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The Royal Society of New South Wales

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RSNSW Special Meeting
Newcastle
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21 March 2019
Southern Highlands Branch Lecture
Susannah Fullerton OAM FRSN
'Samuel Pepys: Diarist and President of the Royal Society'
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21 March 2019
RSNSW & SMSA
Women and Science
Lecture 1: Mary Shelley, Scientist, and Frankenstein
Suzanne Burdon
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Patron of The Royal Society of NSW
His Excellency General The Honourable David Hurley AC DSC (Ret'd)
Governor of New South Wales

Open Lecture & OGM

'Using Genomics to Conserve Australia's Biodiversity'

Wednesday, 6th March 2019

Professor Katherine Belov

School of Life and Environmental Sciences
University of Sydney

See page 3 for more information

Date: Wednesday 6th March 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.
Reservations: https://nsw-royalsoc.currinda.com/register/event/56
Enquiries: royalsoc@royalsoc.org.au Phone: 9431 8691
All are welcome.

From the President – A Crucial Role for Partners

The Royal Society of New South Wales might present a measured public front, but right now behind the scene there is a hive of activity. The first event in the 'Speaking of Music' series has just taken place, to great success. At the State Library our volunteers are busily sorting and cataloguing our holdings. Planning for November's Government House Forum in November (date yet to be settled) is now in full swing. (This year's theme will be "Making Space for Australia". The one-day event will explore all aspects – scientific, social, historical, legal – of Australia's involvement in space.)

I have been reflecting that all this activity is only possible because, in addition to dedicated work by our own Members and Fellows, we also have the benefit of some superb partners. The 'Speaking of Music' series is a joint event with the equally venerable (but equally alive) Sydney Mechanics' School of Arts). For the advancing state of our library holdings we are indebted to a superb partnership with the State Library of New South Wales and its staff. The November Forum is a joint venture with the Academies of Science, Technological Sciences and Engineering, Social Sciences and Humanities, all of which are involved in the planning process. Our principal Forum partners are the Office of the NSW Chief Scientist and Engineer, and Government House itself, where the Forum will be held.

As always, competition for places at the Forum will be intense because of the limited capacity of Government House, but this year for the first time we will (thanks to our partnership with the four academies) produce videos of the individual talks at the Forum, and make them available to all.

Speaking of Government House, all readers will be aware that we are soon to lose our Patron the Governor, His Excellency General the Honourable David Hurley AC DSC, who will soon take up the office of Governor-General of Australia. David Hurley has been an enthusiastic supporter of the Royal Society (as well as a dedicated beehive-keeper at Parliament House). One of my tasks in the coming months will be to try to build the same kind of relationship with the incoming Governor, the Honourable Margaret Beazley AO, remembering that our relationship with NSW Governors traces all the way back to our first President, Sir Thomas MakDougall Brisbane, who was fifth Governor of New South Wales.

Ian H. Sloan AO FAA FRSN
President
Royal Society of New South Wales
President@royalsoc.org.au

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Professor Katherine Belov

Professor of Comparative Genomics
School of Life and Environmental Sciences
University of Sydney

‘Using Genomics to Conserve Australia’s Biodiversity’

Professor Belov holding a Tasmanian devil

In recent years, innovations in genomic technologies and the drop in the cost of sequencing have made it feasible to apply conservation genomics techniques to the conservation of threatened species. Professor Belov will talk about how we have used genomics data to make informed management decisions for the protection of two iconic Australian marsupials, the Tasmanian devil and the koala. The Tasmanian devil, Australia’s largest remaining marsupial carnivore, faces extinction in the wild due to the emergence of the infectious disease, Devil Facial Tumour Disease (DFTD). Genomics data can also be of help in managing koala populations through greater understanding of disease, immunity and koala biology, including immunological protection in the pouch and eucalyptus detoxification.

Beyond the devil and koala, the Earth Biogenome project will be discussed, an ambitious project that aims to sequence the genomes of all eukaryotic life on earth and our role in sequencing the genomes of 50 of Australia’s most endangered species with the specific purpose of providing genetic management advice to conservation agencies.

