



## Message from the Chief Executive— November 2018

November 28, 2018

As the federal election draws closer, the Academy has called for a coherent and visionary plan for science to be developed. I encourage you to read **Earning Our Future: the platform of the Australian Academy of Science**<sup>1</sup>, and the accompanying election statement, released on 23 November.

We know science will deliver the solutions to many of the challenges facing Australia and the world and will be critical to our economy and the creation of jobs. **Earning Our Future** offers a range of recommendations designed to lay the foundations of a strong and sustainable science system in Australia and was developed with three key objectives in mind:

- to make clear the mutual obligations of scientists and government
- to build the essential science capacity and capability Australia needs to thrive
- to keep at the front of our minds the impact and benefit of science to the community.

It is deliberate that this document does not state a position on specific policy issues. The Academy's position on a multitude of issues—including climate change, artificial intelligence, gene drives, health and medical research etc—can be found in other Academy publications, media releases and position statements **on our website**<sup>2</sup>.

### Meningococcal awareness raising

A recent spike in meningococcal disease has triggered a new Academy video campaign, developed in partnership with the Department of Health, to educate consumers and medical professionals about the disease. **Don't miss the important information**<sup>3</sup> that the video has to offer.

### PRIA award

And finally, the Academy is proud to have been awarded the Public Relations Institute of Australia's Golden Target Award for **Not-for-Profit In-House Team of the Year**<sup>4</sup>. The national and global impacts of our social media videos and articles are growing, and this award recognises the contributions of Fellows, staff and many others in developing and sharing with a worldwide audience science content that is engaging and accurate.

I hope you enjoy reading the November newsletter.

**Anna-Maria**

## Earning Our Future— Science priorities for the federal election

November 23, 2018

The Australian Academy of Science today outlined science priorities for the 2019 federal election so Australia can earn its future.

To thrive in an increasingly uncertain world, the future economy and workforce will be underpinned by science of the highest quality and intensity.

1 <https://www.science.org.au/news-and-events/news-and-media-releases/earning-our-future-science-priorities-federal-election-news>

2 <http://www.science.org.au/>

3 <https://www.science.org.au/news-and-events/news-and-media-releases/meningococcal-disease-spike-prompts-vaccination-call>

4 <https://www.science.org.au/news-and-events/news-and-media-releases/academy-wins-national-award-science-communication>

## Earning Our Future: the platform of the Australian Academy of Science:<sup>5</sup>

- recommends that the mutual obligations of scientists and government be made clear
- provides measures to build national capacity
- keeps community benefit at the heart of all we do.

Academy President Professor John Shine said as the countdown begins to the federal election, Australians deserve a coherent and visionary plan for science.

“Australia has a choice: determine our future and develop the science plan to drive it or be swept along trailing the decisions of other nations,” Professor Shine said.

The Academy’s election statement includes 10 recommendations that provide a clear vision for science in Australia.

1. **A charter between scientists and government**—to establish a relationship built on trust, respect, and mutual obligation.
2. **A formal structure for science advice**—to provide independent science information to politicians, government and the Commonwealth Science Council. Australia would benefit from formal structures that produce independent, timely and relevant science advice to government and to the parliament.

3. **Boosted commitment to STEM education**—all Australian schools, teachers and students should have access to the Academy’s proven **science and maths education programs**<sup>6</sup>.

4. **Increase gross national R&D spending to three per cent of GDP over a decade**—with longer and more ambitious research grants and greater security for early- and mid-career researchers. Australia cannot afford to let careers for researchers drift.

5. **State-of-the-art science infrastructure**—acknowledging the government’s existing research infrastructure commitments, a further investment of \$1.85 billion is required through a long-term mechanism such as an Australian National Research Infrastructure Investment Fund.

6. **A new international engagement strategy**—that allows Australia to meet its agreed Sustainable

Development Goal obligations, and that strategically positions Australia and its STEM capabilities.

7. **A stronger commitment to equity in science**—Australia needs access to all its available talent regardless of who or where they are, and we must ensure everyone takes action through the **Women in STEM Decadal Plan**<sup>7</sup>.

8. **Pursue national research priorities**—with a focus on Australia’s strategic advantages and where no other country could or would address our nation’s research challenges.

9. **Develop a best practice framework for responsible research and innovation**—to ensure research is in step with community expectations.

10. **Review how effectively research is being supported**—only then can we know that maximum benefits are being returned.



Watch ‘Science priorities for the federal election’ Curious video: <https://youtu.be/-5RaCKvIPUs>

<sup>5</sup> <https://www.science.org.au/supporting-science/science-policy-and-analysis/position-statements/earning-our-future-platform>

<sup>6</sup> <https://www.science.org.au/education/academy-education>

<sup>7</sup> <https://www.science.org.au/support/analysis/decadal-plans-science/decadal-plan-women-stem>

## Meningococcal disease spike prompts vaccination call

November 13, 2018

The Australian Academy of Science is urging parents to vaccinate their children against all strains of meningococcal disease, after a recent spike in cases in Adelaide and the death of a seven-year-old boy in south-west Sydney.

