



THE BULLETIN 447

THE ROYAL SOCIETY OF NEW SOUTH WALES

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For Your Diary

• 03 FEB

2020 Scholarships and
Jak Kelly Award winner

1289TH OGM AND OPEN LECTURE

**Dispelling climate change myths — how
ocean physics can help explain surprises in
the modern-day climate record**

Wednesday, 9 December 2020

**Best Wishes
for the
Festive
Season**



Professor Matthew England FRSN FAA
Climate Change Research Centre, UNSW Sydney

Date/time: Wednesday 9 December 2020, 6:30 PM

Venue: [Zoom Webinar](#)

Entry: No charge

Enquiries: [via email](#)

All are welcome.

See [page 3](#) for more information



Patron of The Royal Society of NSW

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

From the President

The Royal Society of NSW will be 200 years old on 27 June next year — it traces its origin to the Philosophical Society of Australasia, founded on 27 June 1821. Your Council has decided that 27 June 2021 will be the starting date for a great year of celebration, finishing with a grand dinner at the Great Hall of the University of Sydney in mid-June 2022.

In planning for this special year, we very much want to engage the whole Society. This is your opportunity to help shape the bicentennial year. Tell us what events you would like to see happen, and/or ways in which you can help make it happen. Here are some first ideas:

- suggest activities or events that appeal to you
- write a few paragraphs or a few pages of personal reflections about the Royal Society (these could be compiled into a real or online book)
- offer to be a greeter or helper or guide at one or more events
- offer to paint a picture, write a poem, or compose a piece of music, for the event (this has happened already — the composer David Hush FRSN has composed a trumpet fanfare especially to mark the milestone)
- volunteer to record an interview with an interesting member of the Society
- make a donation to our Library of money or material (e.g. a book written by you).

Don't hold back. Please respond in writing to the Honorary Secretary (Bruce Ramage) at secretary@royalsoc.org.au.

Ian H Sloan AO FRSN FAA
President, Royal Society of NSW



1289th OGM and Open Lecture

Dispelling climate change myths — how ocean physics can help explain surprises in the modern-day climate record

Professor Matthew England FRSN FAA
Climate Change Research Centre, UNSW Sydney

Date: Wednesday 9 December 2020, 6:30 PM

Venue: [Zoom Webinar](#) ([Obtain help in getting started with Zoom](#))

Entry: No charge

Enquiries: [via email](#)

All are welcome.



Summary

Certain aspects of the climate record are often seized upon in an attempt to disprove the threat of human-caused climate change. Notable examples include the decade-long slowdown in global surface warming that occurred in the early 2000s, as well as recent surface cooling and sea-ice expansion around Antarctica. This talk will describe how ocean and climate dynamics can explain these behaviours of the coupled climate system, and how the threat of anthropogenic climate change remains as real as ever.

About the speaker

Professor Matthew England is a Scientia Professor of Ocean & Climate Dynamics at UNSW Sydney who has previously held ARC Laureate and Federation Fellowships. He was the founding Director of the UNSW Climate Change Research Centre (CCRC) during 2006–2013. In 2014, England was elected a Fellow of the Australian Academy of Science, and in 2016 as a Fellow of the American Geophysical Union. He is also a Fellow of the Royal Society of NSW and was the winner of the Society's most prestigious award, the James Cook Medal, in 2019.

Royal Society of New South Wales Awards Winners 2020

The Awards and Citations for 2020 will be announced at the Ordinary General Meeting, and will be posted on the Society's website at that time.



2020 Annual RSNSW + Four Academies Forum

After COVID-19: Creating the Best of Times from the Worst of Times

5 November 2020

Report by Program Committee Chair, Dr Susan Pond AM FTSE FAHMS FRSN

Once again, the Royal Society of NSW joined forces with the Academy of Social Sciences of Australia, the Australian Academy of the Humanities, the Australian Academy of Science and the Australian Academy of Technology and Engineering to stage its Forum, this year's being the fifth in the annual series.

