. This project will develop automated technologies to produce modified proteins with high precision and scale, enabling new insights into major protein classes. The research will support the development of novel therapeutics and antimicrobial molecules and transform how high-value proteins are made. Its outcomes will benefit Australia’s biotech and pharmaceutical sectors and will build workforce capacity through training and industry partnerships.

Professor Payne was the recipient of the 2020 RSNSW Liversidge Lecture and was elected as a Fellow of the Australian Academy of Science in 2023. He is an international leader in the fields of organic chemistry and chemical biology and is recognised for pioneering a number of technologies for accessing precisely modified peptides and proteins for applications in biology and medicine. Amongst the awards that he has received during his career are the Prime Minister’s Prize for Physical Scientist of the Year in 2016, and the HG Smith and AJ Birch Medals of the Royal Australian Chemical Institute in 2019.

The Council of the Royal Society of NSW extends its warm congratulations to Richard Payne on both an outstanding career and this outstanding achievement, and wishes him every success in his research during the coming five years.

Return to the Table of Contents

Society Fellow, Chuan Zhao, awarded a 2025 ARC Laureate Fellowship

Professor Chuan Zhao FRSN FRACI FRSC, of the UNSW School of Chemistry, has been awarded a prestigious ARC Laureate Fellowship, announced by the Australian Research Council in late June.

He joins the University of Sydney Professor Richard Payne FRSN FAA FRACI FRSC as a new ARC Laureate Fellow in receiving more than $3 million over five years.

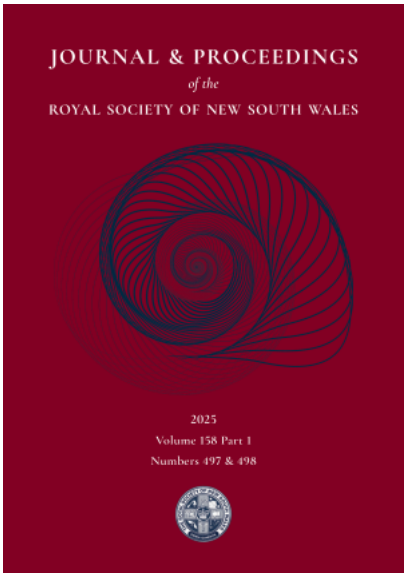
Professor Zhao's project, titled 'A Next-Generation Water Splitter for a Green-Hydrogen Future', aims to develop a new class of water-splitting devices that produce green hydrogen without relying on fossil fuels. By leveraging low-cost, earth-abundant materials and designing systems compatible with intermittent renewable energy sources such as wind and solar, this work will lay the foundation for scalable, affordable hydrogen production. Beyond advancing fundamental knowledge in water electrolysis, the project will deliver high-performance electrolysers and materials for industrial applications. It will also enhance Australia's clean energy research capacity, strengthen industry partnerships, and support the global transition to a net-zero future. To learn more, please visit his ARC Laureate profile.

The Council of the Royal Society of NSW extends its warm congratulations to Chuan Zhao on this outstanding achievement and wishes him every success in his research during the coming five years.

Return to the Table of Contents

June 2025 issue of the Journal & Proceedings is now available

The June 2025 issue of the *Journal and Proceedings of the Royal Society of NSW* was published online on 1 July and is packed with interesting reading for the winter season.



When the 2024 Annual Forum of the Society and the Learned Academies ("Threats to Democracy") was being planned, few anticipated that Donald Trump would become the 47th President of the USA, but just before the Forum was held, he was elected. Since then, US policy has been worrying, at least to those of us who value democracy.

The June 2025 issue of the *Journal & Proceedings contains* papers and addresses from the dozen or so people who addressed last year's Forum. Read especially the keynote address by Professor Philip Pettit of Princeton University. Recordings of the 2024 Forum are also available from this playlist on our YouTube channel.

The issue also contains four papers: on the introduction of standard time, on starting a new university (UNSW), on the development of the electronic e-Nose, and on politics and economics. There are also four abstracts from recent PhD theses.

The Journal is now online, the complete version of which is downloadable from this link, and the print version will be mailed out soon.

Robert Marks
Editor, Journal and Proceedings of the Royal Society of NSW

Return to the Table of Contents

Events

1333rd OGM and Open Lecture — 6 August 2025

PFAS in New South Wales: Is it under control?

