

Australian Academy of Science 2018 Annual Report



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Front cover: 'Abundance' by David Stacey, from the cover of 'Discovering Biodiversity: A decadal plan for taxonomy and biosystematics in Australia and New Zealand'

Back cover: New year celebrations, 2018. Photo: Matthew Noble

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Australian
of the Year
➤ Awards



2018 Highlights

Fellows were awarded Australian of the Year, Senior Australian of the Year, the Prime Minister's Prize for Science, and 3 Eureka Prizes see page 8



15 institutions were recognised with SAGE Bronze Awards for gender equity and diversity see page 18



The Academy outlined science priorities for the federal election see page 21



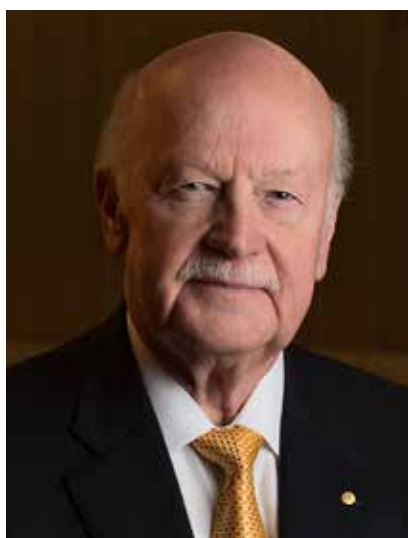
The Academy launched the Aboriginal and Torres Strait Islander Scientist Travelling Research Award see page 18



Academy videos built trust in science and drove our Facebook following to 1.2 million see page 33



Message from the President



Welcome to my first annual report as President. Since taking up the role in May, I worked closely with many Fellows and Academy staff and was soon fully involved in the strategic decisions and activities that shaped the year.

I would like to acknowledge and warmly thank my predecessor Andrew Holmes for his leadership, inspiration and commitment in his four years as President, and before that as Foreign Secretary and a member of Council. I also thank the other Council members whose period of service finished in May.

In 2018 we elected 21 of Australia's leading scientists and welcomed two Corresponding Members. Our Fellows were publicly recognised for their work in Australian and international forums—congratulations in particular go to Michelle Simmons for Australian of the Year, Graham Farquhar for Senior Australian of the Year and Kurt Lambeck for the Prime Minister's Prize for Science. Many Fellows contributed to the Academy's science policy matters, international activities, awards and grants opportunities, public outreach activities, and programs supporting sustainability, diversity and education.

The year was one of positive change and growth, particularly in relatively new areas for the Academy. Following the launch of our digital communications capability in late 2017, the quality of the videos and supporting content drove success in mainstream and social media to the point where we reached 1 million followers on Facebook within 12 months and our public profile soared. Several partnerships to produce videos were very successful.

The Academy took on a leading role in the science sector as a champion of diversity and inclusion. We committed and acted to improving our own performance, and continued strong support for national gender equity in science. The Australian Government selected us, in partnership with the Australian Academy of Technology and Engineering, to produce a 10-year plan for improving the participation and retention of women in STEM, and we were well into that process by year's end. Importantly, we adopted a code of conduct based on best practice that is binding for Fellows, staff and participants in all Academy activities.

Finally, I would like to thank all those who supported the Academy through donations, partnerships and grants. We certainly could not achieve all we do without the backing of those who wish to see science as a vital part of Australia's future.

Professor John Shine AC PresAA

Message from the Chief Executive

It is my pleasure to present the Academy's 2018 Annual Report. We have had an extremely active and productive year made possible by the extensive involvement of Academy Fellows and other individuals and organisations who, along with our committed and professional staff, make it possible to investigate, progress and implement the strategic objectives set by Council. The Academy's combined human capital gives this relatively small organisation a phenomenal influence in Australia and internationally.

In brief, the Academy reports a strong and stable financial position, growing support from donors and partners, an increase in public awareness of our work, and an increase in impact and awareness of our work amongst parliamentarians and the general public. This report demonstrates our leadership in many initiatives, including diversity and inclusion internally and across the sector. Our continued support for the teaching and learning of science, and our provision of opportunities for emerging scientists, have been consistent highlights for many years.

It was exciting to see the home of the Academy—the Shine Dome—promoted widely as a venue for external events, resulting in many more people enjoying the iconic design of the building.

