



# The Bulletin 432

The Royal Society of New South Wales

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## For Your Diary:

20 June 2019

Southern Highlands Branch Lecture  
**Professor Kenneth Baldwin**  
'Australia's Climate Change and  
Energy Future'  
(For more information, see p. 4)

20 June 2019

**RSNSW & SMSA**

***Women and Science***

Lecture 3: 'Climate Change and  
Our Life Support System'  
**Dist. Prof. Lesley Hughes FRSN**  
(For more information and how to  
register, see p. 5)



**Patron of The Royal Society of NSW**  
Her Excellency The Honourable Margaret  
Beazley AO QC  
Governor of New South Wales

## 1273rd OGM & Open Lecture

# 'This Talk May Cause Side Effects: Nocebo Effects in Medicine'

**Wednesday, 5th June 2019**

**Dr Kate Faasse**

Senior Lecturer and ARC Discovery Early Career  
Research Fellow  
School of Psychology, UNSW



*See page 3 for more information*

**Date:** Wednesday 5<sup>th</sup> June 2019

**Time:** 6:00 pm for 6:30 pm

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

**Dress:** Business

**Entry:** \$15 for Members, Fellows and Associate Members of the  
Society, \$5 for full-time Students, \$25 for Non-Members  
(including a welcome drink)

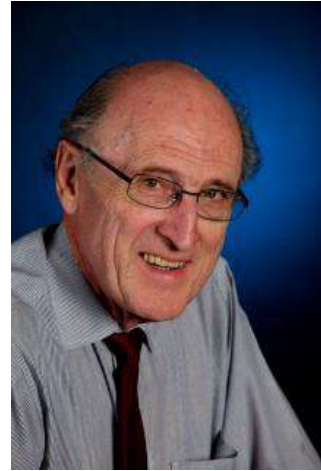
**Dinner (including drinks):** \$85 for Members and Associate Members,  
\$95 for Non-Members, \$70 for students.

**Reservations:** <https://nsw-royalsoc.currinda.com/register/event/59>

**Enquiries:** [royalsoc@royalsoc.org.au](mailto:royalsoc@royalsoc.org.au) Phone: 9431 8691

**All are welcome.**

# From the President



A few days ago I might have thought myself to be a player in a mathematician's dream. There I was, seated in the Library of the Royal Society of London (the first of the Royal Societies), staring at the original Charter Book of the Royal Society, a large leather-bound volume containing the signatures of all its Fellows, starting with the florid signature of its Founder King Charles the Second on a vellum page of his own, to the perhaps more important (but surprisingly insignificant) signature of Isaac Newton, to the signatures of famous people with links to Australia such as James Cook, and thousands more. Then I had the manuscript first volume of Newton's *Principia Mathematica* in front of me, of course in Latin – and in those days manuscript really did mean by hand, though apparently mostly in the hand of Isaac's assistant, rather than his own. Then Robert Hooke's collected works (Hooke of Hooke's law) in spidery hand-written English, then the first edition of Darwin's *The Origin of Species*, and more. And on to other treasures, including an imposing portrait of 'our' Joseph Banks, who was President of the Royal Society for 22 years after his Southern Hemisphere adventures.

Later this year a lucky few of our Members, Fellows and friends will have a similar pleasure, as part of the amazing History of Science Tour. Led by our Robert Clancy FRSN, it will take in not only London and its Royal Society, but also the scientific treasures of Padua, Florence, Paris, Cambridge and other European centres. The only bad news is that the Science Tour is now sold out. But we may hope to organise something similar in the future. Let me know if this would be a good idea.

And as always, please let me know if you have any other suggestions for ways in which the Royal Society can better serve its community.