Associate Professor Ian Wright
Discipline of Environmental Science
School of Science
Western Sydney University

Date: Wednesday, 6 August 2025, 6.00–7.30 pm AEST
Venue: OGM: Michael Crouch Room, Level 1, Mitchell Building, State Library of NSW, Shakespeare Place, Sydney
Pre-meeting drinks: A cash bar will operate from 5.30 pm
Post-meeting supper: An optional supper will be available at the Mordeo Bistro and Grill on Deutsche Bank Place (cnr Hunter and Phillip Streets, Sydney), following the OGM
Enquiries: by email to RSNSW Events
Registration: OGM: Please register by 2.00 pm on Tuesday, 5 August
Supper: Please register by 5.00 pm AEST on Friday, 1 August
Entry: OGM: Members, $20; Non-members, $30; Students, $0
Supper: $88 per person (non-refundable) for a fixed menu meal
All are welcome

REGISTER NOW

for the OGM and Open Lecture before 2.00 pm on Tuesday, 5 August

REGISTER NOW

for the optional supper before 5.00 pm on Friday, 1 August

Business of the Meeting

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

Summary: In 2024, NSW became aware that some of its residents were drinking water containing harmful chemicals — per- and polyfluoroalkyl substances (PFAS). This was triggered by news that the United States health authorities announced new laws reducing

the safe levels of PFAS in drinking water supplies. A Sydney Morning Herald newspaper article in June 2024, *There's no safe level: Carcinogens found in tap water across Australia,* reported that PFAS 'forever chemicals' had been detected in drinking water supplies around Australia. The NSW Chief Health Officer declared on 11 June 2024 that Sydney's drinking water was safe.

It came as a major shock when it was announced in August 2024 that the Blue Mountains water supply contained elevated levels of PFAS. In September 2024, Ian Wright assisted Fairfax journalists in tracking down the source of this contamination. Sampling water from a flowing creek in a 'protected' Blue Mountains drinking water catchment, they discovered PFAS at a concentration that exceeded the Australian Drinking Water Guidelines by more than 50 times. It later emerged that the contamination was probably from fire-fighting foam used to control the fire from a burning petrol tanker, which crashed in 1992 on the Great Western Highway near Medlow Bath.

PFAS is not just an issue for Blue Mountains drinking water. An additional concern is the impact of elevated PFAS on water supplies in rural and regional communities. Even grazing livestock are known to be susceptible to PFAS contamination of their meat if their drinking water exceeds trace concentrations. PhD student research supervised by Ian Wright has revealed that platypuses have substantial PFOS bioaccumulation.

Should people be concerned about their exposure to PFAS? What action should they take? Should they have their blood tested? Can we trust that contamination by PFAS is under control? Ian Wright's presentation will canvass these questions surrounding an issue that is important to us all.

Ian Wright is a water scientist and an Associate Professor at the Western Sydney University (WSU) School of Science. He teaches classes in water science and management, environmental planning, and environmental regulation across several degree programs. Before joining WSU, he worked as a scientist in the urban water industry, mainly at Sydney Water. His water science interests include freshwater ecology, water chemistry, and water pollution (both science and management). His research interests include urban water issues, contamination from concrete materials, and the impact of mining on streams and rivers. He has provided independent expert testimony for environmental science matters for the NSW Land & Environment Court and also for mining development proposals being considered through the planning system.

Return to the Table of Contents

Lunchtime series: Provocations & Inspirations — 19 August 2025

Solving Australia's Productivity Crisis

Ross Gittins AM FRSN FASSA
Economics Editor
The Sydney Morning Herald

Date: Tuesday, 19 August 2025, 12.30–2.00 pm AEST
Venue: Union University and Schools Club, 25 Bent Street, Sydney (corner of Bent and

Philip Streets)
Registration: Registration is required by 2.00 pm on Tuesday, 12 August 2025. Places are limited
Dress: Smart business casual (jacket preferred). No denim
Flyer: Downloadable with this link
Cost: $75 (RSNSW and UUSC members), $85 (non-members/guests). ***Note:*** *the cost has increased slightly as lunch will now be a warm meal*
All Society members and their guests are welcome

REGISTER NOW

Please register before 2.00 pm AEST on Tuesday, 12 August

ENQUIRIES

By email to RSNSW Events

Solving Australia's Productivity Crisis

The ongoing theme of the luncheon series is to explore the issue of inequality in Australia. We are analysing this wicked, complex problem through exploring issues such as: How can we mitigate the consequences of climate change? Should the very rich continue to accumulate wealth at a much faster rate than the very poor? How can Australia pay for the levels of service expected by the community while maintaining its security in a rapidly changing, uncertain world? How can we better utilise resources and protect the environment for future generations? How can we introduce micro- and macro-economic reform leading to greater economic complexity and driving productivity improvements in a predominantly service-oriented economy?