Hosted by the Society's Vice Regal Patron, Her Excellency the Honourable Margaret Beazley AC QC, Governor of NSW, in-person guests gathered in Government House as a depleted live audience of thirty. Even though we were in the shadow of the COVID-19 pandemic, the Forum continued and indeed extended its contribution to the vibrant cultural life of Australia through its live-streamed video broadcast to a much larger audience.

The day began with the thought-provoking keynote address by Dr Peter Hobbins, who considered how we might translate our history, including the history of the RSNSW, for the futures that we face together, and ended with the closing remarks by the Rapporteur Professor Eric Knight. Professor Knight captured the essence of the day's proceedings by building two images in our minds. The first is a pyramid made up of three building blocks — the community, the state and the individual. The second is the ouroboros, a symbol for eternal cyclic renewal, in the current climate meaning the renewal of our society and ourselves.

The presentations from this very successful day are now online. They comprise edited video recordings from the day, a brief report and gallery of images. They are accessible through a website [article](#) that is available on the RSNSW [Forums](#) page, in the Noteworthy entries on the [home page](#) sidebar, and through a new slider at the top of the home page. The videos can be access directly from the Society's [YouTube](#) channel, or through its [YouTube playlist](#).

By making these available, we provide the means for you to participate in the learned and cultural richness of the day at your leisure.



Moving the Society online during COVID-19 — Part 2

by Stuart Midgley

This follows the original instalment published in The Bulletin 444.

With Zoom officially chosen as the video conferencing and webinar solution for the Society, all efforts now turned to rolling out the software in the last ten days of March.

First steps were to get every member of Council and its committees using the system. Some were already accustomed to video conferencing but for some, it was an entirely new experience and not always a straight-forward one. Over a period of ten days, every Council and committee member was signed up and, where necessary, given phone or video assistance to install and operate the software.

A significant problem was that some members didn't have the necessary IT equipment at home, most notably webcams and second screens. With IT retailers across the country selling out of such items, as Australians prepared for working from home, a quick inventory was taken of spare equipment held by different members; in the last week of March, several trips were made across Sydney to share such equipment out. These trips were, of course, conducted in a COVID-safe manner — meaning placing the item on the recipient's deck or drive, sanitising it with wipes, and then standing twenty feet away as they came outside to collect it. How the world had changed in just a few short weeks ...

Those ten days of hectic activity proved vitally important when the most severe NSW health restrictions in living memory were announced on the 30 March with effect from the very next day — the stay-at-home orders. Fortunately, our Council and committees were now able to function virtually, meaning we had a fighting chance of making our way through the uncertain months ahead. It was now time to turn all efforts to delivering the Society's monthly public meetings.

With the rescheduled AGM only three weeks away, first steps were to get to grips with the webinar part of Zoom — a very different beast to regular Zoom meetings. To this end, three technical test webinars were run in the first ten days of April. Wendy Enevoldsen and Lindsay Botten acted as audience members, noting down many points for improvement before the next test, while this writer grappled with the technical controls.

Once technical proficiency was judged satisfactory, and after a much-needed break for all over the Easter weekend, preparations specific to the AGM commenced. Two rehearsals with all hands were held before a full-dress rehearsal took place the night before. Lighting was adjusted, unreliable internet connections accounted for, and confidence was built up until, at 6:30 PM on 22 April, the curtain went up on the first fully online meeting in the history of the Royal Society of NSW.

Thankfully it went well: annual reports were made, online voting results were delivered, the open lecture and associated segments went out successfully. Once it ended, all those working behind the scenes opened a bottle of something and collapsed into the nearest soft chair for the rest of the evening. The first event was done. The next would come soon enough ...

Report: Events Committee

by Christina Slade (Chair of Events) & Lindsay Botten (Webmaster)

The Royal Society of NSW has taken to the new format of online meetings with enthusiasm. All Fellows and Members can now join the Sydney, Hunter, and Southern Highlands branch meetings.