Ian H. Sloan AO FAA FRSN  
President  
Royal Society of New South Wales  
[President@royalsoc.org.au](mailto:President@royalsoc.org.au)

## Dr Kate Faasse

Senior Lecturer and ARC Discovery Early Career Research Fellow  
School of Psychology, UNSW

### ‘This Talk May Cause Side Effects: Nocebo Effects in Medicine’



Almost everyone has experienced unpleasant side effects from a medical treatment. But what if I were to tell you that most of these side effects aren't caused by the treatment itself, but by a powerful psychobiological phenomenon called the nocebo effect? The nocebo effect is sometimes seen as the 'dark side' of the better-known placebo effect where healing or health improvements are triggered by the treatment context rather than any therapeutic effects of the treatment itself. In contrast, nocebo effects are the unpleasant or adverse outcomes that can be triggered by the treatment context, including information about possible side effects, seeing or reading about someone else experiencing unpleasant side effects, and generic versus brand name labelling of the medication. This talk will use a case study to illustrate the potential impact of nocebo effects in daily life, and discuss recent evidence on the development of nocebo effects, the different treatment context factors that can increase the experience of nocebo effects, the implications of nocebo effects for patients and public health, and it will also present evidence on strategies that might help to reduce nocebo effects.

**Kate Faasse** is an ARC DECRA Fellow and Senior Lecturer in Health Psychology in the School of Psychology at the University of New South Wales. Originally from New Zealand, Kate completed her Bachelors, Masters, and PhD training in Psychology at the University of Auckland, specializing in Health Psychology. She moved to Sydney to take up a Lecturer position in the School of Psychology at UNSW in 2016. During this time Kate has produced over 35 publications and has received over \$1million in competitive funding from sources such as the ARC (Australia), and the Auckland Medical Research Foundation (New Zealand). Highlighting the importance of her research into the nocebo effect, Kate's work was also supported by the Pharmaceutical Management Agency of New Zealand (PHARMAC), and her research has informed healthcare policy in New Zealand. Kate's research in Health Psychology focuses on aspects of medication use, including nocebo and placebo effects, treatment adherence, and perceptions of generic medicines.

# 2019 Events

## Royal Society – Southern Highlands Branch

Date*	Event	Speaker	Topic	Location**
20-Jun-19	Public Lecture	Prof Ken Baldwin	Australia's Climate Change and Energy Future	Mittagong RSL
18-Jul-19	Public Lecture	Dr Christian Heim & Dr Caroline Heim	Understanding the Mental Health Crisis and How Your Relationships can Save You	Mittagong RSL
15-Aug-19	Public Lecture	Prof Rick Shine	Sequencing the Cane Toad Genome (DNA)	Mittagong RSL
19-Sep-19	Public Lecture	Dr Rebecca Carey	Volcanology	Mittagong RSL
17-Oct-19	Public Lecture	Prof Toby Walsh	2062 - The World that Artificial Intelligence Made	Mittagong RSL
21-Nov-19	Public Lecture	Prof Geordie Williamson	t.b.a.	Mittagong RSL

\*Lectures are normally the third Thursday of each month.

\*\*1st Floor, Room Joadja/Nattai.

### Professor Kenneth Baldwin

Director, ANU Energy Change Institute

### 'Australia's Climate Change and Energy Future'



This presentation on Australia's Energy and Climate Future will outline Australia's energy resources and capabilities in the international context. It will examine current energy trends, focusing particularly on the electricity sector and on our future electricity generation mix, including the prospects for nuclear energy.

The imperatives for our eventual transition to a sustainable energy future in order to address climate change will be examined, and the implications for our future energy systems will be discussed.

Professor Ken Baldwin is Director of the Energy Change Institute at the ANU, and Deputy Director of the Research School of Physics and Engineering. Since 2011 he was a member of the Project Steering Committee for the Australian Energy Technology Assessment (AETA) produced by the former Bureau of Resources and Energy Economics (BREE). He is a Board member of the South East Region of Renewable Energy Excellence (SERREE, from 2014). In 2015 he was appointed to the Socio-Economic Modelling Advisory Committee of the South Australian Nuclear Fuel Cycle Royal Commission. Prof Baldwin chairs the Energy Cluster of the Australia-Indonesia Centre (from 2015). Professor Baldwin is an inaugural ANU Public Policy Fellow, and winner of the 2004 Australian Government Eureka Prize for Promoting Understanding of Science, for his role in initiating and championing 'Science meets Parliament'.