This report aims to give you an overall understanding of the breadth and impacts of the Academy's many goals and achievements, which means that we cannot report in detail. If you would like to find out more about any of the content in this report, or how you can contribute to the work of the Academy, please do not hesitate to contact me.

Anna-Maria Arabia



The Academy's strategic plan 2018–2022



OBJECTIVES

- | | | | | |
|---|---|---|---|--|
| <p>INFLUENTIAL VOICE</p> <ul style="list-style-type: none"> Be deeply influential in setting Australia's science agenda Be a trusted independent advisor on scientific matters | <p>INTERNATIONAL ENGAGEMENT</p> <ul style="list-style-type: none"> Be a leader in the international science academy network | <p>SCIENTIFIC LITERACY</p> <ul style="list-style-type: none"> Deliver innovative education programs at scale and with impact Enable a better-informed public that values science | <p>EXCELLENCE AND DIVERSITY</p> <ul style="list-style-type: none"> Be a national leader in diversity, equity and inclusion in the science sector Empower the next generation of scientists | <p>OPERATIONAL EXCELLENCE</p> <ul style="list-style-type: none"> Ensure long-term sustainability and financial viability along with the highest standards of professionalism |
|---|---|---|---|--|

science.org.au/strategic-plan

The Fellowship



526

Fellows at 31 December

21

Fellows elected in 2018

2

Corresponding Members admitted

2018 FELLOWS

The Australian Academy of Science is a Fellowship of the nation's most distinguished scientists, elected by their peers for outstanding research that has pushed back the frontiers of knowledge.



Alan Andersen



Anne Kelso



Bostjan Kobe



Christopher Dickman



Colin Raston



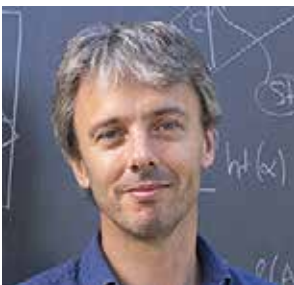
Dacheng Tao



David Blair



David Bowtell



Geordie Williamson



Gregory Goodall



Jennie Brand-Miller



Joseph Trapani



Kerrie Mengersen



Kliti Grice



Lloyd Hollenberg



Martina Stenzel



Noel Cressie



Peter Cawood



Rachel Webster



Richard Bryant



Veena Sahajwalla

CORRESPONDING MEMBERS



Richard Ellis



Ruth Williams

PRESIDENTS

In May, the Academy farewelled outgoing President Professor Andrew Holmes AC FAA FRS FTSE and welcomed incoming president Professor John Shine AC PresAA.



Academy employees farewelling Andrew Holmes and welcoming John Shine as President.

HONOURS AND AWARDS TO FELLOWS

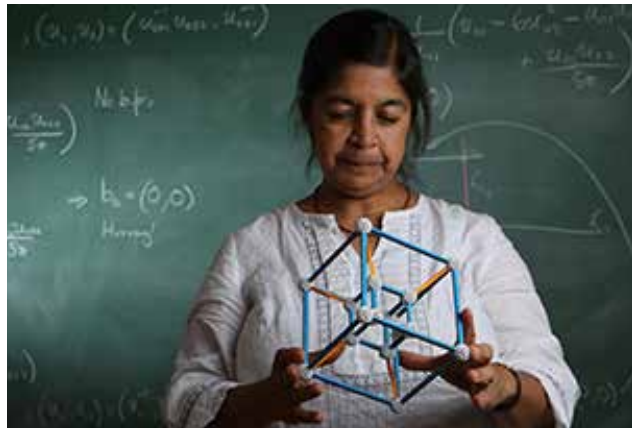
Michelle Simmons—
Australian of the Year



Graham Farquhar—
Senior Australian of the Year



Nalini Joshi—Eureka Prize for
Outstanding Mentor of Young
Researchers



Kurt Lambeck—Prime Minister's
Prize for Science



Halina Rubinsztein-Dunlop—Eureka
Prize for Excellence in Interdisciplinary
Scientific Research