The issue of productivity growth in Australia is now front and centre of the government's economic policy framework. Productivity improvement has been at a virtual standstill for the last decade, and there is broad agreement that this has to change if Australia is to maintain its prosperity.

But the debate over what to do about productivity has been hijacked by too many people with axes to grind. Yet there are sensible conclusions to be drawn about the causes of our lack of productivity improvement and possible steps we can take to improve matters.

Ross Gittins is one of Australia's leading economic commentators and the author of several books. He is a columnist for The Age and has been the economics editor of The Sydney Morning Herald since 1978. In 2008, he was made a Member of the Order of Australia.

He has been awarded honorary doctorates by Macquarie University, the University of Sydney, the Australian National University and his alma mater, the University of Newcastle.

Return to the Table of Contents

Western NSW Branch Meeting 2025-3 — 21 August 2025

Nature-based solutions for future farming

Distinguished Professor Geoff Gurr FRSN
Professor in Applied Ecology
Gulbali Institute
Charles Sturt University

Date: Wednesday, 20 August 2025, 6.00–7.00 pm AEST
Venue: Live streaming
Entry: No charge
Registration: Registration through Humanitix is required
All are welcome

This meeting is a joint presentation of Charles Sturt University and the Western NSW Branch of the Royal Society of NSW.

REGISTER NOW

Please register for the live stream through Humanitix

Summary: Why *is* the world so green? When we visualise terrestrial ecosystems, green vegetation dominates to such an extent that we take it for granted.

Even in many urban settings, the Earth's surface, aside from areas covered by snow, ice, or desert sands, is a carpet of green. This greenery is an expression of the abundance of chlorophyll in the photosynthetic tissues of plants. Yet, this presents a profound paradox: green plant tissue is highly nutritious, so why is there so much of it? Why isn't it all simply devoured by hungry herbivores, everything from caterpillars to antelopes?

Exploring this enigma offers powerful, useful insights into how to better protect the crops we cultivate. Whether it is wheat in Australia's grain belt, rice in the paddies of Asia, or sweet potato on the hillsides of Papua New Guinea, learning from nature can help us protect these crops from voracious pests—and reduce our reliance on pesticides.

Two factors explain why our planet remains so green. First, plants are far better at defending themselves than we might imagine. Plants may armour their foliage with hairs, spikes, or tough waxy cuticles. And internally, their tissues may be protected by defensive chemicals to deter hungry mouths. Second, plants have powerful allies—natural enemies of herbivores that help keep those populations in check. These allies include spiders, parasitic wasps, and even insect-killing fungi. Together, they prevent herbivores from becoming so abundant that they strip the world bare of greenery.

This talk will illustrate how researchers at Charles Sturt University are networking internationally to develop and apply nature-based solutions to protect crops, enhancing plants' natural defences and boosting the impact of enemies of pests. Already, these approaches are having real-world impacts and delivering cascading benefits for pollination and on-farm biodiversity conservation. Oh, and farmer profits are enhanced too!

Geoff Gurr is a British-trained ecologist with a PhD from Imperial and postdoctoral experience at the National Institute of Agricultural Botany in Cambridge.

Since migrating to Australia, he has worked at the universities of Melbourne, New England, Sydney and Charles Sturt. His research over the last three decades has focused on nature-based solutions to harmonise agriculture with the environment, which has been

supported by grants with a combined value of over $28 million. This has involved extensive international collaboration, including visiting professor positions at Lincoln University in New Zealand, Zhejiang University and Fujian Agriculture & Forestry University in China, where his work has been supported by a prestigious 'Thousand Talents' fellowship. He has successfully supervised 44 PhD and MPhil students and published over 450 papers, which have earned a place in Stanford University's "World's Top 2% Scientists" list.