Professor Kathy Belov is a Professor of Comparative Genomics in the School of Life and Environmental Sciences in the Faculty of Science at the University of Sydney. Kathy’s research expertise is in the area of comparative genomics and immunogenetics of Australian wildlife, including Tasmanian devils and koalas, two species threatened by disease processes. Kathy’s research team has participated in the koala, opossum, platypus and wallaby genome projects where they have gained insights into genes involved in immunity and defence, including platypus venom genes and novel antimicrobial peptides in the pouch. She is also the Pro-Vice Chancellor (Global Engagement) at the University of Sydney.

2019 Events
Royal Society – Southern Highlands Branch

Date*	Event	Speaker	Topic	Location**
21-Mar-19	Public Lecture	Susannah Fullerton OAM FRSN	Samuel Pepys: Diarist and President of the Royal Society	Mittagong RSL
11-Apr-19	Public Lecture	Prof Richard Kemp	Psychology of Eyewitness Memory	Mittagong RSL
16-May-19	Public Lecture	Dr Damian Wrigley	The Importance of a Seed Bank in Future Preservation of Plant Species	Mittagong RSL
20-Jun-19	Public Lecture	Prof Ken Baldwin	Nuclear Energy	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.

Susannah Fullerton OAM FRSN
'Samuel Pepys: Diarist and President of the Royal Society'

The diary of Samuel Pepys has long been considered the greatest diary in the English language. Historians have found it invaluable, but it is also a superb work of literature and the record of an extraordinary man. Founder of the modern English navy, President of the Royal Society, MP, author of naval books, talented musician, and lover, Samuel Pepys delighted in many aspects of Restoration London and recorded them all in his diary.

Susannah Fullerton's talk on Pepys tells of his experience of the Royal Society, the Plague and the Great Fire, his constant womanising, his theatre-going and his dinners. Susannah loves to share her enthusiasm for this most human and delightful of diarists.

Susannah Fullerton OAM FRSN has been passionate about literature for as long as she can remember. She did a BAat the University of Auckland, NZ and then completed a post-graduate degree in Victorian literature at the University of Edinburgh. She gives talks around Sydney on famous writers and their works. Susannah is the President of the Jane Austen Society of Australia, regularly speaks to Jane Austen groups and at conferences, and is author of several books about Jane Austen. She is Patron of the Kipling Society of Australia and she leads popular literary tours to the UK, USA and Europe for Australians Studying Abroad. She is also the author of the popular blog 'Notes from a Book Addict'.

Royal Society of New South Wales
Notice of Special Meeting

Mechanisms by which the Royal Society of NSW can collaborate with the University of Newcastle for the benefit of the Newcastle region. The meeting will be hosted by the University of Newcastle, at the Hunter Medical Research Institute (HMRI), and will be followed by an optional dinner at the Newcastle Club at 6.30 pm.

Date: Thursday 7 March 2019

Time: 4-6 pm

Venue: Hunter Medical Research Institute, Lot 1 Kookaburra Crescent, New Lambton Heights. Reception is located on the 4th floor. Parking will be available at or adjacent to HMRI.

Dinner: Newcastle Club, 40 Newcomen St, Newcastle. On-street parking is available adjacent to the Newcastle Club. If you are booking accommodation at the Club (see below) there is parking available on the Club's premises.

Cost: There is no cost for the meeting. Dinner at the Newcastle Club will cost $97, wine included. All bookings must be received by Friday, 1st March 2019 for catering purposes.

Accommodation: Available at the Newcastle Club. Rooms $175 - $195. All rooms have ensuite bathrooms. Please arrange your own accommodation directly with the Club (phone number 02 4929 1224) making sure that Reception knows you are attending a meeting of the RSNSW.

Enquiries: Email: royalsoc@royalsoc.org.au; or phone: 9431 8691

All Members, Fellows and Associate Members are welcome.

Royal Society of New South Wales & Sydney Mechanics' School of Arts

Women and Science

Lecture 1: Mary Shelley, Scientist, and Frankenstein

Suzanne Burdon

The new Women and Science lecture series, co-hosted by the Royal Society of NSW and the Sydney Mechanics' School of Arts, will examine the huge changes in the roles women play in science, and the view science has of women. Prohibited for much of history from having a serious interest in such a 'masculine' domain, women now abound in science, mathematics and engineering. How did that come to be? How did interaction with the visual and literary arts so often assist women in their scientific endeavours? What fascinating discoveries have women made that have changed our world and our understanding of it?