The call by the Academy comes as it releases a new video campaign, developed in partnership with the Australian Department of Health, to educate consumers and medical professionals about the disease.

Spring is a peak time for the disease with babies and children up to the age of five years and teenagers and young adults aged from 15 to 24 years among those at most risk of contracting the disease. People with suppressed immune systems, smokers and those living in crowded accommodation are also at greater risk.

Professor Robert Booy, from the National Centre for Immunisation Research, University of Sydney, who features in the campaign, said there are five common strains of meningococcal disease in Australia—A, B, C, W and Y—with an increase in cases over the last few years.

“We had a surge in W (strain) leading to nearly 150 cases last year and a surge in Y (strain) leading to 75 cases last year,” Professor Booy said.

Professor Allen Cheng from Melbourne’s Alfred Hospital, who also features in the campaign, said there are very few bacteria that can kill someone in hours, but this is one of them.

The videos also feature the stories of meningococcal disease survivors including Ms Eliza Ault-Connell, who became an amputee after contracting meningococcal disease when she was 16.

“When you consider my case—I was in an intensive care unit for 110 days and had over 60 operations—the financial burden of the diseases is so great. When we look at the cost of a vaccination, it’s safe and effective; I can only see prevention as being better than cure,” said Ms Ault-Connell, who is also the Director of Meningococcal Australia.

The videos have been rigorously fact-checked by Academy Fellows and feature some of Australia’s leading experts in the field, including Professor Jodie McVernon from the Doherty Institute.

**Watch the video for consumers<sup>8</sup>**

**Watch the video for health professionals<sup>9</sup>**

Find out more via the **Department of Health.**<sup>10</sup>

**Watch the six-part video series of the Science of Immunisation.**<sup>11</sup>



*Lily O'Connell nearly lost her life to meningococcal disease. She also received a kidney transplant from her sister.*

## Academy responds to Minister Tehan’s regional higher education funding announcement

November 12, 2018

Regional and remote students are underrepresented in higher education—particularly Aboriginal and Torres Strait Islander people. The Academy welcomes the Australian Government acting to improve access and equity through new scholarships and support for regional universities.

However, the Academy is very concerned at the Minister’s comments on radio this morning that he intends to fund these new measures by reallocating research support funding for universities.

University research plays a critical role in developing the knowledge and skills that benefit all Australians. Australia cannot afford to let our intellectual edge slip as we prepare for the challenges and opportunities of the coming decade.

8 <https://youtu.be/-BGYUVBwpxk>

9 <https://youtu.be/6cx8zlZHoRk>

10 <https://health.gov.au/immunisation>

11 <https://www.science.org.au/learning/immunisation-and-climate-change/science-immunisation>

## Academy wins national award for science communication

October 31, 2018

The Australian Academy of Science has won the Public Relations Institute of Australia's (PRIA) Golden Target Award for Not-for-Profit In-House Team of the Year.

The Academy's entry, titled "Science entry Credible Clickbait: Outshouting fake news & supplying factual, entertaining science" was among a number of award winners announced at the PRIA's annual awards dinner in Sydney on 30 October.

The award comes after the Academy celebrated reaching one million likes on its Facebook page earlier this month, from a starting point of 9,000 one year earlier.

Academy Chief Executive, Anna-Maria Arabia, said the award not only recognises the achievements of the Academy's Communications and Outreach team, but also the public's appetite for trusted and credible scientific information.

This is backed up by the University of Canberra's Digital News Report: Australia 2018, which found 65% of Australians are concerned about what's real and what isn't when it comes to online news.

"The Academy is uniquely positioned to draw on the expertise and excellence of its Fellowship, comprising Australia's most distinguished scientists, to inform the scientific information we distribute on social media.



Academy Chief Executive, Anna-Maria Arabia, with team representatives Dan Wheelahan (left) and Paul Richards.

This means the Academy's content is a source of accurate, trustworthy and credible science designed to engage audiences far and wide" Ms Arabia said.

"The Academy's impact is global and is one of a select group of organisations to be verified as a trusted education account on China's social media platform, Weibo. Its Chinese language content has been viewed nearly 13 million times."

According to the PRIA, the Golden Target Awards are 'the PR and Communication industry's longest running and most prestigious awards, celebrating the accomplishments of PR and Communication Professionals nationwide'.

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## Academy hosts conference to examine the latest science on the impacts of feral horses

November 09, 2018

A national conference was held at the Academy's Shine Dome in November to present and

discuss the latest research and observations of the impacts of feral horses on the Australian Alps.

The Kosciusko Science Conference, involving 145 scientists and other stakeholders, followed an **open letter**<sup>1</sup> from Fellows of the Academy and other researchers published in June. The letter made the point that the Kosciuszko Wild Horse Heritage Act 2018 passed by the NSW Government effectively gave priority to the feral horse over many native species and ecosystems, some of which are found nowhere else on Earth.