Return to the Table of Contents

Hunter Branch Meeting 2025-3 — 21 August 2025

An elegant solution to enduring problems in education

Laureate Professor Jennifer Gore AM FASSA
School of Education
University of Newcastle

Date: Thursday, 21 August 2025, 6.00–7.00 pm AEST
Venue: NEX, Newcastle Exhibition and Convention Centre, 309 King Street, Newcastle West
Entry: Members, $15; Non-members, $25; Students, $5
Registration: Registration is required by 2.00 pm on Wednesday, 20 August
Enquiries: Via email to the RSNSW Hunter Branch Secretary
All are welcome

REGISTER NOW

Please register before 2.00 pm AEST on Wed. 21 August

ENQUIRIES

By email to the Hunter Branch Chair

Summary: Despite reform agendas around the world seeking to enhance excellence and equity in education, student achievement is declining, and inequities are worsening. Professor Gore argues that genuine improvement requires professional development that addresses the complexity of teaching and is both intellectually challenging and psychologically safe. Quality Teaching Rounds (QTR), the approach we have tested in a 20-year program of research, provides such a powerful approach to professional development that produces positive outcomes for teachers, students, schools, and systems. In this lecture, Professor Gore will explain what Quality Teaching Rounds are and how they provide an elegant solution to some of education's enduring problems.

A leader in education in Australia and internationally, **Jennifer Gore** has significant experience and expertise in educational research and leadership. Jenny was Dean of Education and Head of School at the University of Newcastle from 2008 to 2013 and is currently leading several major research projects as Director of the University's Teachers and Teaching Research Centre. With more than $38 million in funding since 1992, Jenny's research is driven by the notion that all children should experience high-quality teaching. Her ongoing work on Quality Teaching and Quality Teaching Rounds, conducted with

colleagues over the last decade, has shown how this framework can effectively support teacher professional development, increase teacher satisfaction, enhance teaching quality in schools, and improve student achievement while also narrowing equity gaps. Jenny's research on improving teaching and learning saw the Quality Teaching Academy established in 2020. She has received awards and recognition from the Australian Council of Deans of Education, Australian Council for Educational Leaders, Australian Association for Research in Education, American Educational Research Association, Academy of the Social Sciences in Australia, Royal Society of NSW, and the Paul Brock Memorial Medal, and was most recently awarded a Member of the Order of Australia (AM) in the 2024 Australia Day Honours for significant service to tertiary education.

Return to the Table of Contents

Southern Highlands Branch Meeting: 2025-7 — 21 August 2025

Mining Water on the Moon

Professor Andrew Dempster
Director, Australian Centre for Space Engineering Research
School of Electrical Engineering and Telecommunications
UNSW Sydney

Date: Thursday, 21 August 2025, 6.30 – 7.30 pm AEST
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (please note: cashless payments only)
All are welcome

ENQUIRIES

By email to the
Southern Highlands Branch Chair

Summary: If humans are to establish a permanent presence in space, "pioneering" industries such as mining will help pave the way. One of the most obvious targets for mining in the early stages is water. In this lecture, we look at the hurdles that need to be overcome in order to mine water successfully — legal, regulatory, environmental, financial, business cases and technical. These are all areas of research where the Australian Centre for Space Engineering Research has made contributions. The results of some of that research will be shared in the lecture. The problems are not insignificant.

Andrew Dempster is the Director of the Australian Centre for Space Engineering Research (ACSER) in the School of Electrical Engineering and Telecommunications at the University of New South Wales (UNSW). He has a BE and MEngSc from UNSW and a PhD from the University of Cambridge in efficient circuits for signal processing arithmetic. He was a system engineer and project manager for the first GPS receiver developed in Australia in the late 80s, and has been involved in satellite navigation ever since. His current research interests are in satellite navigation receiver design and signal processing,

areas where he has six patents, new location technologies, and space systems, especially those related to extracting water. He is leading the development of space engineering research at ACSER.