The first speaker in March will be Suzanne Burdon, who will discuss the remarkable achievements of Mary Shelley. As a feisty 18 year old, Mary Shelley read every important scientific treatise and created Frankenstein and his monster in a moral tale that still highlights the exact scientific ethical dilemmas we face today (for example, the cloning of real human babies).

Suzanne Burdon is author of *Almost Invincible*, a remarkable fictional account of the life of Mary Shelley, arguably one of the literary world's greatest enigmas.

Date: Tuesday 21 March 2019, 6pm for 6.30 to 7.30pm.
Light refreshments will be served.
Cost: $15 members of RSNSW and SMSA, $20 non-members and guests
Location: Tom Keneally Centre, Level 3, Sydney Mechanics School of Arts, 280 Pitt St, Sydney (near Town Hall Station)
Registration: https://smsa.org.au/2019/01/11/rsnsw-smsa-lectures-2019/

Australian Institute of Physics NSW Branch
Public Talk

Professor Heinrich Hora FRSN
University of New South Wales

'Initiative Against Climatic Change by Lasers Based on 2018 Physics Nobel Prize'

Date: Friday 8th March 2019
Time: Refreshments 5.30-6.00 pm; Lecture 6.00-7 pm; Dinner 7.30 pm at a nearby restaurant (email Dr Fred Osman (fosman@bu.edu) if you wish to join the dinner).
Venue: Boston University, Sydney Academic Centre, 15-25 Regent Street Chippendale

Fusion energy is ten million times higher than chemical energy from burning coal, but ignition needs dozens of millions of degrees of temperature. Instead of using these exorbitant thermal pressures for a power station, fusion can be ignited at moderate heating in power stations by lasers, however only by pulses of extremely short duration and ultrahigh power. This has just been reached by the amplification of the findings for which the 2018 Physics Nobel Prize was awarded. The non-thermal pressure by the laser can dominate. The thermally very weak fusion of boron can be a billion times higher than classical, as shown by experiments. This extreme increase is explained by the mentioned domination and a specific avalanche of the boron reaction. This leads to the design of a possible power generator for environmentally clean, safe, low cost and abundant electric energy.

Dr Heinrich Hora FRSN is Professor of Theoretical Physics at the University of New South Wales as well as having 20 years experience in research in industry laboratories (Zeiss, IBM, Westinghouse, Siemens) and also the Max-Planck-Institute of Plasma Physics in Garching-Munich and CERN. He is author of 12 books and editor of 15 books and founder and first Editor-in-Chief of the Journal 'Laser and Particle Beams' at Cambridge University Press. His research is in the field of plasma theory and laser, and he is interested in non-thermal ultrahigh acceleration of plasma blocks by lasers for environmentally clean, low cost and lasting boron fusion energy.

Report of the 1270th OGM
RSNSW Scholarship Awards

Wednesday 6th February 2019

Fiona McDougall, one of our scholarship winners, presenting at the OGM

Each year the Society awards scholarships recognising the outstanding achievements of individuals working towards a research degree in a science-related field. The first meeting for 2019 opened with a demonstration of the impressive capabilities of two of the state's younger scientists. Before receiving their medal and certificates, each gave a talk on their research and findings to date.

Fiona McDougall, Department of Biological Sciences at Macquarie University presented **'Human-Associated Bacteria and Antibiotic Resistance in Grey-Headed Flying Foxes'**. Antibiotic resistance is a public health concern as antibiotic-resistant bacteria are widespread. To better understand the transfer between humans, domestic animals and wildlife, Fiona McDougall's research looks into the spread of antibiotic resistant bacteria to flying foxes. The spread of resistance occurs by mobile genetic elements. Therefore her study looks at Class 1 integrons as they are central players in the worldwide problem of antibiotic resistance because they can capture and express diverse resistance genes, enabling horizontal transfer of resistance genes and capturing of new genes.

