



# THE BULLETIN 464

THE ROYAL SOCIETY OF NEW SOUTH WALES

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JULY 2022

## For Your Diary

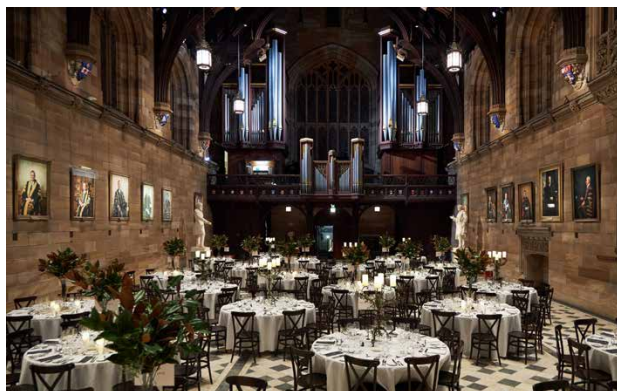
- 01 JUL–25 SEP  
[\*RSNSW Display:\*](#)  
[\*Chau Chak Wing Museum\*](#)
- 03 AUG  
[\*1305<sup>th</sup> OGM and Open\*](#)  
[\*Lecture\*](#)
- 06 SEP  
[\*1306<sup>th</sup> OGM and Open\*](#)  
[\*Lecture\*](#)
- 03 Nov  
[\*RSNSW and Learned\*](#)  
[\*Academies Forum 2022\*](#)



**Patron of The Royal Society of NSW**

Her Excellency The Honourable  
Margaret Beazley AC QC  
Governor of New South Wales

## Society's 200<sup>th</sup> Anniversary celebrated in style

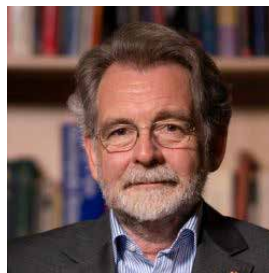


*See image gallery commencing [page 7](#)*

1304<sup>TH</sup> OGM AND OPEN LECTURE (FACE-TO-FACE)

**This is going to be different: Learning to live  
with Chinese Power**

Wednesday, 6 July 2022, 6:00 PM for 6:30 PM



**Professor Hugh White AO FASSA**

Emeritus Professor of Strategic Studies,  
Australian National University

**All are welcome (registration required).**

*See [page 4](#) for more information*

## From the President

The Society's 200<sup>th</sup> Birthday Gala Dinner in The Great Hall at The University of Sydney on Friday 24 June 2022 was a momentous occasion celebrated by 274 Society members and guests. During pre-dinner drinks in the Chau Chak Wing Museum, we were treated to birthday wishes from 38 distinguished individuals or kindred organisations, and a special [exhibition](#) of objects and documents to mark the Society's bicentennial year. This exhibition, which includes Society-related objects from the Museum's collections from the 19<sup>th</sup> and early 20<sup>th</sup> centuries, will remain on display until 25 September.



I take the opportunity in this column to thank the members of the Society's Dinner Committee. They devoted the countless ideas and hours required to stage such a fantastic event. The members are Bruce Ramage, Wendy Enevoldsen, Marian Kernahan, and John Hardie. They worked closely with graphic designer, Virginia Buckingham, to produce the collectable entrée card and program, and the Society's new banners that were on display for the first time that night. Congratulations to each one of them!



I also thank our patron Her Excellency the Honourable Margaret Beazley AC QC, Governor of NSW, and His Excellency General the Honourable David Hurley AC DSc, Governor General of Australia, and former patron of the

Society for their video-recorded congratulations to the Society. I present 'bouquets' to Amy Johansen who played the carillon and organ recitals, David Hush who composed the trumpet fanfare for the celebration, and trumpeter John Foster.



You will see photographs from the evening ([page 7](#)), some of the birthday wishes ([page 5](#)) and more elsewhere in this Bulletin. Here is the [link](#) on our website to my President's address and the after-dinner address by Dr Alan Finkel AC. Considering Alan's topic 'All Aboard — Choose Your Flight to the Future', it was pleasing to see so many students and rising stars given the opportunity by our nine University sponsors to appreciate the significance of the Society.

In the spirit of enabling such future leaders to excel, I sent an email to all members on 9 June seeking donations for the newly established RSNSW Bicentennial Postgraduate Scholarships. These will be offered in any academic field to research students enrolled in a higher degree in a university of publicly funded research organisation in NSW or the ACT. The Scholarship offers a cash prize of at least \$1,000 and a complimentary year of membership that will provide the young scholars with the opportunity to network with learned researchers and leading professionals across a wide range of disciplines. I thank those of you who have donated thus far. If you would like to donate, please follow this [link](#). If you wish to consider your legacy to the Society's future by leaving a gift in your will, this is the [link](#) to the updated information on our website.

On 10 June, I joined the Society's Hunter Branch and the University of Newcastle for the Lecture by our 2021 winner of the Clarke Medal, Distinguished Professor John Aitken FRSN. I encourage you to view this outstanding, thought-provoking lecture on 'The Changing Tide of human populations: an infertility

(continued)

trap' on our [YouTube Channel](#). John rightly joins an illustrious lineage of Clarke Medal and Memorial Lecture winners. In preparing my introductory remarks for this lecture, I learned more about long-serving RSNSW member and Vice-President William Branwhite Clarke, including that he was the first rector of St Thomas's Church in North Sydney, remaining so for 25 years until his retirement. The Church dedicates a three-panel, stained glass window behind the altar to him. Clarke's [Vice-Presidential Address](#) in 1867 was published in the Society's *Journal and Proceedings*, as was an account of his scientific achievements more recently in [2017](#).