Return to the Table of Contents

Ideas@theHouse: 28 August 2025

Ideas@theHouse

presented by

Her Excellency the Honourable
Margaret Beazley AC KC, Governor of NSW

Busting Myths, Bridging Gaps:
Public Health Approaches to Hearing Loss in Adults

Professor Bamini Gopinath

Cochlear Chair in Hearing and Health
Macquarie University Hearing
Faculty of Medicine, Health and Human Sciences
Macquarie University

Date: Thursday, 28 August 2025, 6.30–8.00 pm AEST
Venue: Face-to-face (by invitation for Society members) and live streaming from Government House, Sydney
Registration: Society members will have received an invitation to register for a face-to-face place by 5.00 pm on Friday, 1 August 2025.
Entry: No charge
All are welcome to the live stream

LIVE STREAM

Please join the livestream at
6.30 pm AEST on Thursday, 28 August

Summary: Despite the high prevalence of adult-onset hearing loss, ear and hearing care is poorly integrated into systems of health in Australia and globally. Public awareness, early detection, and evidence-based interventions are essential to reduce the stigma and improve health outcomes for millions affected by hearing loss. The presentation explores the societal, psychological, and economic consequences of untreated hearing loss, emphasising the need to “bust myths” and reframe public narratives around it.

Efforts to develop and implement national and global evidence-based guidelines for adult hearing loss management will also be shared. These guidelines, along with strong

stakeholder collaboration and community-driven strategies, aim to ensure that hearing health is recognised as a vital component of public health. Ultimately, the presentation calls for targeted advocacy, clear and stigma-free messaging, and coordinated policy action to support vulnerable populations and advance hearing health equity.

Bamini Gopinath is a leading Australian epidemiologist renowned for her work in sensory loss and public health. She currently serves as the inaugural Cochlear Chair in Hearing and Health at Macquarie University, where she leads the Public Health and Policy Pillar of MU Hearing. In this role, she focuses on enhancing support for individuals with hearing loss, promoting early intervention, and improving engagement with hearing services.

Professor Gopinath's research is distinguished by its translational impact, aiming to bridge gaps in Australian healthcare. She has co-authored over 275 peer-reviewed papers, many published in high-ranking medical and health journals, and her work has garnered over 9,500 citations. Her studies have provided novel community-based evidence on the health determinants and outcomes associated with sensory loss and disability, influencing health policy and practice.

A notable project led by Professor Gopinath is the Australian Eye and Ear Health Survey, which aims to screen Indigenous and non-Indigenous adults across the country to assess hearing and vision health. Early findings indicate a high prevalence of undiagnosed hearing loss, underscoring the need for increased awareness and intervention. She also currently leads NHMRC and ARC-funded projects that aim to better support adults with hearing and/or vision loss. Her commitment to public health and sensory loss research continues to drive advancements in healthcare delivery and policy, both nationally and internationally.

Return to the Table of Contents

1334th OGM and Open Lecture — 3 September 2025

Bringing Financial Reporting into the 21st Century

Emeritus Professor Peter Wells FRSN
UTS Business School
University of Technology Sydney

Date: Wednesday, 3 September 2025, 6.00–7.30 pm AEST
Venue: Zoom webinar
Enquiries: by email to RSNSW Events
Entry: No charge
All are welcome

LIVE STREAM

Please join the Zoom webinar at 6.00 pm AEST on Wednesday, 3 Sept.

ENQUIRIES

By email to RSNSW Events

Summary: Financial reporting is a communication process, and while accounting processes have been refined, the basic format has changed little for over 150 years. However, the increasing volume and complexity of information have rendered this format obsolete. This problem is now being exacerbated by extensions to corporate reporting, which now includes reporting on climate and sustainability. Digital Financial Reporting is the technology designed to address this. It allows for ever larger volumes of information to be accessed accurately and efficiently, and perhaps most importantly, processed and evaluated with computers (e.g., with AI). Digital Financial Reporting has been increasingly mandated across the world's major capital markets, but regrettably not in Australia or New Zealand. What does this mean for the Australian economy? The impacts are significant, and perhaps the most relevant at this point in time is lost productivity.

So, what has to be done? Who is responsible? What are the risks? Where to next?

After starting his accounting career with an antecedent of one of the large accounting firms and working in the finance sector, **Peter Wells** has spent the last 30 years as an accounting academic at the University of Technology Sydney, with a focus on financial reporting practices and the use of financial information in financial markets.

Peter is a Fellow of Chartered Accountants Australia and New Zealand and was on the NSW Regional Council for six years and served as it Chair for one year. Peter has prepared reports on Digital Financial Reporting for Chartered Accountants Australia and New Zealand and made submissions to Parliamentary Committees on financial reporting practices in Australia. He is a Fellow of the Royal Society of NSW and currently holds the position of Treasurer.

