



THE BULLETIN 453

THE ROYAL SOCIETY OF NEW SOUTH WALES

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JULY 2021

For Your Diary

- 22 JUL
[*Ideas@theHouse: Music as a Superfood*](#)
- 04 AUG
[*1296th OGM and Open Lecture*](#)
- 24 AUG
[*RSNSW Clarke Lecture 2021*](#)
- 04 Nov
[*RSNSW and Learned Academies Forum 2021*](#)



Patron of The Royal Society of NSW

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

1295TH OGM AND OPEN LECTURE

**Society as an information processing system,
and the influence of the media**

Wednesday, 7 July 2021, 6:30 PM



Dr Erik Aslaksen FRSN

Physicist, Engineer, and Author

Date/time: Wednesday, 7 July 2021, 6:30 PM

Venue: [Zoom Webinar](#)

Entry: No charge

Enquiries: [via email](#)

All are welcome.

See [page 4](#) for more information

From the President

In 1921, just as the Spanish Flu pandemic was waning, the Royal Society of NSW celebrated the centenary of the founding of its antecedent, the Philosophical Society of Australasia. Coincidentally, the Society begins celebrating the bicentenary of this event during the COVID-19 pandemic as it continues to wreak havoc across the globe.

The relatively low number of COVID-19 cases in Australia leaves us in the fortunate position of being able to begin these year-long bicentenary celebrations with the opening of the Society's exhibition — NEXUS. It is ready for viewing in the Jean Garling Room in the State Library of NSW. The exhibition was due to open on 26 June 2021.

Unfortunately, stay at home rules introduced for Greater Sydney to curb an evolving COVID-19 outbreak compelled the State Library to close its doors at 5 PM on 25 June for at least 10 days.

Fortunately, the exhibition will be on display until 26 November. Our Webmaster will post the information about forthcoming opening times in an event notice on the Society's website.

NEXUS has two meanings: a central or focal point; and a connection or series of connections linking two or more things. From the beginning, the Society has epitomised both meanings, examples of which are woven through the exhibition. With 200 years of history, the exhibition can only showcase a tiny fraction of the Society's archives and achievements. But it tells a compelling story of the Society's Origins, Ideas, Advances, and Impacts.



Highlights include letters from Professor Sir TW Edgeworth David, Antarctic explorer, on sun thaw line observations and arranging a presentation on the British Antarctic Expedition (1907–1909) led by Sir Ernest Shackleton. Lawrence Hargrave, aviation pioneer and the first in Australia to fly attached to four box kites of his own design, published 23 papers on aerodynamics in the Society's *Journal & Proceedings*. Two of his original letters are on display, including one with box kite illustrations.

The bookshelves in the Jean Garling Room provide a fitting backdrop to the exhibition. They hold some of the Society's collection of more than 40,000 titles covering 500 years, from the days of early printing to the modern era. When you visit, you will see several important objects, amongst which are the original Seal of the Royal Society, and letters and memoirs by important figures.



(continued overleaf)

From the President (continued)

I encourage all of you to take the time to visit the exhibition when it does open.

NEXUS would not have come to reality without the dedication of the small band of Society volunteers who have worked tirelessly over the last few months — Librarian John Hardie, Secretary Bruce Ramage, Executive Officer Wendy Enevoldsen, Archivist Hannah Hibbert, Webmaster Lindsay Botten, and Council Member Davina Jackson. They have worked closely with the State Library of NSW through the gracious support of its Director, John Vallance.

On behalf of the Society, I acknowledge their important contribution to our vision of enriching lives through knowledge and inquiry.

Susan M Pond AM FRSN FTSE FAHMS
President, Royal Society of NSW

Welcome to new members

The Society is pleased to welcome the following new members to the Society. They were elected at the Ordinary General Meeting held on 2 June 2021. We hope that each of you enjoys your membership and is able to participate in all that the Society has to offer.

Members

- Professor Shane Timothy Ahyong
- Ms Julia Andrews
- Professor Debbie Haski-Leventhal
- Pastor Donna-Maree Jensen
- Dr Jonathan Knott
- Mr Antony Seymour

1295th OGM and Open Lecture

Society as an information processing system, and the influence of the media

Dr Erik Aslaksen FRSN

Physicist, Engineer, and Author

Date: Wednesday, 7 July 2021, 6:30 PM

Venue: [Zoom Webinar](#)

Entry: No charge

Enquiries: [via email](#)

All are welcome.