The peer-reviewed research presented at the conference covered water catchments and water, alpine and sub-alpine native animals, and threatened native flora in Kosciuszko National Park, the Victorian Alpine National Park and Namadgi National Park.

Pioneering alpine ecologist and Academy Fellow, Dr Alec Costin AM, aged 93, was due to open the conference but was unable to attend due to ill health.

According to Dr Dick Williams from Charles Darwin University, who presented research at the conference, Dr Costin took on the on the alpine grazing industry in the Kosciuszko area in the 1950s and 1960s and with the help of the Australian Academy of Science, won.

In his preface in the conference booklet, Dr Costin asked: 'Why legislate through the Kosciuszko Wild Horse Heritage Act 2018 in favour of the feral

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1 <https://www.science.org.au/files/userfiles/support/documents/letter-aas-jb-re-kosciuszko-wild-horse-heritage-bill-2018.pdf>

horse, undoing 75 years of catchment-healing investments by multiple governments?' **Read Dr Costin's speech<sup>2</sup>**, delivered at the conference Associate Professor Graeme Worboys.

The conference also saw 90 scientists sign a **Kosciuszko Science Accord<sup>3</sup>** that called on the NSW Government to acknowledge the damage being done to Kosciuszko National Park by feral horses, to repeal the Kosciuszko Wild Horse Heritage Act 2018 and cooperate with Victoria and the ACT to help remove feral horses from alpine and subalpine protected areas, among other things. **Read Associate Professor Worboys' speech introducing the Accord.<sup>4</sup>**

Read the **Kosciuszko Science Conference booklet<sup>5</sup>**, including abstracts of peer-reviewed research presented at the conference.

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## Geography: Shaping Australia's Future

November 22, 2018

Australia should enhance and capitalise on its existing skills and expertise in geographic information systems (GIS) and big data to address the social, economic and environmental challenges of our region and the emergence of the 'China Century'.

The recommendation is one of several in a strategic plan for Australian Geography launched



*Media interest in the conference topic was intense. Conference spokesperson was Dr Jamie Pittock from the College of Medicine, Biology and Environment at the Australian National University.*



*A strategic plan for Australian Geography was launched by the Australian Academy of Science's National Committee for Geographical Sciences.*

today by the Australian Academy of Science's National Committee for Geographical Sciences.

Chair of the Committee, Adjunct Professor Stephen Turton from CQ University, said Australian geography focuses on solving issues and threats affecting the wellbeing of people and places in Australia and our Asia-Pacific neighbours.

"The plan explains the contribution that geography makes to the social, economic and environmental wellbeing of Australia through research, education, training, skills,

expertise and engagement with industry and the community," Adjunct Professor Turton said.

"It also offers a research, teaching and industry engagement framework strategically aligned with contemporary challenges of our region. Indeed, addressing sustainable development, climate change, regional development, environmental degradation and biodiversity loss, requires an increasingly whole of government, industry and academia approach.

"The breadth and depth afforded by geographical understandings to such problems places Australian

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2 [http://twitter.com/Science\\_Academy/status/1060293924990767105](http://twitter.com/Science_Academy/status/1060293924990767105)

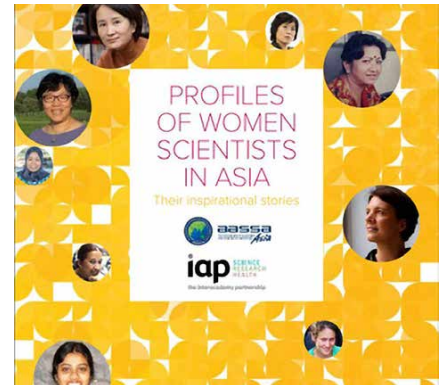
3 <http://www.science.org.au/files/userfiles/support/documents/kosciuszko-science-accord-8nov2018.pdf>

4 <https://www.science.org.au/files/userfiles/support/documents/accord-speech-worboys.pdf>

5 <http://www.science.org.au/files/userfiles/support/documents/kosciuszko-conference-abstracts-8nov18.pdf>



Participants in the development of the booklet celebrating women scientists in Asia included Professor Cheryl Praeger (centre).



geographers in a strong position to provide evidence-based research informing and advancing innovative policy and practice.

“We invite policy-makers, senior managers in universities and research organisations, fellow academic and practicing geographers and interested members of the public to review the rich material covered in this strategic plan.

### Read the plan<sup>6</sup>

The National Committee for Geographical Sciences acknowledges the support of the following organisations in the development of this plan: The Institute of Australian Geographers, Australian Geography Teachers Association, Royal Geographical Society of South Australia, Royal Geographical Society of Queensland and the New South Wales Geographical Society.

## Academy maintains key science role in Asia

November 28, 2018

Australia will maintain a key role in the Asian region with Academy Fellow, Professor Cheryl Praeger, elected for a second three-year term to the Executive Board of the **Association of Academies and Societies of Sciences in Asia**<sup>7</sup> (AASSA).