The major event in November was, of course, the Royal Society and Four Academies Forum ['After COVID-19: Creating the best of times from the worst of times'](#), for which there is a separate report.

On **Wednesday 11 November**, as part of the 1288th Ordinary General Meeting (OGM), Emeritus Professor Robert Clancy AM FRSN introduced Professor Thomas Borody FRSN and Emeritus Professor Adrian Lee FRSN. They told us the fascinating history of their role in discovering the spiral bacteria, of which *Helicobacter pylori* was so important, and in developing the therapies for Peptic Ulcer Disease. Peter Baume AC DistFRSN discussed the importance of the discoveries and the immense impact treatment has had on the medical profession. The session was well attended despite clashing with the State of Origin rugby game.

On Wednesday **18 November**, Ian Bryce addressed the Southern Highlands Branch on the topic of ['Relativity revealed: Einstein's discoveries, the origin and shape of the universe'](#). This event marked the Branch's return to face-to-face meetings, albeit with a limited audience of 30, imposed by ongoing requirements for social distancing.

On Wednesday **2 December**, the Hunter Branch presented its final event for the year in the usual Zoom webinar format. This was delivered by Professor Tony Capon of Monash University who spoke on the topic of ['Planetary Health: Safeguarding Health in the Anthropocene Epoch'](#).

Forthcoming events

On Wednesday **9 December** as part of the 1289th OGM, Scientia Professor Matthew England FRSN FAA of UNSW (Sydney), and the 2019 winner of the James Cook Medal, will address the society on the topic of ['Dispelling climate change myths — how ocean physics can help explain surprises in the modern-day climate record'](#). This event will also be delivered online.

We hope to be able to recommence face-to-face meetings at some time in the New Year. The first meeting of the year will be held on **3 February** and will incorporate presentations from the 2020 Jak Kelly Award winner and from graduate students who have been awarded Royal Society of NSW Scholarships in 2020. The program for the Bicentennial Year will be announced in January. We are hoping to institute a bimonthly meeting, to be curated by Emeritus Professor Brynn Hibbert, at which new fellows can share their work.

We urge you to catch up on presentations that you have missed on our [YouTube Channel](#), and to follow the Society on [Facebook](#).

Report: Hunter Branch

by Eugenie Lumbers (Secretary)

Our main news is to report on our 27 October event, and our exciting final event for 2020, held on 2 December.

On **27 October**, in a meeting co-badged with the University of Newcastle (who provided all the infrastructure), an excellent online meeting was held. Prof Janet Nelson (Deputy Vice Chancellor, Research and Innovation) described novel technologies being developed at University of Newcastle, including water conservation and new green hydrogen production, powered by solar energy.

She then led a discussion on engaging partners in research and innovation in the Hunter region and its application. The various speakers were: Ms Morven Cameron, CEO, of Lake Macquarie City Council, which is New South Wales's third largest regional city; Dr Kirsten Molloy, non-Executive Director of HMRI, NRMA and HunterH₂O; and Dr Priscilla Tremaine, Research Associate in the School of Engineering at the University of Newcastle.

Of particular interest were the plans by the Lake Macquarie City Council to trial waste collection vehicles powered by hydrogen. The event also provided an insight of the University's outreach to the Hunter region.

On **2 December**, we held our last online event for the year. This was dedicated to the evidence of the effects of the changing environment on our health and welfare. The talk, **Planetary Health** (now [available on YouTube](#)), was delivered online by Professor Tony Capon from Monash University. Prof Capon's 30-year career of leadership experience spans research education policy and practice. His research focuses on urbanisation, sustainable development and human health. The meeting was hosted by The Chair of the Hunter Branch committee, Paul Jeans FRSN. Laureate Professor John Aitken FRSN moderated a panel session comprising Dr John Van Der Kallen, who leads Doctors for Environmental Action in the Hunter region, and Ms Georgia Brown, a medical student at University of Newcastle with a strong interest in the impact of the environment on human health.