We are concerned about our environment, and rightfully so: the air we breathe, the water we drink, the food we eat, and threats to this environment from global warming, loss of biological diversity, and many other concerns. These are all concerns about our physical environment, much as an ice bear is concerned about the melting of the ice, or as the koala is concerned about the reduction of its habitat due to deforestation. We are also concerned about many aspects of our society, such as overpopulation, economic growth, inequality, poverty, healthcare, and pandemics; again, concerns about physical features.

In this talk, Dr Erik Aslaksen will present a complementary view of our society — one peculiar to our species; a view of society as an information-processing system in which the physical aspects of society are both the results and the enablers of our mental processes. The system consists of individuals as processors and of the interactions between them in the form of information exchange, and as the processing capability and capacity of the individuals have not changed significantly over the last 10,000 years or so, the evolution of our society is, in this view, the evolution of this information exchange. This is an evolution characterised by the media involved and of the technology enabling them, from the earliest cave art to the Internet. Correspondingly, our concerns for society change from the above concerns about physical features to concerns about the information exchange and the associated information technology — in particular, about the ability to use the technology to control the information flow. Two examples of this concern will be discussed; one being the increasing concentration of wealth in the West, and with it the ownership and control of the media by a small group of people; the other arising out of the fact that the world society has arrived at a unique point in its evolution, but with a great reluctance to talk about it.

About the speaker

Erik W. Aslaksen is an engineer and physicist, with over fifty years of industrial experience, gained in the USA, Switzerland, and Australia, and covering fields as diverse as microwave components, power electronics, quantum electronics, and telecommunications, and ranging from basic research to corporate management. He obtained a MSc (EE) from the Swiss Institute of Technology in 1962,

(continued overleaf)

1295th OGM and Open Lecture (continued)

and a PhD in theoretical physics from Lehigh University in 1968. Erik was a Director of Ewbank Preece Sinclair Knight from 1988 until 1993, a Principal of Sinclair Knight Merz from 1993 until 2003, and an Adjunct Professor at the UTS until 1995.

In recent years his main interest has been in the area of systems engineering, engineering management, philosophical aspects of engineering, and the interaction between technology and society, as well as the evolution of society. He is a Fellow of the Royal Society of NSW and of the International Council on Systems Engineering, a Charter Member of Omega Alpha, and is the author of eight books (one with W.R. Belcher), four book chapters, and more than eighty papers.

His most recent publications are:

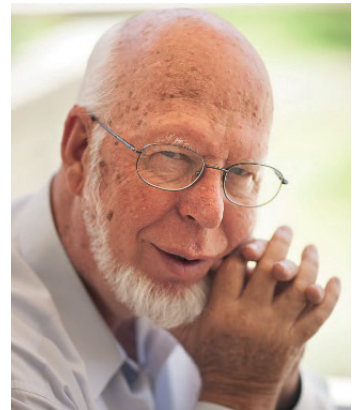
- The Social Bond: How the interaction between individuals drives the evolution of society, Springer Nature, 2018
- The Stability of Society, Springer Nature, 2020
- Measures of Social Evolution, Springer Nature, 2021.

Vale Emeritus Professor Roger Layton AM FRSN

The Royal Society of NSW records with great regret the passing of one of its valued Fellows, Emeritus Professor Roger A. Layton AM FRSN on 5 June 2021.

Professor Layton was the father of modern marketing in our region, starting in 1967 with his appointment as the first Chair of Marketing at UNSW. He was Head of the School of Marketing at UNSW (1967–1992) and Dean of the Faculty (1992–2002). Over the years he played a major role in the development of marketing research, education and practice in our region and in establishing its place on the world stage. He also established a worldwide reputation for his research, especially in the areas of marketing systems theory and macromarketing. His research has been published in leading international journals in marketing including the *Journal of Marketing*, *Journal of Marketing Research* and *Journal of Macromarketing*.