## Women and Science

### **Lecture 3: 'Climate Change and Our Life Support System'** **Distinguished Professor Lesley Hughes FRSN**



Our climate system is changing rapidly as a result of the burning of fossil fuels. In Australia, we are already experiencing severe drought, increased bushfire and flooding risk, coastal erosion and unprecedented heatwaves. The changing climate is affecting all sectors – our economy, food security, health, and communities. But it is our environmental life support system that is feeling the impacts most significantly, with climate change exacerbating many other factors that lead to species loss and habitat decline. This talk will summarise the latest global and national trends in the climate and identify the most important observed and future impacts, with an emphasis on biodiversity. It will also outline what we need to do to achieve a stable climate by the second half of this century, and how we need to change our approach to conservation, but also highlight the many exciting opportunities we have to ensure a viable future, both for the planet's species and our children.



**Lesley Hughes** is Distinguished Professor of Biology and Pro Vice-Chancellor (Research Integrity & Development) at Macquarie University. She has been researching the impacts of climate change on species and ecosystems for more than 20 years. She is a former Lead Author in the Intergovernmental Panel on Climate Change's 4<sup>th</sup> and 5<sup>th</sup> Assessment Report, a former federal Climate Commissioner and now a Councillor with the Climate Council of Australia.

**Date:** Thursday, 20 June 2019

**Time:** 6 pm (for registration and light refreshments), talk 6.30 to 7.30pm

**Cost:** \$15 members of RSNSW and SMSA, \$20 non-members and guests

**Location:** Sydney Mechanics' School of Arts, 280 Pitt St, Sydney (near Town Hall Station)

**Registration:** <https://smsa.org.au/events/event/dist-prof-lesley-hughes-climate-change-and-our-life-support-system/>

# 2019 Royal Society of New South Wales Annual Dinner

The Society's Annual Dinner was held on Friday 10<sup>th</sup> May 2019 at the Swissôtel, Sydney, with Guest of Honour the new Governor of New South Wales Her Excellency the Honourable Margaret Beazley AO QC. Professor Michelle Simmons FRS FAA FTSE DistFRSN, Australian of the Year 2018, delivered the Distinguished Fellow's Lecture on the topic of 'The New Field of Atomic Electronics'. The evening was highly successful, with many compliments received. In conjunction with the Annual Awards, it comprises one of the Society's signature events for the year.



Vice-President Judith Wheeldon AM FRSN presenting Professor Michelle Simmons with flowers after her address



Pre-dinner drinks



The Annual Dinner

# Annual Awards



Professors Robert F Park (left) and Elizabeth Elliot (right) with the President

**Professor Elizabeth Elliott AM FAHMS FRSN** received the 2018 **James Cook Medal**, which is awarded from time to time for outstanding contributions to both science and human welfare in and for the Southern Hemisphere. It is the Royal Society's senior medal. Elizabeth Elliott is Distinguished Professor of Paediatrics and Child Health, University of Sydney, and NHMRC Practitioner Fellow, Children's Hospital, Westmead. Her research has been at the forefront of advances in evidence-based paediatrics, rare diseases, gastroenterology, and foetal alcohol spectrum disorder. She is a practising pediatrician who has dedicated her career to improving the health and quality of life, and the human rights, of ill and disadvantaged children in Australia, the Asia-Pacific and beyond.

This year's winner of the 2018 **Poggendorf Lecture Award** was **Professor Robert F Park FRSN**. The Poggendorf Lecture is awarded every two to three years for research in plant biology and more broadly agriculture. Professor Park, at the University of Sydney's Plant Breeding Institute, is a world leader in understanding the genetic and molecular interactions of plants with fungal pathogens, most notably, cereal rust. His research has made significant contributions to international efforts to control these diseases at a commercial scale.

The 2018 **Edgeworth David Medal** was awarded to **Associate Professor Elizabeth J New FRSN**. The Edgeworth David Medal is awarded each year for distinguished research by a scientist under the age of 35 years, for work done mainly in Australia or for contributing to the advancement of Australian science. Professor New is an inorganic chemist who has contributed to our understanding of the body's internal environment. She has developed new fluorescent probes for sensing key cellular events, such as the metabolism of anticancer agents. She has already built a productive group of researchers in her laboratory at the University of Sydney. She has also developed ongoing collaborations with 40 other laboratories in Australia and around the world.