Professor Praeger also accepted an invitation from AASSA President, Professor Yoo Hang Kim, to continue as chair of the AASSA Special Committee for Women in Science and Engineering.

During its General Assembly in October, AASSA celebrated the launch of **Profiles of women scientists in Asia: their inspirational stories**<sup>8</sup>, a publication that was led by Professor Praeger and the Special Committee for Women in Science and Engineering. The compilation celebrates the dedication, passion and resilience of women in science from 27 countries throughout the region, including Academy Fellow Professor Michelle Simmons and Dr Mahshid

Firouzi from Australia. It highlights how important it is to encourage and support women in science we know, to uphold female scientists around the world, and to celebrate women scientists’ dedication and passion for using science to make the world a better place.

The Academy is Australia’s member organisation for AASSA, joining 29 other countries in the region. AASSA aims to achieve a society in Asia, Australia and New Zealand in which science and technology play a major role in the region’s development.

## Researchers represent Australia at Falling Walls Lab in Berlin

November 28, 2018

Two young researchers recently represented Australia at the international Falling Walls Lab in Berlin. Ms Samantha Wade from the University of Wollongong and Ms Hayley Teasdale from the University of Canberra earned the opportunity to compete in Berlin at the Australian Falling Walls Lab event in September.

<sup>6</sup> <https://www.science.org.au/supporting-science/science-policy-and-sector-analysis/reports-and-publications/geography-shaping>

<sup>7</sup> <http://aassa.asia/>

<sup>8</sup> <https://www.science.org.au/files/userfiles/support/documents/pwsa-booklet.pdf>



At Falling Walls in Berlin were (from left) Academy Fellow Professor Andrew Holmes, Australian representatives Ms Samantha Wade and Ms Hayley Teasdale, and Mr Nikolaus Turner, Managing Director and Member of the Executive Board of the Foundation Lindau Nobel Laureate Meetings. Photo: Hans Bachor



The consultation event in Sydney for the Women in STEM Decadal Plan was one of many to be delivered across Australia.

The Falling Walls Lab is an international forum for the next generation of outstanding innovators and creative thinkers. It aims to promote exceptional ideas and to connect promising scientists and entrepreneurs from all fields on a global level. One hundred finalists get the opportunity to present their research work, business model, or initiative to peers, a high-calibre jury made up of experts from academia and business, and the general public—but only have three minutes in which to do it. The Lab forms part of an annual international event that includes a conference and opportunities for collaboration.

Ms Wade said Falling Walls was nothing like she had imagined.

‘The research that the other contestants presented was amazing, with solutions to problems I had never even thought about before.

‘Getting to know some of these people before the event made the actual day of the talk less scary, as you knew half the people in the room were feeling the same nerves as you, and encouragement between contestants was high.

‘Overall, for someone who has had very little experience in these kinds of competitions, it was one of the best things I’ve done in my research career and I can’t recommend it highly enough.’

Ms Wade was also surprised by the site visit that the Academy organised with Bayer. She was expecting a quick tour, and instead they saw the full extent of what Bayer does—from R&D and collaborations with independent researchers to the factory floor.

Academy Fellows who attended the broader Falling Walls event included Professor Veena Sahajwalla and Professor Terry Hughes who spoke at the conference, and Professor Rachel Webster, Professor Hans Bachor and Professor Brian Schmidt.

## Development of Women in STEM Decadal Plan supported by extensive public feedback

*November 28, 2018*

The Academy recently held national public consultations involving more than 400 people, and received written submissions from 46 organisations, in the development stage of the Women in STEM Decadal Plan.

In addition, a high school teacher facilitated a survey that provided insightful responses from 117 girls in years 7 to 12.

The feedback is informing a 10-year roadmap for sustained increases in engagement and participation of girls and women in STEM. The roadmap is being developed by the Academy in partnership with the Australian Academy of Technology and Engineering on behalf of the Federal Government.

A draft framework for the plan has been developed and sent to the project’s Expert Working Group for comment.

The Academy is meeting with stakeholder groups over the coming months to ensure the plan is useful, relevant and realistic. There will also be a survey of those in regional, rural and remote Australia.

The aim is to launch the decadal plan in March next year, in conjunction with the launch of the Women in STEM Online project.

## Theo Murphy Initiative delivers opportunities for early- and mid-career researchers

November 28, 2018

Through the **Theo Murphy Initiative (Australia)**<sup>9</sup>, the Academy supports activities that will give the next generation of leaders in STEM the right tools to drive scientific discovery in Australia. For the first time, the program in 2018–19 is working with ideas from EMCRs to co-design activities that will provide big benefits to them. In the past month we have run the first three of these activities:

As part of the **Cutaneous Biology 2018**<sup>10</sup> Meeting at the University of Queensland Research Station in Stradbroke Island, the Theo Murphy Initiative supported an EMCR program designed to further the careers of the EMCRs attending the conference, and sponsored travel grants to facilitate the attendance of a diversity of EMCRs.