His contributions have been recognised and celebrated in many ways. For his services to marketing research and education, he was made a Member of the Order of Australia in June 1998. He was a Fellow of all the major business-related research institutes in Australia as well as the Royal Society of NSW. At a dinner celebrating 50 years at UNSW, Bob Hawke, the ex-Prime Minister of Australia, came to pay his respects and give a speech in his honour. In 1997 ANZMAC gave him the inaugural award of Distinguished Marketing Educator.



From the Archives: Tea and Talk

by Bruce Ramage (Secretary)

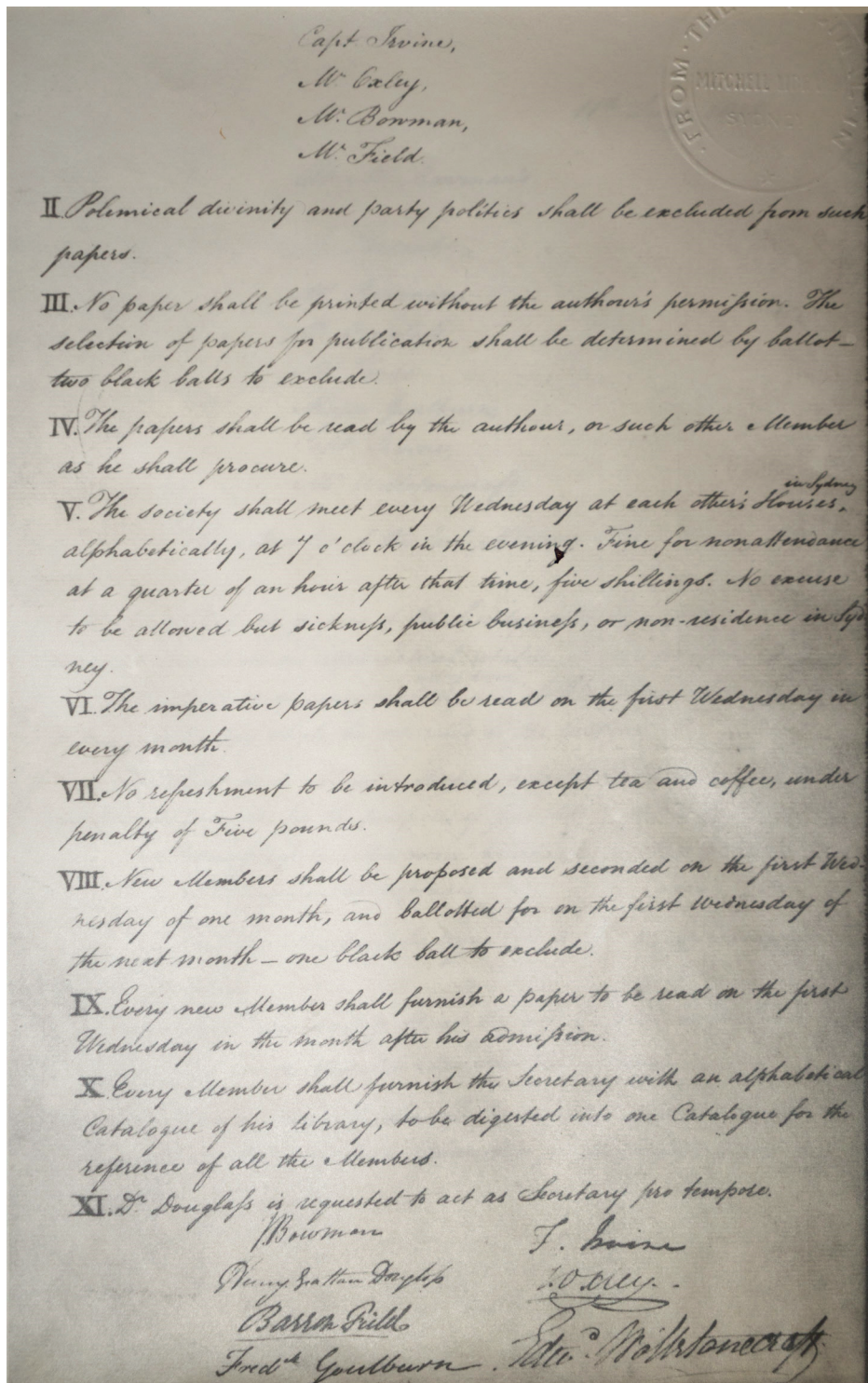
This is the first of a series of articles that highlights items from the Society's extensive archives, some of which are held in the State Library of NSW, the NSW State Archives and within the Society itself.