Thomas Maschmeyer—Eureka Prize for
Leadership in Innovation and Science



All honours and awards to Fellows

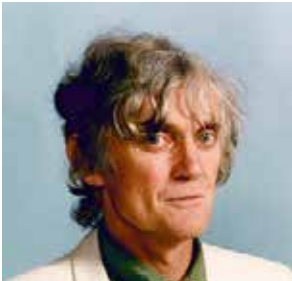
| Full Name | Award: Award Short Name |
|---|--|
| Professor Rose Amal AC FAA FTSE | Order of Australia: Companion in the General Division |
| Professor Jillian Banfield FAA FRS | Royal Society of London, Fellow |
| Professor Martin Banwell AO FAA | Order of Australia: Officer in the General Division |
| Professor Michael Barber AO FAA FTSE | Order of Australia: Officer in the General Division |
| Dr Robin Bedding AM FAA | Order of Australia: Member in the General Division |
| Professor Christine Beveridge FAA | ARC Australian Laureate Fellowship |
| Emeritus Professor David Blair FAA | WA Premier's Science Awards: Hall of Fame Inductee |
| Professor Joss Bland-Hawthorn FAA | Visiting Miller Professorship, UC Berkeley |
| Professor David Bowtell FAA | NHMRC Project Grant Award |
| Professor Geoffrey Burnstock AC FAA FRS | Order of Australia: Companion in the General Division |
| Professor Frank Caruso FAA FRS | Royal Society of London, Fellow |
| Professor David Celermajer AO FAA | AAHMS, Fellow |
| Professor Susan Clark FAA | NHMRC Research Fellowship Award |
| Professor David Cooper (dec) AC FAA | Order of Australia: Companion in the General Division |
| Professor Marcello Costa FAA | FNM Lifetime Achievement Award |
| Professor Warrick Couch FAA | Royal Society Te Apārangi, Hon. Fellow |
| Professor David Craik FAA | NHMRC Project Grant Award |
| Professor Noel Cressie FAA | Moyal Medal, Macquarie University |
| Professor Patrick De Deckker AM FAA | Officer of the Order of Leopold II |
| Professor Ron Ekers AO FAA FRS | National Academy of Sciences (USA), Foreign Associate |
| Professor Graham Farquhar AO FAA FRS | Senior Australian of the Year |
| Dr Alan Finkel AO FAA FTSE | National Science and Technology Advisory Council, Member |
| Professor Ian Frazer AC FAA FRS FTSE | National Science and Technology Advisory Council, Member |
| Professor Julian Gale FAA | ARC Australian Laureate Fellowship |
| Professor Jozef Gécz FAA | NHMRC Project Grant Award |
| Professor Jozef Gécz FAA | NHMRC Research Fellowship Award |
| Professor Karl Glazebrook FAA | ARC Australian Laureate Fellowship |
| Professor Greg Goodall FAA | Lorne Genome Conference Julian Wells Medal |
| Professor Martin Green AM FAA FRS FTSE | Global Energy Prize |
| Professor Kliti Grice FAA | ANZAAS Medal |
| Professor Justin Gooding FAA FTSE | Australian Academy of Technological Sciences and Engineering Fellow |
| Professor Justin Gooding FAA FTSE | NHMRC Project Grant Award |
| Professor Bob Graham AO FAA | NHMRC Project Grant Award |
| Professor Richard Harvey AM FAA FRS | NSW Premier's Prize, Biological Sciences—Cell, Molecular, Medical, Vet, Genetics |
| Professor Bill Heath FAA | NHMRC Research Fellowship Award |
| Professor Barbara Howlett FAA | National Science and Technology Advisory Council, Member |
| Professor Terry Hughes FAA | Prince Albert II of Monaco Foundation Award for Climate Change |
| Professor Terry Hughes FAA | A.G. Huntsman Award |
| Professor Terry Hughes FAA | The John Maddox Prize |
| Professor Chennupati Jagadish AC FAA FTSE | UNESCO Medal, Nanosciences and Nanotechnologies |
| Professor Chennupati Jagadish AC FAA FTSE | Indian National Academy of Engineering, Foreign Fellow |
| Professor Graeme Jameson AO FAA FRS FTSE | Royal Society of London, Fellow |
| Professor Nalini Joshi AO FAA | Eureka Prize, UTS, Outstanding Mentor of Young Researchers |
| Professor Anne Kelso AO FAA | AAHMS, Fellow |
| Professor Bostjan Kobe FAA | ARC Australian Laureate Fellowship |
| Professor Bostjan Kobe FAA | NHMRC Project Grant Award |