Planetary Health relates the effects of a changing environment on human health, ranging from the impact of the ever closer relationships with wild animals, transmission of novel, communicable diseases like Ebola and COVID-19, to the effects of bushfires on physical and mental health and even on the health of future generations.

News from Members and Fellows

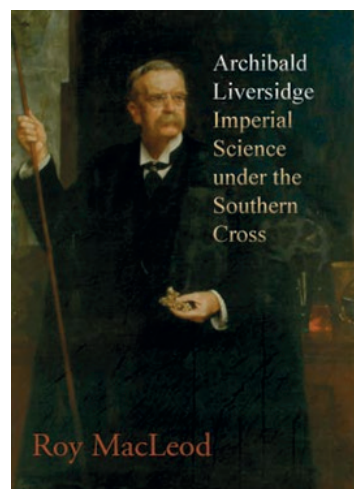
The Society would be delighted to include news from you of a relevant professional or Society-related nature in the Bulletin and on our website. Such items could include recent awards or postings, or recent book or journal publication, as well as research achievements, patents and grants.

Also, if members wanted to write a review of a recent book or major article for publication in the Bulletin, the Editor would be very happy to consider it.

Christmas Special

Ever wanted to know about the influences the Royal Society of NSW had on the development of scientific practice and education in Australia in the nineteenth Century? Or the connections that existed and were developed with researchers globally at this time? Emeritus Professor Roy MacLeod's book *Archibald Liversidge: Imperial Science under the Southern Cross*, which was published by the Society and Sydney University Press, answers many of these questions.

As a special treat for members, the Society is offering the book at a Christmas Special discount of **\$25 plus \$10 postage and handling** for a limited time. Email the Society at royalsoc@royalsoc.org.au for your chance to own this excellent, well-illustrated 638 page historical account of one of the key figures in the success of the Society.



Library update

by John Hardie

Members will be pleased to know that the project to repair the books and papers in the Society's collection at the State Library that needed it has now been completed. We thank those of you who contributed to this work. A total of 847 items were repaired in seven batches from September 2019 to March this year and then the final batch in November this year. We would like to thank Jean Riley for the tireless effort she put into this work. We hope that members will be able to view these items, as well as the rest of the collection, some time next year, in time for our Bicentenary.

The Society is grateful for the opportunity to select volumes of interest for its library from the library of past President Dr David Branagan, an eminent geologist. Dr Branagan, who was President of the Society in 1995 and who worked in conjunction with the late Dr Peter Tyler on a Community Heritage Grant for the Society in 2006/7, has very kindly made some of his collection available to the Society.



The Hon. Librarian, John Hardie, selecting items from the Society's collection for repair (Nov 2020)

Society Fellows elected as 2020 Fellows of the ATSE

The Royal Society of NSW is delighted to learn of the recognition of two of its Fellows, Professor Hala Zreiqat AM FRSN FTSE FAHMS and Adjunct Professor Trevor Danos AM FRSN FTSE, being elected to Fellowships in the Australian Academy of Technology and Engineering. They are amongst 25 new Fellows of the Academy in 2020 who are elected by their peers for outstanding contributions to advancing engineering, technology and applied science.

Professor Hala Zreiqat, of the Faculty of Engineering at the University of Sydney, is a biochemical engineer who 3D-prints replacement body parts for people suffering from injury and disease. She invented a type of ceramic biomaterial that can be used as a scaffold to regrow bone, and developed the technology to tailor these prosthetics for individual patients. She also leads research into the creation of other artificial human tissue, including tendons, ligaments and — eventually — organs. Professor Zreiqat is the Director of the ARC Centre for Innovative BioEngineering, Founder and Chair of the International Alliance for Design and Application in Tissue Engineering and of BIO-Tech Futures; and the 2018 NSW Premier's Woman of the Year.