As I write it is 200 years to the day since the Philosophical Society of Australasia held its first meeting on 27 June 1821 at the house of Barron Field. In fact, the meeting was reconvened on 4 July at the house of Major Goulburn to finalise the 'Regulations' under which the Society would operate. There are eleven of them, all beautifully written in copperplate. As you can see from the list below, there was an emphasis on the papers to be delivered at weekly meetings. There were strict requirements as to timeliness at meetings and what refreshments could be served. As the fledgling colony was bereft of libraries, Regulation X was very important:

- I. It shall be imperative upon each Member, in the following rotation by lot, to produce a monthly paper, upon some subject connected with the objects of the Society, under penalty of ten pounds Dr Douglass, Mr Wollstonecraft, Major Goulburn, Capt Irvine, Mr Oxley, Mr Bowman, Mr Field.
- II. Polemical divinity and party politics shall be excluded from such papers.
- III. No paper shall be printed without the author's permission. The selection of papers for publication shall be determined by ballot — two black balls to exclude.
- IV. The papers shall be read by the authors, or such other Member as he shall procure.
- V. The society shall meet every Wednesday at each other's Houses in Sydney, alphabetically, at 7 o'clock in the evening. Fine for nonattendance at a quarter of an hour after that time, five shillings. No excuse to be allowed but sickness, public business, or non-residence in Sydney.
- VI. The imperative papers shall be read on the first Wednesday in each month.
- VII. No refreshment to be introduced, except tea and coffee, under penalty of Five pounds.
- VIII. New Members shall be proposed and seconded on the first Wednesday of one month, and balloted for on the first Wednesday of the next month — one black ball to exclude.
- IX. Every new Member shall furnish a paper to be read on the first Wednesday in the month after his admission.
- X. Every Member shall furnish the Secretary with an alphabetical Catalogue of his library, to be digested into one Catalogue for the reference of all the Members.
- XI. Dr Douglass is requested to act as Secretary pro tempore.

The minute book for 1821 and 1822 is currently on display in the National Trust's exhibition *Enquiring Minds: exploration and discovery in colonial New South Wales* at Old Government House, Parramatta. The Society is planning for members' private visits to the exhibition when current restrictions are eased. The exhibition is on until 28 November.

From the Archives: Tea and Talk (continued)



The Philosophical Society of Australasia's Regulations

Report: Southern Highlands Branch June Lecture

by Anne Wood

Reach for the Skies

Max La Galle and Professor Ken McCracken

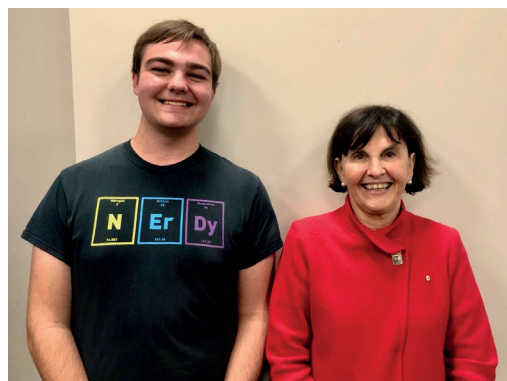
On Thursday 17 June, the Southern Highlands Branch held a very special event to celebrate the 200th anniversary of RSNSW. The evening event was entitled 'Reach for the Skies'. RSNSW was the first scientific society in the then British Colony of New South Wales. The newly appointed Governor of NSW, Sir Thomas Brisbane, who succeeded Governor Lachlan Macquarie, was offered and accepted the position of President on his arrival in Sydney late in 1821.



This event was designed to showcase how science has progressed beyond our wildest predictions in these 200 years, with young aspiring scientists today walking in the footsteps of the eminent scientists who have done so much to advance science, philosophy, and medicine before them. The young scientist chosen was Max La Galle speaking on his deep interest in hydrogen fusion. He was introduced to the audience by one of our internationally acclaimed scientists, Professor Ken McCracken AO.