Associate Professor Elizabeth J New receives her medal from the Hon Margaret Beazley AO QC

... Continued on page 13



**Report of 16 May 2019**  
**Royal Society, Southern Highlands Branch**

**Damian Wrigley**  
**National Coordinator**  
**Australian Seedbank Partnership**

**‘Seed Banking and Plant Conservation  
throughout Australia’**

Damian Wrigley is the National Coordinator of the Australian Seed Bank Partnership (ASBP). He coordinates national and international ex-situ seed conservation, capacity building and research collaborations on behalf of the Partnership. He provides support to the Council of Heads of Australian Botanic Gardens (CHABG) to deliver better outcomes for plant conservation throughout Australia. Since 2017, Damian has been Australia’s National Focal Point for the Global Strategy for Plant Conservation, liaising with the international botanical and plant conservation communities to support and raise awareness of the importance of plant conservation. Previously the Knowledge Broker for the National Environmental Science program, Damian has over ten years’ experience in biodiversity conservation policy and environmental science with Commonwealth and state government agencies.

When Damian Wrigley arrived from Canberra to deliver this thought-provoking lecture, a 45-person audience was waiting to greet him at the Mittagong lecture venue. Many had travelled from pastoral areas such as Goulburn and surrounds to hear the latest research and management techniques of seed banking. The long-term storage of seeds is central to an integrated in situ and ex situ conservation strategy, providing a safety net for native plant diversity. Global strategies for Plant Conservation are now firmly in place. They acknowledge that without plants, there is no life. The functioning of the planet, and our survival, depends on plants. The Global Strategy seeks to halt the continuing loss of plant diversity.



Seed collection by a scientist

*... Continued on next page*



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A major global approach to seed banking lies in the huge seed banking project, Kew's Millennium Seed Bank Partnership (MSBP), to which Australia is making a major contribution. This facility provides the best possible conditions for seed storage in a vast vault built under the laboratories, seed preparation areas and a public exhibition centre. Scientists from Kew's MSBP are sharing their expertise with members of the ASBP in the six states and the Northern Territory on seed collection processes, conservation and research. The overall priority is to bank plant species considered rare or threatened to dramatically enhance the conservation of the Australian flora. Kew now has partnership agreements with each of the states and territories as well as with CHABG. These agreements outline the nature of the collaboration and make explicit use of the collections and associated data and the resulting sharing of benefits arising from the collaborations.



Seed of *Sclerolaena fontinalis*, Mound Spring Bindyi, a near threatened species  
(Source: South Australian Seed Conservation Centre)

Australia is one of only eighteen 'mega diverse' countries as identified by the United Nations, and therefore by definition contains a significant number of the earth's species. Its native biodiversity is of global significance, the total number of species comprising 15% of the world's total with a high proportion of these being endemic to the continent. Threats have come to this diversity from massive land clearance since European settlement, the arrival of invasive species, and increasingly, aggressive pests and pathogens. When these factors are considered along with a changing climate, it is hardly surprising that 23% of Australia's floral species are listed as under threat of extinction. Since the start of the collaboration between Kew's Millennium Seed Bank Project and the Australian Seed bank Partnership, Australia has contributed 11,500 seed collections representing over 8,700 taxa.

**Anne Wood FRSN**



## The Society Meets with the University of Newcastle

On 7 March 2019 the President, Professor Ian Sloan, and Vice-President, John Hardie, along with Professor Emerita Eugenie Lumbers and Professor Robert Whittaker and other Fellows and Members of the Society, attended a meeting of approximately 25 people at the Hunter Medical Research Institute Newcastle, to explore how the Society might be able to provide intellectual input to the broader Newcastle and Hunter region and to assist the University of Newcastle pursue its broader agenda of excellence in research and intellectual inquiry. We were fortunate in having the Chancellor, Vice-Chancellor and several Pro Vice-Chancellors of the University present at the meeting.

### Proceedings

The meeting was chaired by the Chancellor of the University of Newcastle, Mr Paul Jeans FRSN, who welcomed attendees to the meeting. He then called upon Laureate Professor John Aitken, Pro-Vice-Chancellor, Faculty of Health and Medicine, to provide background information on the University.