Now that many of our Ordinary General Meetings are being held in person, I encourage you to attend. [Professor Anne Twomey](#)'s 1 June presentation on 'Federalism, Borders and National Cabinet: What has the Pandemic Taught Us' is mandatory viewing on our YouTube Channel if you missed hearing it on the night. On 6 July, [Emeritus Professor Hugh White](#) will address another consequential topic 'This is going to be different: Learning to live with Chinese Power'.

On 26 June, I joined Pamela Griffith FRSN and her husband Ross Griffith FRSN at the opening of her Exhibition on [Art and Nature](#) at the Hazelhurst

Arts Centre. Her son, Saul Griffith FRSN, opened proceedings with a short precis of his book 'The Big Switch' that speaks to Australia's electric future. I counted at least five other RSNSW members in the audience.



We continue to work for the Society and for NSW because we understand the need to enhance authentic and authoritative public discourse on a wide range of topics that are crucial to our future. I look forward to your seeing you in person or online very soon.

Dr Susan M Pond AM FRSN  
President, Royal Society of NSW

## Welcome to new members

The Royal Society of New South Wales warmly welcomes the following new member to the Society's ranks, effective from 15 June 2022.

### Fellows

- Professor Lisa Adkins
- Professor Julie Cairney
- Dr Geoffrey Cohn
- Professor Robyn Dowling
- Professor Michelle Leishman
- Professor Anna Reid
- Professor Moninya Roughan
- Professor Rathan Subramaniam

### Members

- Mr Zile Yu

### Associate Members

- Mr Keval Gandhi

## This is going to be different: Learning to live with Chinese Power

Professor Hugh White AO FASSA

*Emeritus Professor of  
Strategic Studies,  
Australian National University*

**Date:** Wednesday, 6 July 2022,  
6:00 PM for 6:30 PM

**Venue:** Gallery Room, State  
Library of NSW, Shakespeare  
Place, Sydney

**Entry:** \$35 for Society members;  
\$45 for non-members; \$5 for students

**Registration:** Registration is required through  
Membes at [https://members.royalsoc.org.au/  
eventdetails/14325/1304th-ordinary-general-  
meeting-of-the-royal-society-of-nsw](https://members.royalsoc.org.au/eventdetails/14325/1304th-ordinary-general-meeting-of-the-royal-society-of-nsw)

*All are welcome.*



### Summary

China's rise drives the most consequential shift in Australia's international environment since European settlement. So far we are in denial about this, hoping that a reassertion of American supremacy will contain China's power and preserve the old US-led regional order which has served us so well. But what are the chances of those hopes being realised, and what can we do if they are dashed? How does Australia make its way in an Asia no longer dominated by our Great and Powerful Friends? How we answer that question will do much to define us as a nation.

### About the speaker

**Hugh White** is Emeritus Professor of Strategic Studies at the Australian National University in Canberra. He spent much of his career in the Australian Government, including as International Relations Advisor to Prime Minister Bob Hawke and Deputy Secretary for Strategy in the Department of Defence. He was the founding Director of the Australian Strategic Policy Institute, and from 2004 to 2011 he was Head of ANU's Strategic and Defence Studies Centre. His major publications include *Power Shift: Australia's Future Between Washington and Beijing* [2010], *The China Choice: Why America Should Share Power* [2012], *Without America: Australia's Future in the New Asia* [2017], and *How to Defend Australia* [2019]. In the 1970s he studied philosophy at the universities of Melbourne and Oxford.



## From the Archives: Joining the 200 Club

by Bruce Ramage (Secretary)

Friday 24 June 2022 was an extraordinary milestone for the Society.

Members and guests, numbering 274, before repairing to the University of Sydney's Great Hall, enjoyed pre-dinner drinks in the surroundings of the nearby Chau Chak Wing Museum where a special exhibition of their holdings relating to the Society was on display. Also featured on two screens was an abridged selection of birthday wishes from organisations and individuals from around the world. In coming days much will be shared about this significant celebration.



*Birthday messages display in Chau Chuk Wing Museum*

The Society's archives have now been greatly enriched especially by birthday messages received. Of particular note is the message received from Sir David Attenborough:

May I send my warmest congratulations to the Royal Society of New South Wales on reaching the two hundredth anniversary of its foundation. No learned society in the world can ever have had the sudden privilege and responsibility of describing and investigating a whole new division of the plant and animal world; and none in my experience has been more generous in guiding visitors from overseas around the marvels of the continent about which it has become so authoritative.

— David Attenborough

Below are the messages we received from organisations older than we are. We are privileged to be joining the 200 Club.

### American Philosophical Society

As president of the American Philosophical Society, the oldest learned society in the United States (founded by Benjamin Franklin in 1743), it is my distinct honor and pleasure to welcome the Royal Society of New South Wales to the company of bi-centennarians.

In today's world, where evanescence rather than permanence so often seems the order of the day, reaching a 200<sup>th</sup> anniversary is no small accomplishment. Your history of two hundred years of contribution to human knowledge is to be celebrated — indeed, it is to be cherished.