In introducing Max la Galle, Ken reflected on the pervasive role of scientific societies in the development of science in the past, including in his own career in space research and in applied science in the CSIRO. Incidentally, he has just been awarded the senior medal of the international space research body, COSPAR, there having been only 70 such awards in the 64 years of space research. His award included naming Minor Planet 8258 in his honour as **Minor Planet (8258) McCracken**. In so many ways, Ken has literally '*Reached for the Skies*'.

Many will know that in 'retirement', Ken and his wife, Gillian, operated a cattle raising property in the Southern Highlands. He is still actively involved in space research and the promotion of science, as a new generation of students head for the STEM subjects at school and University.



Max la Galle attended the National Youth Forum 2019 and was then selected to represent Australia at the London International Youth Science Forum where he visited the Joint European Torus and CERN among others. He discussed in front of a capacity audience how science is finally on the verge of cracking the 'Holy Grail' of energy production in its advances in hydrogen fusion.

There were some very special guests in our audience to welcome both Professor Ken McCracken and Max la Galle — in particular, Dr Susan Pond, our newly elected President, and accompanying her, Council officers Mr John Hardie and Mr Bruce Ramage. A memorable event.

Report: Hunter Branch

by Eugenie Lumbers (Branch Secretary)

The Hunter branch has been quite active in recent times. On **13 May** and **9 June**, the new committee under the chairmanship of Professor John Aitken met to prepare a Business Plan (since submitted to Council).

For a brief period, the Hunter branch recommenced face-to-face meetings. It was exciting to meet up after so long. The first of these meetings was held on **26 May**, co-hosted with the University of Newcastle and was [a presentation by Prof Alan Finkel about the future of energy](#). It was a most enlightening lecture that described the way forward for using hydrogen for storage of energy and to export energy. He proposed that initially the power station at Liddell which the government has proposed to upgrade to use natural gas to generate electricity will be equipped with turbines that can also generate electricity from hydrogen gas. The transition from coal to natural gas would halve carbon emissions but this is obviously not a sufficient reduction in carbon emissions. Using hydrogen that has been generated from green energy resources to drive the turbines will make a significant contribution towards the realisation of net zero carbon emissions. Developments like hydrogen storage batteries also provide energy supply to houses and to industry.

The next event, held on **30 June**, was to be a face-to-face event held at Noah's on the Beach. However, another COVID-19 lockdown scuttled that plan and it was moved online. The topic was '[Extreme bushfires and the age of violent pyroconvection](#)' by Professor Jason Sharples from the School of Science, UNSW (Canberra).

Report: Events Committee

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

The Royal Society of NSW has hosted a range of events over May and June, including those in the Hunter and Southern Highlands branches noted elsewhere in this Bulletin.

The 1294th Ordinary General Meeting was conducted online via a Zoom webinar on **2 June**; it included an address by Professor Richard Kingsford FRSN on the topic 'Murray-Darling Basin turmoil: past, present, and future'. This is a critical issue for Australia and was presented with exemplary clarity.

At the May meeting of the Events Committee, Emeritus Professor Lindsay Botten provided a comprehensive report on attendance at various stages of selected Zoom events. He pointed out the value of maintaining an online presence while we turn, as we hope to, to face-to-face meetings in August. The meeting considered the longevity afforded through being on YouTube and the value of good social media contacts in upping the viewing data.

The committee is also considering alternative styles of events such as curated visits to the zoo. We welcome suggestions of activities from all members.

Future events are listed on the website at [Upcoming Events](#).

NEXUS exhibition delayed due to COVID-19 lockdown



The opening of NEXUS, which was to occur on the weekend of 26 June 2021, has now been delayed due to the rapidly evolving COVID-19 situation in Sydney, and the lockdown of Greater Sydney declared on 26 June. The State Library will be closed until the cessation of the current lockdown, 11:59 PM on Friday 9 July, unless restrictions are further extended. Please refer to [this page](#) for updates.

The exhibition will be held in the Jean Garling Room (Mitchell Building) at the State Library of NSW, 1 Shakespeare Place, Sydney.

About the Exhibition

This Exhibition begins a year of celebrations to mark the Society's contributions to the intellectual life of NSW over 200 years. It is the perfect moment to reinforce our commitment to enriching lives through knowledge and inquiry. As we think about our future, we are informed by our history.