Grey-headed flying foxes form large colonies (1,000-100,000+) and are close to urban areas. A high number of flying foxes are admitted to wildlife rehabilitation centres. Subsequently, they are exposed to anthropogenic sources of antibiotic resistance and veterinary treatment with antibiotics. In her research Fiona McDougall collected faecal samples of wild flying fox populations in South Australia and New South Wales and captive populations in NSW and Queensland. The DNA is extracted from faecal samples and screened for Class 1 integrons. Then it is sequenced for resistance genes.

Her study identified 10 different types of resistance genes. Most of the resistance genes are also detected in humans and livestock. In addition, a rare resistance gene (aacA34) was found, previously detected in Thailand and Korea, but not recorded in Australia. Its introduction might be due to people travelling or by migrating birds or exotic animals, and therefore suggests that acquisition of resistance genes can occur from the environment within flying foxes.

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Fiona McDougall's study also looked into *Escherichia coli* (*E. coli*) in flying foxes to understand multidrug resistance, using faecal samples of different flying foxes, including orphans from the rehabilitation centres. Whole genome sequencing was used to identify antibiotic resistance genes, virulence factors and phylotype/stereotype/strain type. Results show that for flying foxes in the wild the number of resistant *E. coli* (~2%) was low whereas orphans in rehabilitation centres had over 45%. As thousands of flying foxes enter rehabilitation centres each year it will be important that antibiotic resistance is considered in management practices of captive flying foxes intended for release. Fiona McDougall thanked the RSNSW for her award and answered a few questions before Vice-President Brynn Hibbert gave her a medal and certificates.

Evelyn Todd, School of Life and Environmental Sciences at the University of Sydney presented on '**Using Genetics to Improve Athletic Performance in Thoroughbred Horses'**. She started by explaining the concepts of inbreeding – mating of genetically related individuals – and selective breeding, for getting desirable traits. For a thoroughbred horse, desirable characteristics are high muscle-mass, long stride, large lung-capacity, a big heart and a good nature. In 1700, stallions from the Middle East were imported for mating with English mares and subsequently the 'Studbook' was developed for horse racing. All thoroughbreds trace back to 3 foundation stallions, but there are over 300 years of selective breeding for racing performance. Australia has the second largest thoroughbred population in the world: approximately 15,000 thoroughbred horses are born each year.

Evelyn Todd receiving her certificates and medal from Vice-President Brynn Hibbert

For her study, Evelyn Todd used racing performance data between the years 2000-2010 (sample size 135,572) and data on inbreeding levels from their pedigree (25 generations of pedigree, sample size 257,249) and showed the audience in graphs the effect of inbreeding and selection over time. She also pointed out that racing has changed: in the 18th century horse races were ~12km with multiple heats in one day, whereas nowadays races are 1-3 km with a race every 3 weeks. However, horses now start racing at 2 years old, whereas in the 18th century racing started at 5 years. Although thoroughbreds are descended from a small number of ancestors, only some ancestors have a large genetic influence on their modern descendants. Thoroughbred breeding in Australia makes an important contribution to the Australian economy and attracts large amounts of foreign investment. Commercial stallions produce a large number of offspring and shuttle between the northern and southern hemisphere. Reproductive technologies are prohibited; mares produce one foal a year. Genetic diversity in the population is encouraged to avoid unexpected negative effects. Evelyn Todd thanked the RSNSW for her award before answering a few questions informing us that maternal lines are not much followed, and that white thoroughbreds are rare.

Report of 21 February 2019
Royal Society Southern Highlands Branch

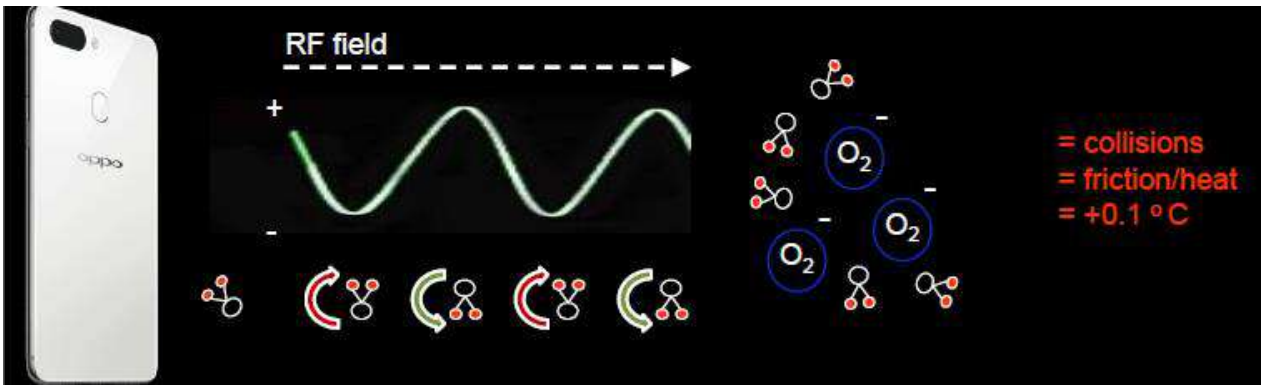
Professor Rodney Croft
University of Wollongong