| All honours and awards to Fellows continued... | |
|---|---|
| Full Name | Award: Award Short Name |
| Dr Anna Koltunow FAA FTSE | Australian Academy of Technological Sciences and Engineering Fellow |
| Professor Sharad Kumar AM FAA | Order of Australia: Member in the General Division |
| Professor Sharad Kumar AM FAA | NHMRC Project Grant Award |
| Professor Kurt Lambeck AO FAA FRS | Prime Minister's Prize for Science |
| Professor Geoffrey Lindeman FAA | NHMRC Centres of Research Excellence Award |
| Professor Melissa Little FAA | NHMRC Elizabeth Blackburn Fellowship Award (Biomedical) |
| Professor Melissa Little FAA | NHMRC Research Fellowship Award |
| Professor Melissa Little FAA | NHMRC Project Grant Award |
| Professor Lew Mander AC FAA FRS | Order of Australia: Companion in the General Division |
| Professor Jennifer Martin AC FAA | Order of Australia: Companion in the General Division |
| Professor Thomas Maschmeyer FAA FTSE | Eureka Prize, CSIRO, Leadership in Innovation and Science |
| Professor Alex McBratney FAA | NSW Premier's Prize, Exl in Biological Sciences (Eco, Env, Ag & Org) |
| Professor James McCluskey AO FAA | Order of Australia: Officer in the General Division |
| Professor Trevor McDougall AC FAA FRS | Order of Australia: Companion in the General Division |
| Professor Geoff McFadden FAA | NHMRC Project Grant Award |
| Professor Patrick McGorry AO FAA | NHMRC Research Fellowship Award |
| Professor Ross McPhedran FAA | Rolf Landauer Medal |
| Professor Jacques Miller AC FAA FRS | Japan Prize |
| Professor John Miners FAA | AAHMS, Fellow |
| Professor Dietmar Müller FAA | NSW Premier's Prize: Excl in Maths, Earth Sc, Chem and Physics |
| Professor Stephen Nutt FAA | NHMRC Project Grant Award |
| Professor Stephen Nutt FAA | NHMRC Project Grant Award |
| Professor Stephen Nutt FAA | NHMRC Research Fellowship Award |
| Professor Rob Parton FAA | NHMRC Research Fellowship Award |
| Professor Linda Richards FAA | NHMRC Project Grant Award |
| Dr Ezio Rizzardo AC FAA FRS FTSE | Order of Australia: Companion in the General Division |
| Professor Halina Rubinsztein-Dunlop AO FAA | Order of Australia: Officer in the General Division |
| Professor Halina Rubinsztein-Dunlop AO FAA | Eureka Prize, UNSW, Excellence in Interdisciplinary Scientific Research |
| Professor Louise Ryan FAA | Pitman Medal Statistical Society of Australia |
| Professor Ingrid Scheffer AO FAA FRS | Royal Society of London, Fellow |
| Professor Brian Schmidt AC FAA FRS Nobel Laureate | National Science and Technology Advisory Council, Member |
| Professor Michelle Simmons FAA FRS FTSE | Australian of the Year |
| Professor Michelle Simmons FAA FRS FTSE | Royal Society of London, Fellow |
| Professor Scott Sloan AO FAA FRS FTSE | Order of Australia: Officer in the General Division |
| Professor Sever Sternhell AO FAA | Order of Australia: Officer in the General Division |
| Professor Bruce Stillman AO FAA FRS | Honorary Doctor of Science, Clarkson University |
| Professor San Thang AC FAA FTSE | Order of Australia: Companion in the General Division |
| Dr Hugh Tyndale-Biscoe AM FAA | Order of Australia: Member in the General Division |
| Professor Peter Visscher FAA FRS | Royal Society of London, Fellow |
| Professor Peter Visscher FAA FRS | ARC Australian Laureate Fellowship |
| Professor Branka Vucetic FAA FTSE | NSW Premier's Prize, Excellence in Engineering and ICT |
| Dr Brian Walker FAA FTSE | Blue Planet Prize |
| Professor Geordie Williamson FAA FRS | Royal Society of London, Fellow |
| Professor Geordie Williamson FAA FRS | Australian Mathematical Society Medal |
| Professor Geordie Williamson FAA FRS | National Science and Technology Advisory Council, Member |