NEXUS has two meanings: a central or focal point; and a connection or series of connections linking two or more things. From the beginning, the Society has epitomised both meanings, as a forum for ideas and discovery, exposing us to the latest research and promoting awareness of some of the major issues confronting humanity. With 200 years of history, the exhibition can only showcase a fraction of the Society's archives and achievements in telling the story of its Origins, Ideas, Advances, and Impacts. Highlights of the exhibition are mentioned in the President's column on [page 2](#).



View of part of the NEXUS exhibition

Journal & Proceedings of the Royal Society of New South Wales

by Robert Marks (Editor)

The *Journal* has been published online since at least 2000, and, thanks to Richard Evans, who scanned over 30 years of journals from 1969, converted the scans to text, formatted them to HTML pages, and made the pages available to the Society, by 2003 earlier copies were available online too. More recently, thanks to the Biodiversity History Library (BHL) and the Smithsonian Institution in the U.S., PDFs (and text) of all issues of the *Journal* since 1867 are now available online. In 2016 I indexed all articles in the 150 years of the *Journal* on the BHL web site, and linked them to the *Journal* archive on the Royal Society web site. Given this, it is surprising that, until now, the *Journal* has only possessed a single International Standard Serial Number or ISSN (0035-9173, for the printed issue). I am pleased to report that I have just obtained an ISSN for the online version: 2653-1305. This will be useful when we finally start appending Digital Object Identifiers (DOI) to all articles published in the *Journal*.



Journal and Proceedings
of the
Royal Society
of
New South Wales

"...for the encouragement of studies and investigations in Science, Art, Literature and Philosophy."

Attila Brungs FRSN FTSE named as next UNSW Vice-Chancellor

The Council of the Royal Society of NSW warmly congratulates one of its Fellows, **Attila Brungs FRSN FTSE**, on being named as the next Vice-Chancellor of the University of New South Wales (UNSW Sydney).

Professor Brungs, currently the Vice-Chancellor of the University of Technology Sydney (UTS) since 2014, has had a distinguished career in the academic, research and business sectors. He is a science graduate of UNSW, and has a PhD from the University of Oxford where he studied as a Rhodes Scholar. Before joining UTS as Deputy Vice-Chancellor (Research) in 2009, he spent seven years in senior roles at CSIRO in the areas of science investment and strategy and in business development, and four years at McKinsey and Co.

Professor Brungs takes up his appointment in January 2022 following the return to the UK of the current Vice-Chancellor, Professor Ian Jacobs, who earlier this year announced his decision to step down after seven years in the role.

To read further, please consult the articles in the [UNSW website](#), the [Sydney Morning Herald](#), and the [Australian Financial Review](#).



Queen's Birthday Honours 2021

The Society is pleased to note the awards listed in the 2021 Queen's Birthday Honours List to Society Fellows: a Companion of the Order to Australia (AC) to Emeritus Professor Kurt Lambeck AC DistFRSN FRS FAA, Members of the Order of Australia (AM) to Professor Gilles Guillemain AM OM (*Fr, Chevalier*) FRSN and Mr John Hardie AM FRSN, and a Medal of the Order of Australia to Adjunct Professor Medy Hassan OAM FRSN.



Professor Lambeck, of the Australian National University, and a Fellow of the Royal Society and a Distinguished Fellow of the Royal Society of NSW, received his honour for eminent service to science, particularly to geophysics and geodesy, through research roles at the national and international level, to professional scientific organisations, and to education. Professor Guillemain, of Macquarie University, received his honour in recognition of significant service to science education, to Motor Neurone Disease research, and to sport, while Mr Hardie, who is President of the Royal Societies of Australia and a former President of the Royal Society of NSW, was honoured for significant service to science education, and to professional societies. Adjunct Professor Hassan received his award for service to the building and construction industry.

Society Fellow awarded a 2020–21 Fulbright Scholarship

The Royal Society of NSW is delighted to learn that one of its Fellows, Professor Hala Zreiqat AM FRSN FAA FTSE FAHMS, has been awarded a 2020–21 Fulbright Senior Scholarship.

Professor Zreiqat is a professor of biomedical engineering at The University of Sydney and Director of the Australian Research Centre for Innovative BioEngineering. Hala is a trailblazer in the field of biomaterials and tissue engineering. Her team invented new bioceramics implants with outstanding strength and biological properties and developed innovative technologies for 3D-printing these ceramics, enabling personalised approaches to the repair and regeneration of large bone defects under load.