'The Effect of Non-Ionising Electromagnetic Radiation on Our Health'

The electromagnetic spectrum includes emissions with wavelengths ranging from the long wavelength radiowaves with low energy to the very short wavelength X-rays and gamma rays of high energy. Ionising radiation has enough energy to detach electrons from atoms and molecules. Non-ionising radiation with its lower energy levels does not have this effect.

Non-ionising electromagnetic radiation fields are generated both naturally and by man-made technologies such as mains power transmission, FM radio, TV broadcasts, and mobile phones and their associated base stations. Related to this, there has been substantial concern within the community regarding the possibility that exposure to such fields may be hazardous to health. Indeed in 2011, the International Association for Research into Cancer (IARC) classified exposure due to fields from both mains power transmission and mobile phone handsets as '2b' or 'Possibly carcinogenic to humans'. In this lecture, Dr Croft focused his wide research findings primarily on radiofrequency fields emitted by mobile phones and base stations.

Research in the radiofrequency field (RF) has been extensive. Community alarm has been based on many factors. It is clear that mobile phones produce the highest levels of RF, compared with base stations and Wi-Fi etc., which produce 1000s of times less. Also of concern to the public was the fact that RF from mobile phones is absorbed almost exclusively by the head, and that much of the RF research was being focused on cancers of the head.



Mechanism of RF interaction with the body: 0.1 deg is not thought to be harmful, given normal thermal variations

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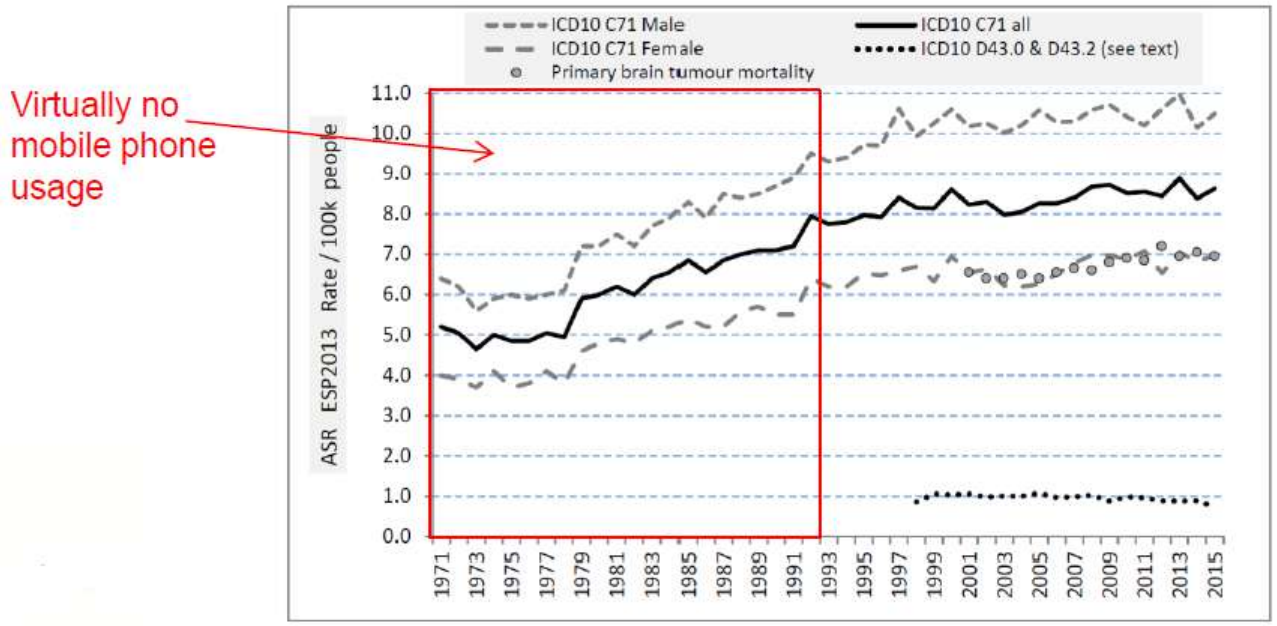
Professor Croft examined the meaning of the IARC 2b classification which declared that an association (i.e., not causation) has been observed in humans, but that it may be due to other factors (e.g., methodological). It stated that there has not been sufficient evidence of causation in animals. Croft indicated that association data was a useful first step, but it did not address the issue of causation.