Trevor Danos is a lawyer, company director and strategic advisor supporting science and technology across society. An effective science policy advocate, he has advanced STEM in industry, the government and the broader community. Mr Danos is helping to create the world's largest radio telescope as a member of the Australia-New Zealand Coordination Committee for the Square Kilometre Array. He is a director of Endeavour Energy, NSW Circular and Summer Housing, a former director of the Civil Aviation Safety Authority and TransGrid, and a former member of the Cooperative Research Centres Committee. Mr Danos was made a Member of the Order of Australia in 2014 for his significant service to the community.



The Society and social media

The Society's presence on social media platforms is slowly but surely growing. Our [Facebook page](#) 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.



Society Fellows Eggleton and Park win 2020 Eureka Prizes

The Royal Society of NSW is delighted that two of its Fellows, Professor Ben Eggleton FRSN FAA FTSE and Professor Robert Park FRSN FTSE, both from the University of Sydney, have been awarded Australian Museum Eureka Prizes for 2020.



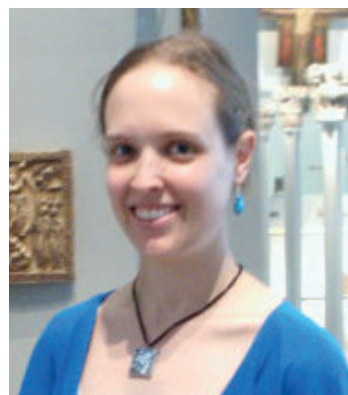
The Council of the Society warmly congratulates both Professor Eggleton and Professor Park on their achievements, and on this recognition of the impact of their outstanding research.

Professor Park, who was the 2018 Poggendorff Lecturer of the Royal Society of NSW, has won the 2020 Eureka Prize for Leadership in Innovation and Science. For nearly two decades, Professor Park has led world-class efforts to develop cereal varieties with inbuilt genetic disease resistance. He is one of the few plant pathologists who has successfully translated their biological discoveries to the real world, his research having a sustained global impact on the economic viability of cereal production and food security.

Professor Eggleton leads a team from the University of Sydney and the Australian National University that has won the 2020 Eureka Prize for Outstanding Science in Safeguarding Australia. By harnessing the delicate interaction between light and sound, Professor Eggleton and his team have produced a microchip that provides a unique advantage for defence platforms. With prototypes already developed in Australia and internationally, this compact technology heralds a new era in microwave signal processing and represents real gains in performance, efficiency and cost.

Hon. Archivist appointed

The Society is delighted to announce the appointment of its first Hon. Archivist in recent memory. Ms Hannah Hibbert has generously offered her expertise to the Society on a voluntary basis as we attempt to modernise our operations. Hannah is the archivist with the Australian Turf Club and is an Hon. Archivist with the Sydney Philharmonia Choirs. Hannah has had previous experience with the Society in that she has compiled a listing of the Society's archival material housed in our Darlington Road premises. Hannah will be helping develop an archive policy for the Society's future operations and to advise on appropriate measures for the safe-keeping of its existing archives, some of which date from the mid-nineteenth century.



Society Fellow Foley appointed as Australia's next Chief Scientist

The Royal Society of NSW was delighted to learn that one of its Fellows, Dr Cathy Foley AM FRSN FAA FTSE, has just been appointed as the incoming Chief Scientist of Australia from 2021. Dr Foley, a 36-year veteran of CSIRO, comes to the position of Australia's Chief Scientist from the role of Chief Scientist at CSIRO.

She has a distinguished record of research in the field of solid-state physics and its applications, combining quantum physics, material science and research translation. Earlier this year, she was recognised as a Member of the Order of Australia for her contribution towards the advancement of women in science, and particularly physics. The Council of the Society warmly congratulates Dr Foley on her appointment and looks forward to her guidance of Australian science and technology in the years to come.

To read more about Dr Cathy Foley and her impressive portfolio of achievements during her career, please read the following articles at the [Australian Academy of Science](#) website and in the [Sydney Morning Herald](#).