Mr John Hardie FRSN then provided information about the Royal Society of NSW, its aims and objectives, activities, awards, library and history. This was followed by the Society's President, Professor Ian Sloan AO FRSN who added to Mr Hardie's presentation. The Chair then opened the meeting for discussion. This was followed by a short reception and then dinner at the Newcastle Club.

### Outcomes

There was general consensus that a Royal Society of NSW presence in Newcastle would benefit the intellectual life of the city, as well as the University and the Society. The question of whether a Branch of the Society should be established in Newcastle was the subject of further exploration. It was proposed that approximately two meetings a year might be held in Newcastle with prominent speakers presenting on topics of interest to the University and the region. Several key individuals were suggested from the University who could progress the formation of a core group within the University to promote the Society and generate suitable ideas for activities in the city. Professor Aitken emerged as the contact person from the University and Mr Hardie for the Society. Information about activities in the Newcastle region will be published in the Bulletin and on the Society's website.

**John Hardie FRSN**

... Continued from page 7



Professor Emma Johnston receiving her award from the Governor

**Professor Emma Johnston AO FRSN** was awarded the 2018 **Clarke Medal for Zoology**. The Clarke Medal is awarded each year for distinguished research in the natural sciences conducted in Australia. Professor Johnston has made exceptional contributions to our understanding of ecology of marine animals, and especially of human activities as drivers of ecosystem dynamics. She and her research group at the UNSW have advanced our fundamental knowledge in ecology, and enabled significant improvements in the management of marine systems. She has been a Director of the Sydney Harbour Research Program and a Board Member of Great Barrier Reef Marine Park Authority.

**Professor Paul E Griffiths FAHA FRSN** received the 2018 **History and Philosophy of Science Medal**. This medal is awarded each year for outstanding achievement in the History and Philosophy of Science, especially the study of ideas, institutions, and individuals of significance to the practice of the natural sciences in Australia. Professor Griffiths has brought researchers in philosophy, biology, cognitive science, and biomedicine into genuine dialogue. He has challenged received ideas about health and disease, producing a novel model that accommodates recent discoveries such as the developmental origins of health and disease and the role of the microbiome. He heads the Charles Perkins Centre at Sydney University.



Professor Paul Griffiths receiving his medal from the Governor

### Contacts for Your Officer Bearers and Council Members

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# Schedule of RSNSW Events 2019

Date	Event	Speakers	Topics and Presentations	Location
5-Jun-19	Ordinary General Meeting	Dr Kate Faasse	This Talk May Cause Side Effects: Nocebo Effects in Medicine	State Library of NSW
20-Jun-19	Women and Science	Dist. Prof. Lesley Hughes FRSN	Climate Change and Our Life Support System	SMSA
3-Jul-19	Ordinary General Meeting	Prof Robert Burford FRSN	History of Polymers	State Library of NSW
18-Jul-19	Women and Science	tba	tba	SMSA
23-Jul-19	Dirac Lecture	Prof Lene Hau	tba	
7-Aug-19	Ordinary General Meeting	Prof Peter Shergold AC FRSN	Science and Politics	State Library of NSW
August	Poggendorf Lecture	Professor Robert F. Park FRSN	tba	
August	Science Week Talks	tba	tba	SMSA
4-Sep-19	Ordinary General Meeting	A/Prof Hans Pols	History and Sociology of Medicine in South-East Asia	State Library of NSW
19-Sep-19	Clarke Lecture	Prof Emma Johnston AO FAA FRSN	tba	
19-Sep-19	Women and Science	Em Prof Barbara Gillam FASSA FRSN	Visual Perception and Aboriginal art	SMSA
2-Oct-19	Ordinary General Meeting	Prof Peter Godfrey-Smith	Other Minds	State Library of NSW
17-Oct-19	Women and Science	Anne Harbers	Electricity, Astronomy and Natural History	SMSA
6-Nov-19	Ordinary General Meeting	Professor Herbert Huppert	tba	State Library of NSW
7-Nov-19	RSNSW & Four Learned Academies Forum	tba	Making Space for Australia	NSW Government House
21-Nov-19	Women and Science	Em Prof Anne Green	An Accidental Radio Astronomer	SMSA
4-Dec-19	Ordinary General Meeting	Jak Kelly Award Winner	2019 Jak Kelly Award Presentation & Christmas Party	State Library of NSW