Return to the Table of Contents

Southern Highlands Branch Meeting: 2025-8 — 18 Sept. 2025

Tomorrow's University — the discoveries that will change science

Professor Fred Watson AM
Honorary Professor
School of Mathematical and Physical Sciences
Macquarie University

Date: Thursday, 18 September 2025, 6.30 – 7.30 pm AEST
Venue: RSL Mittagong, Carrington Room
Entry: Members, $5; Non-members, $10 (please note: cashless payments only)
All are welcome

ENQUIRIES

By email to the
Southern Highlands Branch Chair

Summary: Astronomy today is going through a golden age with amazing new facilities exploring the Universe. The James Webb Space Telescope is rewriting the textbook on baby galaxies, while gravitational wave observatories are detecting vibrations in space caused by colliding black holes. But there's much more to come, with gigantic new telescopes in the pipeline that truly boggle the imagination. What are these awe-inspiring instruments, and what will they reveal about the Universe's deepest mysteries? And will Australian astronomers play a part? Join Fred Watson for this entertaining and fully illustrated look into the future of astronomy.

Fred Watson is an honorary professor in the School of Mathematical and Physical Sciences at Macquarie University. From 2018 to 2024, he was the Australian Government's first Astronomer-at-Large in the Department of Industry, Science and Resources. Educated in Scotland at the universities of St Andrews and Edinburgh, Fred worked at both of Britain's Royal Observatories before joining the Australian Astronomical Observatory as Astronomer-in-Charge in 1995. He led several projects in advanced astronomical instrumentation and large-scale spectroscopic surveys. Today, he is best known for his award-winning radio and TV broadcasts, books, music, dark-sky advocacy and the *Space Nuts* podcast. Fred has an asteroid named after him (5691 Fredwatson), but says that if it hits the Earth, it won't be his fault.

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

Joint RAHS-RSNSW Meeting: Presentation Report —16 July 2025

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

Blue Mountains historian Dr Anne Coote has clarified the RSNSW's late-19th century culture as Sydney's most science-focused gentlemen's club—compared to other men-only clubs then operating in central Sydney, including the Southern, Athenaeum, German, Australian, Union, and Victoria clubs.

In a mid-July talk, hosted by the Royal Australian Historical Society (arranged by its senior vice-president, Christine Yeats), Dr Coote noted that women were excluded from the society—apart from a series of 'Conversazione' social events held at the Great Hall of

Sydney University during the 1870-1880s. Excluded from general meetings, they were not able to hear their scientific papers occasionally read to the colony's science elite by male professors.

Dr Coote also questioned the RSNSW's ongoing claims that its timeline dates back to 1821. She critiqued the RSNSW's senior vice-president 1867–76, Reverend William Branwhite Clarke, for wrongly claiming that the society continued directly from the colony's first intellectual group—the short-lived Philosophical Society of Australasia. Founded in 1821 by six notable colonists, this group was dissolved in 1822.

Dr Coote, author of the new book *Knowledge for a Nation: Origins of the Royal Society of New South Wales*, said that a later RSNSW president, Joseph Henry Maiden, correctly clarified that there was a 28-year gap between the demise of the original philosophical society and the founding in 1850 of the Philosophical Society of NSW, which was reorganised in 1866 as the Queen Victoria-anointed Royal Society of New South Wales.

She suggested that the society's historical significance stemmed not from claims to be the oldest royal society in the southern hemisphere, but from the immensely valuable contributions of its councillors in establishing and leading many of the colony's major cultural institutions, events, and research achievements.

Members of both the RSNSW and the RAHS attended Dr Coote's talk, which followed the RAHS's allocation of a $5000 Create NSW grant to support the book's publication.

Davina Jackson FRSN
RSNSW Council Member

Return to the Table of Contents

Poggendorff Lecture 2024: Presentation Report — 2 July 2025

Agriculture over the Horizon

Professor Alex McBratney AM FAA
School of Life and Environmental Sciences and
Sydney Institute of Agriculture
University of Sydney

The RSNSW Poggendorff Lecture for 2024 was delivered by Professor Alex McBratney AM FAA, Professor of Digital Agriculture and Soil Science in the University of Sydney

Institute of Agriculture (SIA), and winner of the Society's 2024 Poggendorff Award. The Poggendorff Award, which honours the life and work of Walter Hans Poggendorff (1903–1981), an eminent biologist and noted plant breeder in the 1930s and 1940s, was made possible by a bequest to the Society to support a lectureship.