I send greetings to your president, Dr. Susan M. Pond. May our two societies continue to thrive for centuries to come.

With my personal best wishes,

Linda Greenhouse  
President

### The Royal Agricultural Society of NSW

From one bi-centenarian to another, on behalf of the Royal Agricultural Society of NSW, I'd like to say congratulations on reaching this tremendous milestone and we share with you the enormous sigh of relief and proud sense of accomplishment and achievement.

It is an exclusive club, not only those of us who have reached two hundred years but also have had a positive impact shaping the state of New South Wales. Drawing on the who's who of society in the new colony we share a few common founders — among them Barron Field and Sir Thomas Brisbane, as well as a dedication to sharing knowledge and ideas, and enriching the lives of many. Whilst we have maintained a staunch dedication to safeguarding the agriculture of the state, you

*(continued)*

have done an outstanding job cultivating the enquiring hearts and minds of so many.

Mr Michael Millner  
RAS President

## The Royal Society of Edinburgh

Dear President,

On behalf of the Council and Fellows of the Royal Society of Edinburgh I have the pleasure of sending warm greetings on the occasion of the 200<sup>th</sup> anniversary of the founding of the Royal Society of New South Wales.

With best wishes,

Professor Sir John Ball, PRSE FRS  
President

## Royal Irish Academy

Dear Dr Pond,

I write on behalf of the Council, and Members of the Royal Irish Academy to offer warmest congratulations and best wishes to the Royal Society of New South Wales as it celebrates its bicentenary. Your Royal Society has much to be proud of, and it is fitting that you should celebrate accordingly.

The Royal Irish Academy, established in 1785, is Ireland's leading body for the promotion of the humanities, social sciences, science and engineering. As an all-island and independent body, it promotes academic discourse and policy development and analysis.

Ireland has had a historic and mutually beneficial association with Australia. The Royal Irish Academy benefits from its associations, interactions and collaborations with sister academies and values this fraternity in an increasingly unstable world.

The Royal Irish Academy is delighted to acknowledge the achievements of the Royal Society of New South Wales and wishes the Royal Society continued success in the future.

Regrettably the Royal Irish Academy will be unable to be represented at your Bicentennial Dinner. Please enjoy this historic event.

Dr Mary Canning MRIA  
President

## The Royal Society

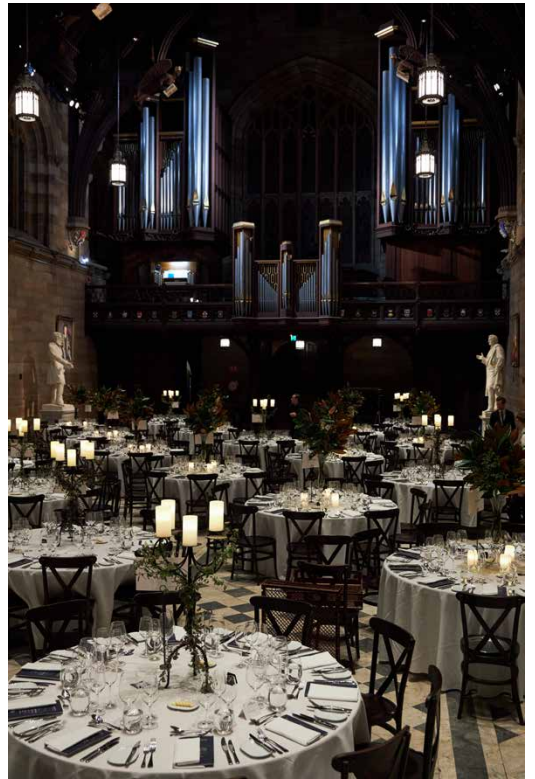
On behalf of the Royal Society of London, I write to congratulate the Royal Society of New South Wales on the occasion of your 200<sup>th</sup> anniversary. The links between our academies go back all the way through those years, and throughout that time we have both been fortunate to have some exceptionally talented Fellows in common, from those involved in the founding of the RSNSW through to national academy presidents in both our countries, Nobel Prize winners, and some of the leading scientists of the present day. From one Royal Society to another, we congratulate you once again on reaching this important milestone, and wish you every success for the future.

Best wishes

Sir Adrian Smith  
President, Royal Society

Messages from the remaining organisations and individuals will also be published soon.

## Celebrating the Society's Gala Dinner in Pictures



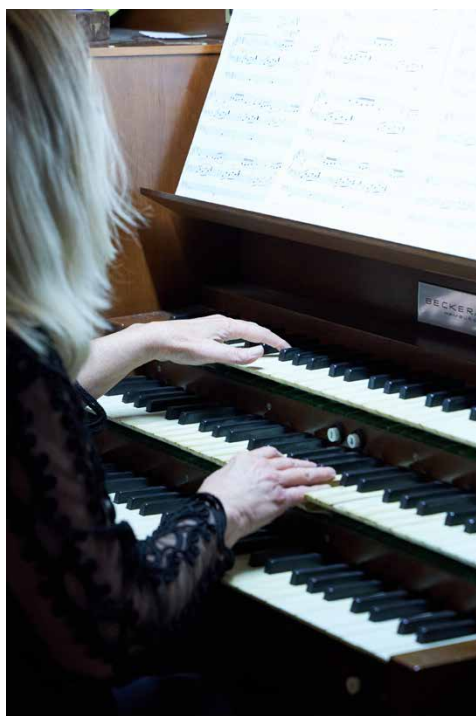


## Celebrating the Society's Gala Dinner in Pictures





## Celebrating the Society's Gala Dinner in Pictures



## Report: Program Committee

*by Christina Slade (Chair, Program Committee)  
and Lindsay Botten (Webmaster)*

On Wednesday 1 June, the 1303<sup>rd</sup> OGM was held at the State Library. The OGM included a presentation by Professor Anne Twomey AO (Sydney University) on 'Federalism, Borders, and the National Cabinet'. It was well attended, in particular attracting our legal fellows. This is available on our [YouTube channel](#).