An attempt by the Hardell group in 2006 looked at case-control studies in Sweden. They found increased glioma in high analogue, digital and cordless phone users and found also cases of very aggressive malignant brain cancer. However these results could not be replicated in other case-control studies. There appeared to be no statistical and verifiable association between RF use and the development of cancer.



Increase in glioblastoma occurred before the dramatic rise in mobile phone use

As for the causation evidence linking RF exposure in humans and cancer, Croft presented numerous examples from the vast number of cross-disciplinary experiments conducted to date around the world. He concluded that even if we were very lenient with statistical adjustments, there would be no suggestion of increased cancer rates being the result of exposure to RF radiation.

Professor Croft closed this fascinating address to his 65 person audience with the overall evidence that has been produced since the IARC 2b classification in 2011. He stated that there is now even more evidence that there is no association between mobile phones and cancer, and even more evidence that RF does not cause cancer.

Anne Wood FRSN

‘Society Needs Science as Never Before’

Rory McGuire

There is nothing new about Australia’s current debate over the relationship between science and society, except that the debate has never stopped getting more urgent.

One hundred years ago, for example, in the heat of the Great War, the President of the Royal Society of NSW identified the ‘enemy’, Germany, as setting the standard Australia should follow in adapting the advances of science to the uses of society. The President Sir John Cleland was concerned by the widening gap between scientific advances and public understanding of these advances, and especially of the lack of scientific knowledge of the people who run our country – our parliamentarians. He was particularly agitated by a weights and measures bill that had been debated without any suggestion of adopting the metric system. ‘No provision was made in this [Bill] for the use of the metric system as a legal alternative,’ he said. ‘The necessity for such inclusion was not even hinted at until the Bill was launched. Yet the importance of the metric system in international commerce and in science, and the clear indication that its adoption throughout the British Empire in merely a matter of a few years should have been recognised, especially by those members conversant with business requirements.’

Sir John was ahead of his time but his prescience was itself a measure of the advantages of scientific knowledge. Since then, scientific knowledge has exploded, to the point where public, and parliamentary, understanding of scientific issues and their implications for society, has fallen seriously behind.

Sir John Cleland

But Sir John had a solution, timely then and more timely now:

> *There seems one way in which candid and unfiltered scientific advice could be rendered to members of Parliament. This could be by the appointment of one or two Royal Commissioners of Science to each Parliament. The Commissioners should have, by act of Parliament, the right to be heard [in] the House on any matter in which scientific knowledge plays a part. In other words they should be to all intents and purposes members of Parliament, but would not be able to express any political views or to vote.*

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> *Their duties would consist in ascertaining from authoritative sources, and in assessing the scientific aspects, from all sides, of any question submitted, or should be submitted, to Parliament, and of expressing these views to members.*

So, what about doing it now? Maybe change their names to Science Ambassadors or Delegates, give them a few assistants and office space inside parliament, encourage them to mix with politicians and their advisers, establish lines of trust and communication, get feedback on what politicians want, and drop into the parliamentary pigeon-holes daily short, chatty news items on scientific developments relevant to parliamentary or national affairs, with follow-up references. The science would be broad-based, covering everything from mining to medicine, from artificial intelligence to philosophical examinations of the ideal society.