Walter Poggendorff became a major figure in Australian agriculture, becoming an assistant plant breeder at the Yanco Rice Research Station near Leeton, shortly after graduating from the University of Sydney in 1928. Subsequently, he had a key role in establishing the Australian rice industry by developing high-yield rice varieties suitable for local conditions and was ahead of his time in championing strict quarantine and import controls to manage disease and protect local agriculture. Later in his career, he became the Chief of the Division of Plant Industry in the NSW Department of Agriculture.

Alex McBratney is the tenth person to receive the Poggendorff Award, which was first awarded in 1987. For Alex, this lecture, which was delivered on a wet and bleak evening on 2 July in the R.D. Watt Building at the University of Sydney was somewhat of a 'home coming' for him — the Watt Building, being named after the first Dean of Agriculture at the University, and being the original home to the Faculty of which Alex McBratney was Dean from 2015–2017 and subsequently the SIA Director. Early in his lecture, Alex displayed a 1926 photograph (shown above) of the staff and students of the Faculty of Agriculture, standing outside the R. D. Watt building, that included a young Walter Poggendorff two years before his graduation.

Alex McBratney's lecture, titled 'Agriculture Over the Horizon', explored the future of agriculture, emphasising the need for sustainable and innovative practices. He highlighted the importance of integrating technology with traditional farming methods to address global challenges such as climate change, food security, and biodiversity loss, and discussed the concept of 'soil security', which is crucial for maintaining healthy ecosystems and ensuring long-term agricultural productivity.

He went on to emphasise the role of precision agriculture and digital soil mapping in optimising resource use and improving crop yields. These technologies allow farmers to make data-driven decisions, enhancing efficiency and reducing environmental impact. He also advocated for regenerative agriculture, which focuses on restoring soil health and biodiversity through practices like crop rotation, cover cropping, and reduced tillage.

His lecture underscored the significance of collaboration between researchers, farmers, and policymakers to develop and implement sustainable agricultural practices. McBratney

called for a holistic approach that balances economic viability, environmental sustainability, and social equity. He envisaged a future where agriculture not only produces food and fibre but also contributes to energy production and ecosystem restoration.

Alex McBratney's presentation also touched on the economic aspects of agriculture, noting the importance of developing premium markets for regenerative products and supporting farmers through policy reforms and incentives. He highlighted Australia's leadership in agricultural innovation and the potential for the country to continue advancing sustainable farming practices.

Overall, Alex McBratney's lecture provided a comprehensive overview of the challenges and opportunities facing agriculture in the 21st century, advocating for a forward-thinking approach that leverages technology and regenerative practices to create a resilient and sustainable food system.

The Society expresses its gratitude to the University of Sydney for its kind hospitality in hosting the event and making the recording available to the Society, to Dr Claire Kennedy, the SIA Executive Officer for her meticulous work in organising the occasion, and to Professor Alex McBratney for a most entertaining, informative, and thought-provoking lecture on the current state and future of agriculture in Australia.

Lindsay Botten FRSN
Vice-President, RSNSW

Return to the Table of Contents

Southern Highlands Branch Report

Presentation Report— 17 July 2025

Stray Dogs and Gross National Happiness: Bhutan's Modernisation Challenge

Dr Michael de Percy FRSA FCILT MRSN
Canberra Correspondent, *The Spectator Australia*, and Editor-in-Chief, *Journal of Telecommunications and the Digital Economy*

Of the numerous situations that Michael de Percy has found himself in during his extraordinary career to date, he made clear immediately in his address how much he loved his teaching appointments in Bhutan in recent years. He showed images of some of his classes sitting at his feet in awe and fascination as he imparted to these mature students the enrichment they were seeking for skills needed in the modern world that their country is slowly accepting.