The 1304<sup>th</sup> OGM will again be held face-to-face at the State Library on 6 July. The leading defence strategy scholar, Emeritus Professor Hugh White, AO FASSA will address the society on the topic 'This is going to be different: Learning to live with Chinese Power'. [Registration for this meeting is required through Membes](#).

On 10 June, The Hunter Branch held a very successful RSNSW Clarke Memorial Lecture at the Conservatorium in Newcastle. This was given by Emeritus Laureate Professor Laureate John Airkin, FRSE FRSN FAA FAHMS on the topic 'The changing tide of human populations: the infertility trap'. 180 people registered to attend, including the President of the Society, Dr Susan Pond, and the Vice-Chancellor of

the University of Newcastle, Professor Alex Zelinsky AO. This is available on our [YouTube channel](#).

The final award winners for 2021 are:

- Poggendorff Lectureship: Prof Richard Trethown, Narrabri Plant Breeding Institute, School of Life Sciences
- Pollock Memorial Lectureship: Prof Geraint Lewis, Prof Astrophysics, School of Physics
- History and Philosophy of Science Medal: Prof Dean Rickles, Prof History and Philosophy of Modern Physics.

All three recipients are at The University of Sydney, which is very much involved in Science Week over the next months. The Program Committee and President propose that these lectures be online. Emeritus Professor Lindsay Botten hopes to record these lectures. It will be possible to ensure that they are widely available and they may be available as Royal Society lectures over Science week.

The event program for the year in [Sydney](#), the [Hunter region](#), the [Southern Highlands](#), and in [West-ern NSW](#) is available on the Society's website at the preceding links.

## Report: Southern Highlands Branch

*by Anne Wood (Branch Secretary)*

### From the RNA world to building an RNA Ecosystem

**Professor Pall Thordarson**  
*Director, UNSW RNA Institute*



Believe it or not, our speaker for the June lecture, Professor Pall Thordarson (Palli), almost became a farmer in Iceland! From that early rural aspiration, he later recast his lifestyle plans to create, and then excel in, an outstanding career in academia. He is currently leading RNA scientific development in Australia.

Palli obtained his BSc from the University of Iceland in 1996 and PhD in Organic Chemistry from the University of Sydney in 2001. He was then awarded a Marie Curie Fellowship in the Netherlands, after which he returned to Australia in 2003. Over the next few years, he was appointed a Senior Lecturer at UNSW, and by 2017 held the position of full Professor. He is currently the Director of the newly formed UNSW RNA Institute and President-Elect of the Royal Australian Chemical Institute (RACI). He is also program leader for the NSW RNA Production and Research Network and leads the NSW RNA Bioscience Alliance. Incidentally, he is also raising his young family in the Southern Highlands of NSW. Another gem in our RSNSW branch.

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In this cutting-edge lecture, Palli emphasised how RNA science may hold the key to understanding the most complex scientific challenges. So much so, that a new RNA ecosystem is emerging. From cancer treatments to diagnostics to agriculture, RNA science is making broad strides. With the high-speed development of mRNA vaccines, brought on by rapid advances in the wider area of RNA biology and therapeutics, RNA products are being developed for a huge array of needs.

The UNSW RNA Institute links and expands multidisciplinary teams in RNA biology, RNA chemistry and RNA medicine. Palli discussed in fine

detail a great deal of work being carried out in present and on-going research by these teams. This interplay between experts and services is underpinned by a pilot-scale RNA accelerator facility, greatly helping to create the Institute's respected reputation under Professor Thordarson's guidance and insight.

This excellent lecture attracted an audience well versed in the scientific disciplines under discussion. During the long question time that followed, Professor Thordarson frequently commented on the excellent in-depth questions posed to him. A most uplifting presentation on a wintry Southern Highlands evening.

### Recent events now on YouTube: June 2022

Most face-to-face events and all online events conducted by the Royal Society of NSW are recorded and made available for subsequent viewing on our YouTube channel, [youtube.com/royalsocnsw](https://youtube.com/royalsocnsw). There were two events, held in June 2022, for which recordings are now available.

The first of these was the presentation by Professor Anne Twomey AO at the 1303<sup>rd</sup> Ordinary General Meeting held on 1 June 2022 at the State Library of NSW. Anne Twomey, who is a Professor of Constitutional Law at the University of Sydney, delivered a stimulating and thought-provoking talk titled '[Federalism, borders, and National Cabinet — What has the pandemic taught us?](#)' in which she discussed who is responsible for matters such as State border closures, quarantine and vaccine mandates, and what the Constitution has to say about it. Her presentation is now [available on YouTube](#).