The **Mentoring and Guidance in Careers (MAGIC) workshop**<sup>11</sup> at University House, Australian National University welcomed a group of female and gender diverse researchers in mathematics and physics and provided valuable insights, skills and learnings needed to build successful careers in those fields.

An industry–researcher engagement event was held as part of the **International Conference for**

**Young Researchers on Advanced Materials (ICYRAM) 2018**<sup>12</sup> in Adelaide. The event brought together the future leaders in the field of advanced materials and industry representatives and allowed them to build meaningful connections to spark future innovations. The Theo Murphy Initiative also sponsored mobility grants to support the attendance of 17 EMCRs from across Australia at the conference.

There are **more activities**<sup>13</sup> coming for EMCRs, including the **Collaboration Across Boundaries 2018 Conference**<sup>14</sup> on 4 December in Canberra, and a Frontiers of Science conference on redefining healthy ageing on 8–9 April in Adelaide.

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## Awards and grants support excellence in science

November 28, 2018

### 2019 Selby Fellowship awarded

Prominent international scientist Professor Herbert Huppert FRS, Professor of Theoretical Geophysics at the University of Cambridge, has been awarded the Academy's **2019 Selby Fellowship**. The Fellowship fosters the international exchange of scientific ideas and supports lectures for the general public.

Professor Huppert's research covers a wide range of areas including geology, geophysics, mathematics, crystal growth, fluid mechanics, oceanography, and meteorology.

The Fellowship will see Professor Huppert presenting lectures in Adelaide, Brisbane, Canberra, Melbourne, Perth and Sydney in the first quarter of 2019.

### Young researchers win support from Academy

The Academy has announced the recipients of the J G Russell Award to help talented younger researchers in the basic sciences.

Each researcher receives \$6000 towards the costs of equipment, maintenance and travel as a top up to their Australian Research Council Discovery Early Career Researcher Awards, supported by the generosity of the late Miss J Russell.

Ms Lara Malins, from The Australian National University, is developing a new synthetic approach to valuable amino acid derivatives and their rapid incorporation into peptide analogues, including promising new antibiotic candidates.

Dr Tara Clark, from the University of Queensland, aims to determine the timing and associated drivers behind dramatic changes in coral communities on reef flat environments since European settlement.

At the University of Sydney, Dr Jussi Lehtonen won his award to reconcile and unify alternative methods in social evolution theory.

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9 <https://www.science.org.au/node/8542>

10 <https://www.science.org.au/node/9169>

11 <https://www.science.org.au/node/9500>

12 <https://www.science.org.au/node/8841>

13 <https://www.science.org.au/node/8627>

14 <https://www.science.org.au/node/10357>





JG Russell Award recipients (from left): Ms Lara Malins, Dr Tara Clark, Dr Jussi Lehtonen and Dr Nengkun Yu

Dr Nengkun Yu, from the University of Technology Sydney, is developing fundamental technology for analysing the big data that arises from quantum physics.

**More on the JG Russell Award including full details of the awardees<sup>15</sup>**

**Academy funding for research projects and conferences**

The Academy has awarded more than \$213,000 to a number of high-quality **research projects<sup>16</sup>** and **conferences<sup>17</sup>**, generously supported by donations to the Academy. In 2019 these will, among other things, fund cutting-edge Australian marine, soil and plant biology research and help the survival of some of Australia's endangered species. There is also support for specialist conferences on subjects such as managing wild and weedy Australia across boundaries and disciplines.

**The Thomas Davies Research Grant for Marine, Soil and Plant Biology<sup>18</sup>** fund offers annual science grants of up to \$25,000 to early-and mid-career researchers in the field of marine, soil and plant biology. The 2019 awardees are:

- Dr Joel Daniel Haywood, University of Western Australia: Structure-based investigations into plant growth pathway proteins.
- Dr Sambasivam Periyannan, Australian National University: Protecting Australia's Eucalypt landscape from myrtle rust invasion by rapid identification of natural resistance.
- Dr Adriana Vergés, University of New South Wales Sydney: What are the food web implications of temperate reefs becoming increasingly dominated by tropical species?
- Associate Professor Tracy Ainsworth, University of New South Wales Sydney: The impact of a changing climate to New South Wales coral populations.
- Dr Staffan Persson, University of Melbourne: Monitoring fungal root wilt disease on canola in real-time.
- Associate Professor Heloise Gibb, La Trobe University: Can we restore soil microbial communities by reintroducing digging mammals?

- Dr Cindy Gunawan, University of Technology Sydney: Does the commercialised use of antimicrobial silver nanoparticles facilitate co-selection and spread of antibiotic resistance genes in marine microbiota? A metagenome study.

**The Margaret Middleton Fund for endangered Australian native vertebrate animals<sup>19</sup>** offers annual science grants of up to \$15,000 each to support field-based, high-quality ecological research of postgraduate students and early career researchers. The objective of the grant is to provide financial support for conservation-based research of Australian ecosystems that ultimately will lead to tangible outcomes for management.