Would, for example, parliament have agreed to a $50 billion fleet of submarines if members had been more aware of the progress in undersea detection systems? If members had known that satellites can detect surface disturbances from the movement of submarines as clearly as looking at goldfish in a bowl? Would our parliaments be suffering paralysis over the two greatest issues facing the world today – climate change and the transition to renewable energy – if our leaders were better informed about the science behind these issues? Where will these technologies be in ten, or thirty, years?

The various ‘science meets parliament’ days are only a step in the right direction. Our nation’s dependence on the STEM subjects (science, technology, engineering and maths) is increasing every day yet our decision-makers, through no fault of their own, are too often inadequately informed about the issues. The step has to become a march. Science does not depend on society: society depends on science and there is no escape from this. The laws of physics are not negotiable.

Although much information can be found on the Internet, a searcher has to know what to look for. Providing this knowledge would be a major role of the Science Delegate. The aim would be to get politicians thinking proactively about science, not reactively, to make them at least comfortable enough with science to be able to ask the right questions.

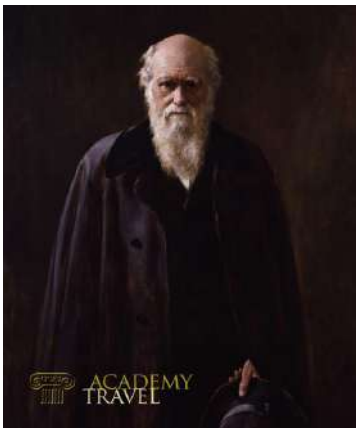
On 29 November 2018 the Royal Society of NSW held a forum, ‘Towards a prosperous yet sustainable Australia: what now for the lucky country?’, which examined, among other things, whether a truly sustainable society was possible. The forum called upon wisdom of all kinds, including sociological and economic, but above all scientific and evidence-based. It is imperative for us and our parliaments to understand that Australia needs more of this kind of inquiry.

Rory McGuire is a member of the Royal Society of NSW. These views are not necessarily those of the Society.

The History of Science:
Padua – Florence – Paris – London

A tour for the Royal Society of NSW in conjunction with the State Library of NSW Foundation

19 September – 4 October 2019



Overview

Explore the history of science from Vesalius in Padua, to Galileo in Florence and the flourishing of modern science in Paris and London. This 16-day private tour for the Royal Society of NSW in conjunction with The State Library of NSW Foundation includes guided visits to many exceptional museums, rare access to collections, libraries and archival material, and the expert guidance of specialists and curators. It follows the great story of modern science, taking you from Padua, to Florence, Paris and London and includes day trips to Bologna, Siena and Cambridge. A four-night pre-tour extension to Venice is also available.

Discover

- The birth of modern science, from Galileo's telescopes to Darwin's theory of evolution
- The history of medicine: Vesalius in Padua, Pasteur in Paris and the medical collections of London
- The transmission of knowledge, from rare books and manuscripts to the modern museum
- The history of the university at Padua, Bologna, Paris and Cambridge
- Interaction between the arts and sciences in moments of great change from the Renaissance to the modern world.

Tour Details

Dates: 19 September – 4 October 2019
Price: $9,270 pp. twin share; $2,280 single supplement
For more information and to register your interest contact: Academy Travel, **9235 0023** **info@academytravel.com.au**.

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The History of Science (contin.)

Tour Highlights

- Padua: the world's first anatomy theatre, the oldest botanic garden and Giotto's Scrovegni Chapel
- Special access to library collections in Florence, Paris and London
- Private tour of the Pompidou Centre, Paris' modern art museum
- Day trips to Siena, Bologna, Cambridge and Greenwich
- Specialist museums dedicated to Pasteur, Curie, Galileo & Darwin
- London science: from the manuscripts of the Wellcome Library to the National Science Museum.

Itinerary

Days 1–3: Arrive Padua; visit the world's oldest anatomy theatre and oldest botanic garden, visit Scrovegni Chapel, Giotto's masterpiece; day trip to Bologna.
Days 4–6: Explore Florence, including the Galileo Museum, Uffizi, and special access to rare collections; day trip to Siena and the wonderful cuisine of Chianti.
Days 7–10: Discover a different side of Paris, from special museums dedicated to Pasteur and Curie to a private tour of the Pompidou Centre.
Days 11–15: Arrive London. Enjoy visits to Down House, the home of Charles Darwin, the National Observatory and prime meridian at Greenwich, and a range of museums from the Museum of Natural History, to the private collection of the Royal College of Physicians; day trip to Cambridge.
Day 16: Departure.