On 10 June 2022, Distinguished Emeritus Laureate Professor John Aitken FRSE FRSN of the University of Newcastle, and winner of the Society's 2021 Clarke

Medal delivered the Clarke Memorial Lecture for 2021 at the University of Newcastle Conservatorium on the '[The changing tide of human populations: an infertility trap](#)'.

In this must-see talk, John Aitken alerts us to the impending steep decline in fertility rates — driven by increasing societal affluence through various social factors that include the increasing education of women, decreasing male fertility through exposure to environmental toxins, and the role of the IVF industry — that collectively herald an imminent collapse of population growth and a new era of depopulation. This talk, which was recorded subsequent to the lecture, is now [available on YouTube](#).

**Recorded  
Events**



[youtube.com/royalsocnsw](https://youtube.com/royalsocnsw)



## Report: Hunter Branch

by Philip Bolton (*Honorary Branch Secretary*)

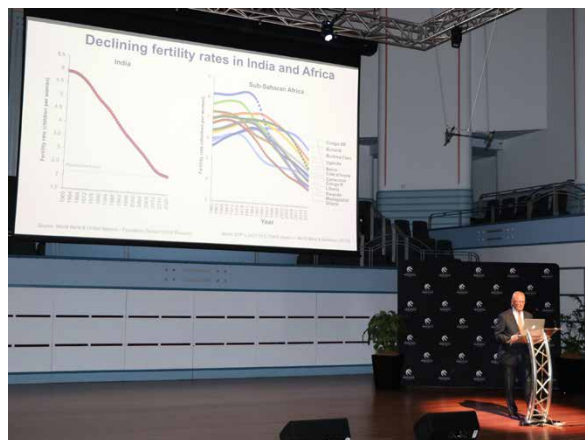
The Hunter Branch of the Society and the University of Newcastle were privileged to host the Royal Society's 2021 Clarke Memorial Lecture as part of the University's *Looking Ahead* speaker series at the University of Newcastle's Conservatorium in Newcastle in early June.

The Clarke Memorial Lecture is given annually by the winner of the Clarke Medal which is awarded each year for distinguished research in the natural sciences conducted in Australia and its territories. The field of research for which this most prestigious award is made rotates each year between geology, botany and zoology. The 2021 Medal was awarded in the field of zoology to Distinguished Emeritus Laureate Professor R John Aitken FRSE FRSN FAA FAHMS of the College of Engineering, Science and Environment at the University of Newcastle.

The President of the Society, Dr Susan Pond AM FRSN welcomed the audience of over 150 attendees by first backgrounding the history of Clarke Medal and Clarke Memorial Lecture before introducing Professor Aitken and outlining his many scientific achievements and leadership roles. Dr Pond noted that Professor Aitken is a global leader in reproductive biology, attracting and guiding an outstanding research team at the University of Newcastle, and that among his many awards he was named NSW Scientist of the Year in 2012. She highlighted that his research has significantly enhanced our understanding of human and animal reproductive issues. This includes identifying a major cause of male infertility which in turn has resulted in new therapeutic interventions, and the development of a contraceptive that in addition to preventing pregnancy inhibits the spread of sexually transmitted diseases.

The title of Professor Aitken's lecture was 'The Changing Tide of Human Populations'. The focus of his lecture concerned the evidence of the declining fertility throughout the world and warned that an era of depopulation was occurring which is likely to threaten the future of humanity.

Professor Aitken pointed out that to ensure a stable population every woman must have 2.1 children, as a fertility rate of less than this will result in a declining population. He provided clear evidence based on data from around the world that the world population was in fact declining and that we will probably peak at a world population in the next 10–20 years of about 10 billion people.



*Professor John Aitken delivering his lecture*

Professor Aitken identified several contributing factors influencing world fertility rates. These included the impact of affluence such as the observation that women in developed countries are having children later in life when their biology may facilitate only 1 to 2 children. He also noted that there has been a halving of sperm counts in men over the past 50 years which he hypothesised, based on some compelling data, may be associated with high levels of estrogen in men due to obesity and environmental toxins. While only one sperm is needed to fertilise an egg, this union is a complex and fraught process; if such declines in sperm counts continue, fertility rates will be further impacted.

Interestingly, Professor Aitken suggested that the use of In Vitro Fertilisation (IVF) while assisting those women with blocked fallopian tubes, as it was first developed to do, if used as a method to enhance fertility it is likely to propagate poor fertility genes.

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This may result in greater reliance on IVF and other forms of assisted reproduction in future generations which in turn may bias the gene diversity of the world's emerging population.

Professor Aitken pointed out that although the impression might be otherwise, the data clearly indicate there is a decline in fertility which, like climate change, is happening slowly and thus not receiving the attention it should. The implications for society are profound and need to be considered and thought about now.

Professor Aitken's lecture gave the audience much to think about and prompted a stimulating Q&A session. Time did not permit Professor Aitken to detail how individuals and world decision makers can address the challenges that are associated with the world's declining fertility. However, the audience were alerted to Professor Aitken's book on the topic, entitled *The Infertility Trap*, recently published by Cambridge University Press UK (ISBN 9781108940818) and subtitled 'Why Life Choices Impact Your Fertility' and 'Why We Must Act Now', which explores the topic in more detail.