- The 2019 awardees are:
- Ms Rebecca Jane Webb, James Cook University: A novel conservation tool for controlling chytridiomycosis in Australian amphibians.
  - Dr Teigan Cremona, Charles Darwin University: Can predator enclosures support recovery of small mammal populations in Kakadu National Park?

15 <https://www.science.org.au/node/110>  
 16 <https://www.science.org.au/node/113>  
 17 <https://www.science.org.au/node/116>  
 18 <https://www.science.org.au/node/109>  
 19 <https://www.science.org.au/node/111>



- Ms Heather Neilly, Australian Landscape Trust: Malleefowl as ecosystem engineers and drivers of restoration.

### **Boden Research Conference**

**Award**<sup>20</sup>—up to \$10,000 of funding is offered for specialist conferences in the biological sciences to enable active research workers in rapidly advancing fields to discuss current advances and problems. The 2019–20 conference will be on Evolutionary transformations in vertebrate history.

### **Elizabeth and Frederick White**

**Research Conference Award**<sup>21</sup>—up to \$10,000 of funding is offered for research conferences in the physical and mathematical sciences related to the solid Earth, the terrestrial oceans, Earth's atmosphere, solar-terrestrial science, space sciences and astronomy. The 2019–20 conference will be on Linking galaxies from the epoch of initial star formation to today.

### **Fenner conferences on the**

**environment**<sup>22</sup>—up to \$10,000 of funding is offered for conferences that bring together those with

relevant scientific, administrative and policy expertise to consider current environmental and conservation problems in Australia, thereby contributing to the formation of policies that can alleviate some of these problems. The 2019–20 conference will be on Managing wild and weedy Australia across boundaries and disciplines.

### **Academy launches website to promote the Shine Dome as a venue**

**November 28, 2018**

Most of us know how fascinating and unique the Academy's Shine Dome is, but have you ever considered it as a venue to hold an event?

The Academy has launched a new website to help people based in Australia or internationally to explore what the venue has to offer.

There is a variety of spaces for small to large groups—the grand Ian Wark Theatre is the centrepiece, with the other rooms, most with large windows, located on the building's outer curve.

There are many catering options, with the flexibility to develop a special or themed menu.

The Shine Dome and its custom-designed furniture were created to reflect the inquiring and innovative nature of science. It was the first Canberra building to be added to the **National Heritage List**<sup>23</sup>, for its historical and architectural significance.

**Find out more about the Shine Dome as a venue for events**<sup>24</sup>

**Read the conference kit**<sup>25</sup>

Follow the Shine Dome on **Twitter**<sup>26</sup>, **Instagram**<sup>27</sup> and **Facebook**<sup>28</sup>.

### **Did you know?**

In 2000 the dome was completely restored. These major works were supported by a generous donation of \$1 million from Academy Fellow Professor John Shine, and a grant of \$525,000 from the National Council for the Centenary of Federation. In recognition of Professor Shine's donation, the building was renamed the Shine Dome.

20 <https://www.science.org.au/node/117>

21 <https://www.science.org.au/node/118>

22 <https://www.science.org.au/node/119>

23 [http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place\\_detail&place\\_id=019835](http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail&place_id=019835)

24 <https://www.shinedome.com.au/>

25 <https://www.shinedome.com.au/sites/default/files/files/shine-dome-conference-events-kit-nov2018.pdf>

26 <https://twitter.com/ShineDome>

27 <https://www.instagram.com/theshinedome/>

28 <https://www.facebook.com/pages/The-Shine-Dome/826755844152849>

## Coming events— November-December 2018

November 28, 2018

### Melbourne

*The Science of Sport: Women  
on and off the field*

*Date: 5.30–7.15 pm, 28 November*

*Venue: AAMI Park, Melbourne*

Hear from three women who bring mind, body and data together to understand the science of sport!

This event is free, but **booking is essential**.<sup>29</sup>

### Canberra

*When Life Ends*

*Date: 5.30–7 pm, 11 December*

*Venue: The Shine Dome,  
Gordon St, Acton*

Throughout 2018, the Science of Us series has investigated the science of our lives and our health, from the moment of conception through to death, focusing on some of the issues we face during our lives and what science is doing to resolve them.

This event will bring the series to an end, and we will delve into palliative care and organ donation. Join us as we hear from Professor Ken Hillman and Associate Professor Frank van Haren.

**Bookings recommended**<sup>30</sup>

*The Anatomy of Artificial Intelligence*

*Date: 5.30–7 pm, 13 December*

*Venue: The Shine Dome,  
Gordon St, Acton*

Join Professor Kate Crawford from New York University as she traces the planetary resources required when you ask Amazon Echo to play your favourite song. From material resources, to human labour, to training data, Professor Crawford opens up the black boxes behind artificial intelligence networks.