Society Fellow England awarded the 2020 AMOS Morton Medal

The Council of the Royal Society of NSW warmly congratulates one of its Fellows, Scientia Professor Matthew England FRSN FAA of UNSW Sydney, on the award of the Morton Medal from the Australian Meteorological and Oceanographic Society (AMOS) for 2020. The Morton Medal recognises leadership in meteorology, oceanography, climate and related fields, particularly through education and the development of young scientists, and building research environments in Australia.

Professor England is recognised internationally as one of the world's foremost experts in ocean and climate science, with important discoveries in water-mass formation, ocean-atmosphere interaction, climate modes of variability, and ocean ventilation. Over the last 25 years he has mentored 70 young scientists within his team, and many others nationally and internationally. His work has been highly successful in establishing and building research environments in Australia, including the UNSW Climate Change Research Centre (CCRC) in 2006, the former ARC Centre of Excellence in Climate Science, and most recently the ARC Centre for Excellence in Antarctic Science (ACEAS) in 2020, of which he will become the Deputy Director.

Professor England is the 2019 winner of the Royal Society of NSW James Cook Medal — its most senior award — and will be presenting online to the Society on Wednesday, 9 December 2020 on the subject of '[Dispelling climate change myths — how ocean physics can help explain surprises in the modern-day climate record](#)'.



Stewardship of Country seminar series postponed to Feb/Mar 2021

The *Stewardship of Country* webinar series being offered by the Royal Societies of Australia (RSA), previously advertised in the September Bulletin, has been moved to February/March next year. Commencing on 24 February 2021, the series aims to produce a model of landscape and environmental stewardship that bridges indigenous, agricultural, environmental and social perspectives with supporting ideas for practical action.

Stewardship is about how people manage their activities in pursuit of economic, social and personal goals that affect our landscapes so that ecological processes and natural systems upon which life depends are maintained or restored for the benefit of current and future generations of human and other life.

Confirmed speakers include Peter Bridgewater (ANU), Nicholas Gruen (Lateral Economics), Kingsley Dixon (Curtin University), Michelle Maloney (Australian Earth Laws Alliance), Tyson Yunkaporta (Deakin University), Mark Stafford Smith (CSIRO), Carolyn Hall (The Mulloon Institute) and Anne Poelina (Madjula Inc).

The Royal Societies of Australia is an umbrella organisation advocating for all of Australia's Royal Societies. The Royal Society of NSW has been a member organisation since the RSA's founding in 2007. This seminar series is a joint initiative of the RSA, the Royal Society of NSW, the Royal Society of Queensland and the Royal Society of Victoria.

Information on how to access the webinars will appear in the next issue of the Bulletin. For further information please contact Clare McLellan at the RSA on 02 6201 9472 or rsa@scienceaustralia.org.au or visit the relevant [RSA website page](#).

Sponsorship of this event is currently being sought so if you wish to donate to making this event a success, please contact Clare.

John Hardie
President
Royal Societies of Australia



Council and Office-Bearers 2020/2021

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

Patron	Her Excellency The Honourable Margaret Beazley AC QC, Governor of New South Wales
President	Emeritus Professor Ian Sloan AO FRSN FAA
Vice-Presidents	Emeritus Professor Brynn Hibbert AM FRSN (immediate past President) Dr Susan Pond AM FRSN Ms Judith Wheeldon AM FRSN
Hon. General Secretary	Mr Bruce Ramage MRSN
Hon. Editorial Secretary	Emeritus Professor Robert Marks FRSN
Hon. Treasurer	Mr Richard Wilmott MRSN
Hon. Librarian	Mr John Hardie FRSN
Hon. Webmaster	Emeritus Professor Lindsay Botten FRSN
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Hunter Branch Representative	Professor George Willis FRSN FAA
Southern Highlands Branch Representative	Mr Mike Jonas

Editor: [Jason Antony](#)