*Dr Susan Pond, Professor John Aitken and Professor Alex Zelinsky following the lecture*

The evening concluded with remarks from the University of Newcastle's Vice Chancellor and President, Professor Alex Zelinsky AO FRSN.

Professor Zelinsky thanked Professor Aitken for his clear and eloquently presented lecture, noting his scientific achievements — particularly his internationally leading contribution to the field of reproductive science which make him eminently qualified to have addressed the topic of the lecture. He also thanked Professor Aitken for his development and leadership of the University's Priority Research Centre in Reproductive Science and his contribution more generally to the University of Newcastle and its achievements in science.

### Erratum: Hunter Branch RSNSW Committee 2022 list

In Issue 462 of the *Bulletin*, the Hunter Branch Committee listing was reproduced incorrectly. Below is the corrected listing:

<b>Chair</b>	Distinguished Emeritus Laureate Professor John Aitken FRSN FRSE FAA FAHMS
<b>Vice-Chair</b>	Professor Natalie Thamwattana FRSN
<b>Honorary Secretary</b>	Honorary Professor Philip Bolton FRSN
<b>Honorary Treasurer</b>	Professor George Willis FRSN FAA
<b>Committee Members</b>	Dr Philip Bailey Professor Alan Broadfoot FRSN Mr John Dunnet Mr Paul Jeans FRSN Emeritus Scientia Professor Eugenie Lumbers AM DistFRSN FAA Professor Brett Nixon FRSN Professor Steven Weller FRSN Adjunct Professor Robert Whittaker AM FRSN

## World-first quantum computer IC developed by startup led by Michelle Simmons

Silicon Quantum Computing (SQC), an Australian startup company with state-of-the-art research and atomic manufacturing facilities in Sydney, founded by Society Distinguished Fellow, **Scientia Professor Michelle Simmons AO FRS DistFRSN FAA** of UNSW Sydney, has just announced the world's first integrated circuit at the atomic scale. This technical breakthrough announced at UNSW on 23 June 2022 and published in *Nature* described the chaining together of 10 quantum dots to create a quantum integrated circuit capable of simulating molecular behaviour — validated by simulating the structure and energy states of the organic compound polyacetylene.



SQC is a startup company, founded in 2017 with \$83 million of capital from the Australian and NSW State Governments, UNSW Sydney, the Commonwealth Bank, and Telstra, and built on the intellectual property developed by the ARC Centre of Excellence for Quantum Computational and Communication Technology led by Professor Simmons, the 2018 Australian of the Year. The development, which comes two years ahead of schedule for SQC and a decade after the ARC Centre's development of

the world's first single-atom transistor, delivers on a challenge first set by pioneering theoretical physicist and Nobel Laureate, Professor Richard Feynman, who asserted the possibility of the direct manipulation of atoms as a more robust form of synthetic chemistry, in his famous 1959 lecture *Plenty of Room at the Bottom*.

The SQC analogue quantum processor was built using a scanning tunnelling microscope to precisely place multiple atomic components within a single device. Amongst the technological feats underpinning this breakthrough were the ability to create sufficiently small quantum dots of uniform size, allowing their energy levels to align to let electrons pass easily through them, and the ability to tune the energy level for each dot individually, and collectively, to control the passage of quantum information.

Speaking at the launch, which was attended by Mr Ed Husic MP, Minister for Industry and Science, Professor Simmons described the development as the biggest result of her career. 'This has never been done before and nobody else in the world can do it', Prof Simmons said. 'It is a hugely exciting result and what is even more exciting for us is having done that, we have seen that classical roadmap and that we know the commercial devices that are within the next five or six years'.

## Queen's Birthday Honours 2022

The Society is delighted to note the awards listed in the 2022 Queen's Birthday Honours List to Society Fellows: a Companion of the Order to Australia (AC) to **Emeritus Professor Anne Green AC FRSN FTSE**, an Officer of the Order of Australia (AO) to **Professor Mary-Louise McLaws AO FRSN**, and an Order of Australia Medal (OAM) to **Pamela Ann Griffith OAM FRSN**.

Anne Green, an Emeritus Professor in Astrophysics from the University of Sydney, received her honour for eminent service to science, particularly physics and astrophysics, as an educator and researcher, as a mentor to colleagues and students, and as

a role model to women.

Marie-Louise McLaws, the Professor of Epidemiology, Healthcare Infection, and Infectious Diseases Control from UNSW Sydney, received her honour for distinguished service to medical research, particularly to epidemiology and infection prevention, to tertiary education, and to health administration. Pamela Griffith, a Sydney painter and printmaker, and a member of the Royal Society of NSW Council, was recognised for her service to the visual arts.



THE  
ROYAL SOCIETY  
OF NEW SOUTH WALES  
Envisioned by Sir Thomas Mitchell 1821

**Queens Birthday  
Honours 2022**



## Society Fellows win RACI Medicinal Chemistry and Chemical Biology Awards

The Council of the Royal Society of NSW extends its warmest congratulations to two of its Fellows who have received awards from the Royal Australian Chemical Institute Medicinal Chemistry and Chemical Biology Division in May 2022.

**Dr Tristan Reekie FRSN**, of UNSW Canberra, and **Professor Elizabeth New FRSN**, of the University of Sydney, have been jointly received the Peter Andrews Award for Innovation in Medicinal Chemistry and Chemical Biology. The award recognises innovation in the development of small molecules as potential therapeutic agents or chemical probes by RACI members who are within 15 years of being awarded their PhD.