**Bookings recommended**<sup>31</sup>  
(free event)

## Opportunities for scientists— November 2018

November 28, 2018

### Academy opportunities

*Regional Collaborations Programme*

*Applications close on  
30 November 2018*

Applications are now open for eligible Australian research organisations and businesses who wish to apply for funding for projects and/or workshops through Round 2 of the Regional Collaborations Programme. Funding of up to \$1.38 million is available for collaborative, multi-partner projects and up to a total of \$250,000 is available for non-project aligned, multi-partner workshops.

**More information on the Regional  
Collaboration Programme**<sup>32</sup>

### External opportunities

*Science Policy Fellowship Program*

*Applications close early  
January 2019*

The Australian Science Policy Fellowship Pilot Program gives scientists a pathway into policy making by providing an opportunity to work in an Australian Government department for one year. It strengthens the diversity of expertise in the Australian Public Service workforce by providing a pathway for scientists to become skilled policy practitioners. The program is targeted at early- and mid-career researchers with up to 15 years post-PhD experience.

**More information about the  
government's Science Policy  
Fellowship Program**<sup>33</sup>

*Dan David Foundation Award*

*Applications close 30  
November 2018*

Three prizes of one million US dollars each are granted annually in the fields chosen for the three-time dimensions – past, present and future. The prizes are granted to individuals or institutions with proven, exceptional, distinct excellence in the sciences, arts, humanities, public service, and business, that have made and continue to make an outstanding contribution to humanity on the basis of merit, without discrimination of gender, race, religion, nationality, or political affiliation.

**More information on the  
Dan David Award**<sup>34</sup>

*Gruber Prizes*

29 <https://www.science.org.au/news-and-events/events/science-sport-women-and-field>

30 <https://www.science.org.au/news-and-events/events/public-speaker-series/science-us/when-life-ends>

31 <https://www.science.org.au/news-and-events/events/public-speaker-series/science-us/when-life-ends>

32 <https://www.science.org.au/node/4324>

33 <http://careers.pageuppeople.com/771/cw/en/job/501297/science-policy-fellowship>

34 <http://www.dandavidprize.org/prize/prize-nominations>

*Applications close 15  
December 2018*

Honours individuals in the fields of cosmology, genetics and neuroscience, whose ground-breaking work provides new models that inspire and enable fundamental shifts in knowledge and culture - US \$500 000 for each category.

**More information on the Gruber Prizes**<sup>35</sup>

**See more external awards and prizes**<sup>36</sup>

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**Fellows update—  
November 2018**

**November 28, 2018**

**Honours and award to Fellows**

**Professor Terry Hughes**

**FAA**—John Maddox Prize for tireless and courageous efforts in communicating research evidence on coral reef bleaching to the public and for tackling the misrepresentation of coral reef science

**Professor C. Jagadish AC**

**FAA FTSE**—UNESCO medal for contributions to the development of nanoscience and nanotechnologies

**Professor C. Jagadish AC**

**FAA FTSE**—elected a Foreign Fellow of the Indian National Academy of Engineering

**Professor Justin Gooding FAA**

**FTSE**—elected a new Fellow of Australian Academy of Technology and Engineering

**Dr Anna Koltunow FAA**

**FTSE**—elected a new Fellow of Australian Academy of Technology and Engineering

**Professor Warrick Couch FAA**—

elected an Honorary Fellow of the Royal Society of New Zealand

*NSW Premier's Prizes for  
Science and Engineering*

**Professor Richard Harvey AM**

**FAA FRS**—NSW Premier's Prize for Excellence in Medical Biological Sciences (Cell and molecular, medical, veterinary and genetics)

**Professor Alex McBratney**

**FAA**—NSW Premier's Prize for Excellence in Biological Sciences (ecological, environmental, agricultural and organismal)

**Professor Dietmar Müller**

**FAA**—NSW Premier's Prize for Excellence in Mathematics, Earth Sciences, Chemistry or Physics

**Professor Branka Vucetic**

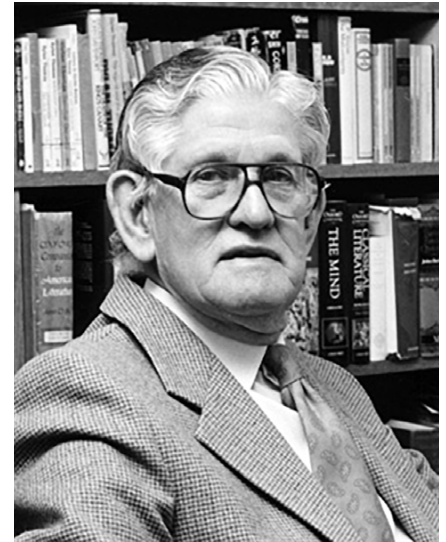
**FAA FTSE**—NSW Premier's Prize for Excellence in Engineering or Information and Communications Technology

**Obituaries**

*Professor Ross Day FAA*

*20 March 1927 to 22 October 2018*

Professor Ross Day was an experimental psychologist, specialising in human and infrahuman perception and sensory processes. He was elected to the Academy in 1990. It was through his efforts that experimental psychology was recognised as one of the biological sciences.