As a Fulbright Scholar, Professor Zreiqat will spend time at the Massachusetts Institute of Technology in the laboratory of Professor Robert Langer, a globally recognised pioneer, leader, and entrepreneur in the biomedical sciences. She will learn strategies for commercialising and translating medical research into life-changing products. Learnings will inform the commercialisation of regenerative medicine research in Australia.

The Council of the Royal Society of NSW extends its warmest congratulations to Professor Zreiqat on this award and recognition of her outstanding scientific achievements.

List of proposed events for 2021

Kindly note that this is a provisional list and will be subject to change. Updates will be reflected in future issues of the Bulletin and on [our website](#).

Date	Event
Wednesday, 7 July 6:30 PM AEST	1295 th Ordinary General Meeting and Open Lecture Society as an information-processing system, and the influence of the media Dr Erik Aslaksen FRSN
Thursday, 15 July 6:30 PM AEST	(Southern Highlands Branch) Neutron scattering and the WOMBAT project Dr Helen Maynard-Casely
Thursday, 22 July 6:30 PM AEST	Ideas@theHouse: 'Music as a Superfood: How music can help us live longer, sleep better, calm down, find flow, and feel happier' Greta J. Bradman
Wednesday, 4 August 6:30 PM AEST	1296 th Ordinary General Meeting and Open Lecture Towards a Modern History of Gondwanaland Professor Alison Bashford FRSN FAHA FBA FRHistS, UNSW
Tuesday, 24 August 5:00–7:00 PM AEST	RSNSW Clarke Lecture 2021: 'From bulldozers, pests, and pathogens to climate change and urban futures: the tough life of plants' Prof Michelle Leishman, Macquarie University
Wednesday 25 August	(Hunter Branch) Lecture — Royal Commission for Ageing and the care and welfare of the elderly Prof Kathy Eagar, University of Wollongong
Wednesday, 1 September 6:30 PM AEST	1297 th Ordinary General Meeting and Open Lecture Taking humour and laughter seriously: Exploring the multi-disciplinary field of humour studies Dr Jessica Milner Davis FRSN
Wednesday, 29 September	(Hunter Branch) Lecture — exact topic t.b.a. Nathan Towney, University of Newcastle

(continued overleaf)

List of proposed events for 2021 (continued)

Date	Event
Wednesday, 6 October 6:30 PM AEDT	1298 th Ordinary General Meeting and Open Lecture <i>Privacy and identity in an AI world</i> Scientia Professor Toby Walsh FRSN FAA FACM FAAAS
Thursday, 4 November 9:00 AM–4:30 PM AEDT	Royal Society of NSW and Learned Academies Annual Forum <i>Power and Peril of the Digital Age</i> Venue: Government House, Sydney, Live Streaming and subsequent availability on YouTube
Wednesday 10 November 6:30 PM AEDT	1299 th Ordinary General Meeting and Open Lecture Topic: To be announced Speakers: To be confirmed
Wednesday 1 December 6:30 PM AEDT	1300 th Ordinary General Meeting and Open Lecture <i>Managing Psychological Distress in Times of Stress: Handling the Stress of COVID-19 and All That</i> Scientia Professor Richard Bryant AC FASSA FAA FAHMS — James Cook Medal Winner 2020

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.



Current Council and Office-Bearers

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	Dr Susan Pond AM FRSN FTSE FAHMS
Vice-President	Ms Judith Wheeldon AM FRSN
Past President	Emeritus Professor Ian Sloan AO FRSN FAA
Secretary	Mr Bruce Ramage MRSN
Treasurer	Mr John Cameron MRSN
Librarian	Mr John Hardie AM FRSN
Webmaster	Emeritus Professor Lindsay Botten FRSN
Councillors	Professor Katherine Belov AO FRSN Ms Pamela Griffith FRSN Dr Donald Hector AM FRSN Dr Davina Jackson FRSN The Hon. Virginia Judge FRSN Professor Eric Knight FRSN Emeritus Professor Robert Marks FRSN Emerita Professor Christina Slade FRSN
Hunter Branch Representative	Professor George Willis FRSN FAA
Southern Highlands Branch Representative	Mr Mike Jonas MRSN

Editor: [Jason Antony](#)