Tour Leader

Emeritus Prof Robert Clancy AM FRSN has a distinguished career in medical research and has published books on the early mapping of Australia. He has led many similar successful expeditions. Expert guides will meet the group in each destination.

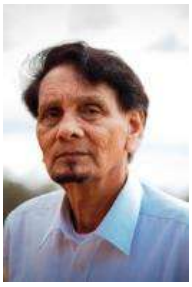
Maximum Group Size: 20

Schedule of RSNSW Events 2019

Date	Event	Speakers	Topics and Presentations	Location
6-Mar-19	Ordinary General Meeting	Prof Katherine Belov FRSN	Genomics	State Library of NSW
7-Mar-19	Special Meeting		Proposed collaboration between RSNSW and the University of Newcastle	HMRI, Newcastle
8-Mar-19	Public Lecture	Prof Heinrich Hora FRSN	Initiative Against Climatic Change by Lasers Based on 2018 Physics Nobel Prize	Boston Uni, Chippendale
21-Mar-19	Women and Science	Suzanne Burdon	Mary Shelley, Scientist, and Frankenstein	SMSA
3-Apr-19	AGM & Ordinary General Meeting	Em Prof Brynn Hibbert AM FRSN	Address by the Ex-President	State Library of NSW
10-May-19	Annual Dinner RSNSW	Prof Michelle Simmons FRS FAA DistFRSN FTSE	Distinguished Fellow's Address	State Library of NSW
tba	Clarke Lecture	Prof Emma Johnston AO FRSN	tba	
5-Jun-19	Ordinary General Meeting	Dr Kate Faasse	Psychology	State Library of NSW
3-Jul-19	Ordinary General Meeting	Prof Robert Burford FRSN	History of Polymers	State Library of NSW
7-Aug-19	Ordinary General Meeting	Prof Peter Shergold AC FRSN	Science and Politics	State Library of NSW
August	Poggendorf Lecture	tba	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
2-Oct-19	Ordinary General Meeting	Prof Peter Godfrey-Smith	Other Minds	State Library of NSW
6-Nov-19	Ordinary General Meeting	Prof Barbara Gillam FASSA FRSN	Visual Perception and Aboriginal Art	State Library of NSW
November	Dirac Lecture	tba	Physics	
November	RSNSW & Four Learned Academies Forum	tba	Making Space for Australia	NSW Government House
4-Dec-19	Ordinary General Meeting	Jak Kelly Award Winner	2019 Jak Kelly Award Presentation & Christmas Party	State Library of NSW

The Library of the Royal Society of New South Wales

Why not Donate Your Published Books?



President Ian Sloan recently made a gift of a book to the Society's Library (*Contemporary Computational Mathematics – A Celebration of the 80th Birthday of Ian Sloan*, Springer.). The book written by his mathematical colleagues (J. Dick, F.Y. Kuo and H. Wozniakowski) consists of a series of articles which discuss his achievements in a highly productive career. Arising from this generous gift and the need for the Society's Library to grow in the coming years, the Honorary Librarian encourages Members and Fellows to donate a copy, or copies, of their publications to the Society's Library.

We are also very interested in an unpublished memoir about your life and scientific work. It will be a very valuable piece for the history of our Society, its Members and Fellows.

Please post your book to the Society's office (The Royal Society of NSW, PO Box 576, Crows Nest NSW 1585) or give it to the Society's staff at an OGM. Please inform the Librarian about your gift for record purposes.

Dr Ragbir Bhathal FRSN
Hon Librarian
Email: R.Bhathal@westernsydney.edu.au

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Editor: Dr Laurel Evelyn Dyson
Contact: Ms Rachel Greenwood, Phone: +61 2 9431 8691 Fax: +61 2 9431 8677 Email: royalsoc@royalsoc.org.au
Mailing Address: The Royal Society of NSW, PO Box 576, Crows Nest NSW 1585, Australia

For further information: http://www.royalsoc.org.au/