*Professor Ross Day FAA*

After completing his PhD at the University of Bristol, in 1955 Professor Day was appointed Lecturer at the University of Sydney. In 1965 he accepted the Foundation Chair of the Department of Psychology at Monash University, where he worked until 1992. During this time, he established a strong experimental psychology department and wrote his book, 'Human Perception'. After retiring from Monash, Professor Day was appointed Adjunct Professor in Psychology at La Trobe University where he continued to conduct experiments into perceptual illusions. He received an Honorary Doctorate of the University and an Honorary Doctorate of Science from La Trobe. He was also a Foundation Fellow of the Australian Psychological Society and was elected to Fellowship of the Academy of Social Sciences in Australia.

Professor Day was actively involved in the Australian Academy of Science. He chaired the Editorial Board of 'Historical Records of

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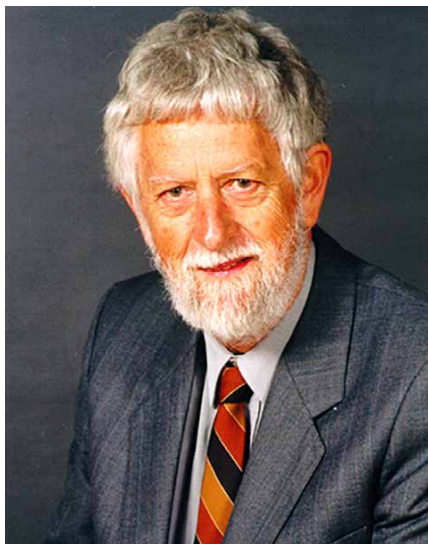
35 <https://gruber.yale.edu/prize-nominations>

36 <https://www.science.org.au/node/361>

Australian Science' and served on several Academy and national committees. The transcript of an interview conducted by Professor Max Coltheart is available on the **Academy's website**<sup>37</sup>.

*Professor Ian McDougall FAA  
24 May 1935 to 10 November 2018*

Professor Ian McDougall first came to the ANU in 1957 as a PhD student in the then Department of Geophysics, headed by Professor John Jaeger FAA. It was with Professor Jaeger's encouragement that Ian undertook a CSIRO postdoctoral fellowship at the University of California, Berkeley, to become familiar with the techniques and applications of the potassium-argon dating method (K-Ar). In 1961, Professor McDougall returned to the ANU where he was appointed Research Fellow in the Department of Geophysics, Fellow in 1964, Senior Fellow in 1968 and Professor in 1991 in the Research School of Earth Sciences.



*Professor Ian McDougall FAA*

Professor McDougall was elected to the Academy in 1988 for his pioneering work on the application of K-Ar dating to young basalts and its use for determining the geomagnetic reversal time-scale and the relative motion of the Pacific oceanic plate to the underlying mantle. He was also distinguished for the full realisation, in terrestrial rocks, of Ar-Ar step-heating analysis to identify Ar inheritance and loss in minerals and to relate this to specific geological processes. He solved an important controversy over hominid evolution by providing a comprehensive and precise time frame for the important fossil beds around Lake Turkana in northern Kenya and conducted noble gas geochemical studies on mantle-derived samples to provide insights into the composition and evolution of Earth's atmosphere, crust, mantle and core.

Professor McDougall was actively involved in the Academy for many years, serving on numerous committees and on the Academy's Council and as Treasurer from 2001 to 2005.

Following his 'retirement' (in 2000), as an honorary fellow and Emeritus Professor of Earth Sciences at the ANU Professor McDougall used new geological dating technology to date two skulls from Ethiopia as the world's oldest human fossils, by dating the rock layers above and below where the fossils were found. His findings not only revealed that homo sapiens go back 40,000 years further than previously believed

but also uncovered 'dramatic geological evidence of climate change'. He remained one of the most highly cited and globally respected scientists in his field.

Professor McDougall received the Stillwell Medal from the Geological Society of Australia in 1975 and was elected to Fellowship of the American Geophysical Union in 1997 and the Geological Society of America in 1978. He received the Academy's Jaeger Medal in 2007 and an Hon DSc from the University of Glasgow in 2009. From 2001 he was a Visiting Fellow in the Research School of Earth Sciences at the ANU and from 2007 was also an Adjunct Professor at the University of Queensland.

### **Survey on the evolution of scientific publishing—IUMRS**

Fellows may be interested in participating in a **survey on the evolution of scientific publishing**<sup>38</sup>.

The International Union of Materials Research Societies (IUMRS) is seeking views on electronic resources and demands for open access to research reports and data. It says the aggregated survey responses will provide a fresh perspective on scientific publishing from those who are most closely affected by it. The survey should take no more than ten minutes to complete.

<sup>37</sup> <https://www.science.org.au/node/2750>

<sup>38</sup> [https://www.surveymonkey.com/r/IUMRS\\_Survey](https://www.surveymonkey.com/r/IUMRS_Survey)