Dr Tristan Reekie completed his PhD in 2013 at ANU under the supervision of Professor Martin Banwell. He then completed a postdoctoral position at ETH Zurich with Professor François Diederich before returning to Australia to work with Professor Michael Kassiou at the University of Sydney. He began his independent career at ANU, which he has continued at UNSW Canberra where he is currently based.



His research is focused on small molecule organic chemistry with application to materials, plant science, and medicinal chemistry. It is the latter area where he has made the biggest impact, generating new compounds to treat substance use disorders and social disfunction. The success of this research has led to the establishment of a spin-out company, Kinosis Therapeutics, where Tristan continues to work as their Head of Chemistry alongside his academic role. Tristan leads several of the company's research programs, helping to advance multiple drug candidates towards first-in-human clinical trials. In addition to his innovation in research, Tristan is

heavily involved in teaching and outreach to enhance interest in science amongst students and the general public. In particular, Tristan has had long-term involvement with programs such as the Australian Chemistry Olympiad and was the recipient of a Tall Poppy Award in 2020 for promoting science among students, teachers and an appreciation of science in the broader community.

Professor Elizabeth New, a graduate of the University of Sydney, completed her PhD at Durham University before undertaking postdoctoral studies at the University of California at Berkeley, and as an ARC DECRA Fellow at the University of Sydney, following which she joined the academic staff of the School of Chemistry in 2015. During her career, she received numerous awards, amongst which are the Malcolm Macintosh Prize for Physical Scientist of the year in 2019 and the '3M Emerging Leader' Australian Museum Eureka Prize in 2018.



Her research has led to the development of different types of fluorescent sensors which make possible, at the molecular level, the observation of how cells cycle and change through events and over time. While existing imaging systems such as ultrasound and MRI provide valuable structural information, they are unable to characterise the nature and distribution of chemicals within the cell. It is here that the fluorescent sensors developed by Professor New make possible the observation of complex chemical processes within cells, enabling an understanding of how cells cycle through oxidative events over long periods, and in turn opening up potential breakthrough treatments for diseases associated with ageing (e.g., cardiovascular, cancer, and diabetes) that afflict 50% of Australians and which are responsible for 85% of deaths.

## New award for outstanding writing on social change

The AUD 10,000 Bruce Piasecki and Andrea Masters Award on Business and Society Writing seeks to inspire future generations to become catalysts for a better, more just society. The winner of the award will be announced in September 2022 with an award ceremony to follow.



Applicants must be between 18 and 40 years old and have published at least one work prior to the 31 August application deadline. Submissions can include essays, research papers, books and articles. Topics must be thematically consistent with positive social impact and business. Themes include, but are not limited to, climate change, racial/gender equality,

sustainability, innovation, and new approaches to lessen war and social stresses.

To apply, send your published pieces (link or PDF) and a brief (1 to 2-page) working plan addressing your future writing endeavours and career plans for the next five to 10 years to [AWARDS@ahcgroup.com](mailto:AWARDS@ahcgroup.com) (also cc: [rsa@scienceaustralia.org.au](mailto:rsa@scienceaustralia.org.au)). Please contact [rsa@scienceaustralia.org.au](mailto:rsa@scienceaustralia.org.au) with any questions you may have.

The award is being offered in collaboration with the Royal Societies of Australia and the Royal Society of New Zealand Te Apārangi.

The award is financed by the Creative Force Foundation started by Bruce Piasecki, the founder of the AHC Group Inc. He is the author of *A New Way to Wealth, 2040: A Fable, Doing More with Less, World Inc.* and *Missing Persons*.

## Display of Society-related objects in the Chau Chak Wing Museum

As part of our 200-year celebrations, the Chau Chak Wing Museum (CCW Museum) at the University of Sydney has curated a display of Society-related objects from the Macleay Collections, echoing Society *Conversazione* of the 19<sup>th</sup> and early 20<sup>th</sup> centuries when scientific discoveries were exhibited to the public.

The items on display are listed on the [Chau Chak Wing Museum website](#). They relate directly to such important historical figures as Sir Charles Nicholson, WB Clarke, Lawrence Hargrave and Ida Browne.

The display is in the Nelson Meers Foundation Auditorium and can be viewed on weekends (see note) between 12:00–4:00 PM by seeing the staff at the CCW Museum front desk who will provide access to the venue.

The last day for the objects to be on display will be Sunday 25 September.

### Note on viewing

From time to time, there are Museum events in the Auditorium on Saturday afternoons. These are generally free and open to the public and advertised on the [CCW Museum website](#). If you intend to see the display on Saturday, please check to see if there are any events on in the Auditorium and plan your visit accordingly.



## List of proposed events for 2022

Kindly note that this is a provisional list and will be subject to change, due to the prevalence of COVID-19 during early 2022. Updates will be reflected in future issues of the Bulletin and on [our website](#).