The stages of development in Bhutan have been clear for all to see. From a decentralised theocracy to a monarchy in 1907, that tiny country is now developing a democracy in the 21st century, with all that entails. Michael has observed firsthand the complex task facing the Bhutanese as they face integration with the global economy, as he introduces them to

the new skills they urgently seek. While he can see that this knowledge, with time and persistence, will help overcome many aspects of the transition, he expresses concern for the preservation of the country's deeply rooted spiritual and cultural values. Michael highlighted this tension between modernisation and the traditional Bhutanese ethos. It must be remembered that this country opened its doors to foreign tourists as late as 1974, a mere 50 years ago.

He chose a small but obvious example of the gap between modernisation and traditional values when he found outside his hotel window large gatherings of stray dogs creating disturbance due to incessant barking. He quickly realised that as urban development and tourism increase, the issues of public health, animal welfare and environmental harmony could not be addressed to the satisfaction of Bhutan's Buddhist principles of compassion and coexistence. Hence the title of this lecture!

It could be seen by the lengthy question time post lecture that this presentation had captivated the audience. Michael showed numerous images of life in Bhutan, setting the scene of what was to follow in his lecture by playing a video taken on his plane, on final approach, as it carried him on his way through the treacherous Himalayan landscape. I will never forget it.

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.

The YouTube channel now has over 1480 subscribers, while the 202 full-length videos and 'shorts' that are online have received almost 176,000 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 uploaded to 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 recordings from recent months. We hope that these will be of interest to members.

YouTube recording of the 2 July 2025 presentation of the 2024 RSNSW Poggendorff Lecture titled *Agriculture over the Horizon* delivered by Professor Alex McBratney AM FAA, Professor of Digital Agriculture and Soil Science and an ARC Laureate Fellow in the Sydney Institute of Agriculture and School of Life and Environmental Sciences at the University of Sydney. The online event notice provides a summary of the lecture and the presenter's biography.

YouTube recording of the presentation from the Western NSW Branch Meeting 2025-2 (26 June 2025) on *Hidden causes of rising disability and death in the working population* delivered by Distinguished Professor Jing Sun, Professor of Biostatistics

in the Rural Health Research Institute at Charles Sturt University. A summary of the lecture and a brief biography of the presenter are available in the online event notice.

YouTube recording of the presentation from the 26 June 2025 Ideas@theHouse titled *Extreme wildfires in a warming world: insights and challenges* and delivered by Professor Jason Sharples FRSN FTSE, Professor of Bushfire Dynamics and Foundation Director of UNSW Bushfire at UNSW Canberra. The online event notice provides a summary of the lecture and the presenter's biography.

YouTube recording of the presentation from the third meeting of the Society's Provocations and Inspirations lunchtime series held at the Union, University, and Schools Club in Sydney (23 June 2025) at which Dr Cathy Foley AO PSM DistFRSN FAA FTSE, Australia's former Chief Scientist from 2021–2024, spoke on *The Productivity Challenge: the role of innovations and R&D in Australian business* 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 1332nd Ordinary General Meeting (4 June 2025) on *AI: the Good, the Bad, and the Ugly*, delivered by Professor Michael Blumenstein and Professor Nicholas Davis of the University of Technology Sydney. A summary of the presentation and brief biographies of the presenters are available from the online event notice.

YouTube recording of the presentation from the Hunter Branch Meeting 2025-2 of the Royal Society of NSW (15 May 2025) on *From test tubes to terawatts: How research sparked a battery business*, delivered by Professor Thomas Nann, Founder and CEO of Allegro Energy, Newcastle. A summary of the talk and a brief biography of the presenter are available from the online event notice.

YouTube recording of the presentation from the 1331st Ordinary General Meeting (7 May 2025) on *Rethinking Mobility in a Changing Climate*, delivered by Scientia Professor Jane McAdam AO FASSA FAAL, Founding Director of the Kaldor Centre for International Refugee Law in the Faculty of Law & Justice at UNSW 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 second meeting of the Society's Provocations and Inspirations lunchtime series held at the Union, University, and Schools Club in Sydney (15 April 2025) at which Professor Chris Turney FRSN FRSA FRMetS, Pro Vice-Chancellor (Research) at the University of Technology Sydney and a former ARC Laureate Fellow, spoke on *Extreme earth: Antarctica's climate warning for the future and what we can all do about it*. 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 1330th Ordinary General Meeting (2 April 2025) on *Engineering the Future*, delivered by Professor Hugh Durrant-Whyte FRS FRSE FAA FIEEE, the NSW Chief Scientist and Engineer. 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