Date	Event
Wednesday, 6 July 6:30 PM AEST	<b>1304<sup>th</sup> OGM and Open Lecture</b> <b>This is going to be different: Learning to live with Chinese power</b> Emeritus Professor Hugh White AO FASSA, Australian National University
Wednesday, 3 August 6:30 PM AEST	<b>1305<sup>th</sup> OGM and Open Lecture</b> <b>Marsupials: the secrets are all in their genes!</b> Professor Kathy Belov AO FRSN, University of Sydney and Dr Elizabeth Deane FRSN
Thursday, 4 August 6:00 PM AEST	<b>Ideas@theHouse: August 2022</b> <b>Topic: Manufacturing at the atomic scale</b> Scientia Professor Michelle Simmons AO FRS DistFRSN FAA FTSE, UNSW Sydney
Wednesday, 7 September 6:30 PM AEST	<b>1306<sup>th</sup> OGM and Open Lecture</b> <b>Is Fairweather an Australian artist? And does it matter?</b> Claire Roberts, University of Melbourne and Nick Jose, University of Adelaide
Wednesday, 5 October 6:30 PM AEDT	<b>1307<sup>th</sup> OGM and Open Lecture</b> <b>An interactive discussion on the global economic outlook and Australia's place in the world</b> Dr Don Russell and Ms Jane Drake-Brockman
Thursday, 3 November 9:00 PM AEDT	<b>Royal Society of NSW and Learned Societies Annual Forum</b> <b>Australia at the Crossroads</b> Presenters: to be advised
Wednesday, 7 December 6:30 PM AEDT	<b>1308<sup>th</sup> OGM and Open Lecture</b> <b>Topic: to be advised</b> Scientia Professor Rose Amal AC FRSN FAA FTSE, UNSW Sydney



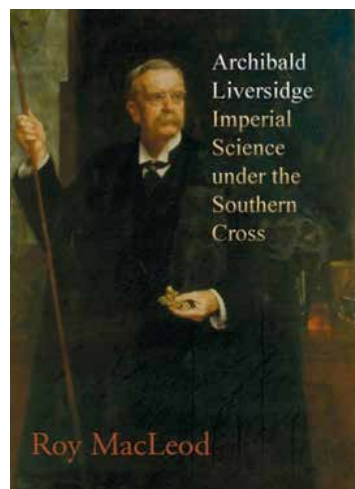
## Archibald Liversidge: Imperial Science under the Southern Cross

When Archibald Liversidge first arrived at Sydney University in 1872 as reader in geology and assistant in the laboratory, he had about ten students and two rooms in the main building. In 1874, he became professor of geology and mineralogy; by 1879, he had persuaded the senate to open a faculty of science. He became its first dean in 1882. In 1880, he visited Europe as a trustee of the Australian Museum and his report helped to establish the Industrial, Technological and Sanitary Museum which formed the basis of the present Powerhouse Museum's collection. Liversidge also played a major role in the setting up of the Australasian Association for the Advancement of Science which held its first congress in 1888.

One of his greatest contributions was to science education. He worked tirelessly to secure proper recognition of science in both secondary and tertiary education. In the preface of his book, Professor MacLeod comments: 'Liversidge remained confident that Australia's path would follow the route of the "moving metropolis", strengthened by the bonds that tied Australia to its British heritage. In that heritage lay his life, and through that heritage, flowed the genius of imperial science in New South Wales'. To order your copy, please complete the [MacLeod: Liversidge order form](#) and return it to:

The Royal Society of NSW (Liversidge book)  
PO Box 576  
Crows Nest NSW 1585  
Australia

or contact the Society:  
Phone: +61 2 9431 8691  
Email: [info@royalsoc.org.au](mailto:info@royalsoc.org.au)



## The Society and social media

The Society's presence on social media platforms is slowly but surely growing. Our [Facebook page](#), [Twitter feed](#) and [YouTube channel](#) continue to attract and engage followers and viewers, and we continue to build a repository of online events conducted recently on YouTube. The icons on the right will take the reader to the platforms' respective pages, from where they can follow and subscribe to the Society, and be notified of new content.



## Current Council and Office-Bearers

The current Council and office-bearers of the Society are:

Patron	<a href="#">Her Excellency The Honourable Margaret Beazley AC QC, Governor of New South Wales</a>
President	<a href="#">Dr Susan Pond AM FRSN</a>
Vice-President	<a href="#">Ms Judith Wheeldon AM FRSN</a>
Secretary	<a href="#">Mr Bruce Ramage MRSN</a>
Treasurer	<a href="#">Mr John Cameron MRSN</a>
Librarian	<a href="#">Mr John Hardie AM FRSN</a>
Webmaster	<a href="#">Emeritus Professor Lindsay Botten FRSN</a>
Councillors	<a href="#">Professor Katherine Belov AO FRSN</a> <a href="#">Professor Sean Brawley FRSN</a> <a href="#">Dr Jessica Milner Davis FRSN</a> <a href="#">Professor Philip Gale FRSN</a> <a href="#">Ms Pamela Griffith FRSN</a> <a href="#">Dr Davina Jackson FRSN</a> <a href="#">Emeritus Professor Robert Marks FRSN</a> <a href="#">Emerita Professor Christina Slade FRSN</a>
Hunter Branch Representative	<a href="#">Professor George Willis FRSN FAA</a>
Southern Highlands Branch Representative	<a href="#">Mr Mike Jonas MRSN</a>
Western NSW Branch Representative	<a href="#">Professor Mark Evans FRSN</a>

Editor: [Jason Antony MRSN](#)

THE VIEWS EXPRESSED IN THIS PUBLICATION DO NOT NECESSARILY REFLECT THOSE OF THE SOCIETY.