Fellows' involvement in the Academy

Academy-related activities in which Fellows were involved included • National Committees • international meetings and collaborations • awards committees • Academy policy submissions and reports • sectional committees for assessing nominations of new Fellows • media participation • video and article reviewers • symposium convenors • Science at the Shine Dome • National Speaker Series • Canberra Speaker Series • regional groups • 18 Champions of Diversity appointed to suggest diversity candidates for Fellowship and the Academy awards

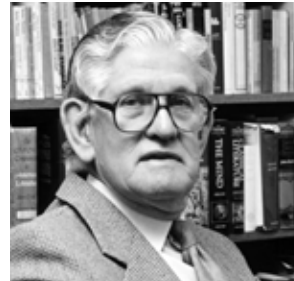
VALE



John Chappell



David Cooper



Ross Day



Michael Dopita



Jacob Israelachvili



Ian McDougall



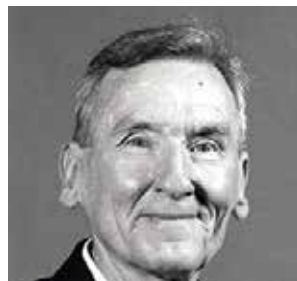
Angus McEwan



Alex Moodie



Guy White



John Veevers

Fellows' obituaries are
on the Academy website

Excellence in science

\$361,306

total value of awards

47

awardees



2018 honorific awardees

HONORIFIC AWARDS

Career honorifics

- **2018 David Craig Medal** Professor Douglas MacFarlane FAA FTSE
- **2018 Haddon Forrester King Medal and Lecture** Professor David Cooke
- **2018 Mawson Medal and Lecture** Professor Matt King
- **2018 Ian Wark Medal and Lecture** Professor Calum John Drummond FTSE
- **2018 Macfarlane Burnet Medal and Lecture** Professor Geoffrey Burnstock FAA FRS

Mid-career honorifics

- **2018 Gustav Nossal Medal for Global Health** Professor Anushka Patel
- **2018 Jacques Miller Medal for experimental biomedicine** Professor Killugudi Swaminathan Iyer
- **2018 Nancy Millis Medal for Women in Science** Dr Marie-Liesse Asselin-Labat

Early-career honorifics

- **2018 John Booker Medal** Associate Professor Shanyong Wang
- **2018 Fenner Medal** Dr Ceridwen Fraser
- **2018 Ruth Stephens Gani Medal** Dr Irina Voineagu
- **2018 Gottschalk Medal** Associate Professor Alex Fornito
- **2018 Anton Hales Medal** Dr Rhodri Davies
- **2018 Christopher Heyde Medal** Dr Zdravko Botev
- **2018 Dorothy Hill Medal** Associate Professor Tracy Ainsworth
- **2018 Pawsey Medal** Dr Paul Lasky
- **2018 Frederick White Medal** Dr Alex Sen Gupta
- **2018 Le Fèvre Medal** Associate Professor Amir Karton

The 2018 awards were announced in November 2017 and most were presented at the Academy's annual flagship event, Science at the Shine Dome, in May 2018. The Ian Wark medal was presented at an award dinner in Melbourne in July 2018 and the and Haddon Forrester King Medal was presented at an award dinner in September 2018.

The Academy champions, celebrates and supports excellence in Australian science through its awards and grants.

5

career research awards awarded

3

mid-career research awards awarded

10

early-career research awards awarded

\$33,500

worth of associated honorariums and lecture funding



(from left) Ms Melissa Houghton and Mrs Charlie Phelps were each awarded a Max Day Environmental Science Fellowship Award in 2018.

\$275,206

total committed in 2018

19

awardees

RESEARCH AWARDS

Research awards announced in 2018

2018 JG Russell Awardees

- **Dr Lara Malins** The Australian National University—to develop a new synthetic approach to valuable amino acid derivatives and their rapid incorporation into peptide analogues, including promising new antibiotic candidates.
- **Dr Tara Clark** The University of Queensland—to determine the timing and associated drivers behind dramatic changes in coral communities on reef flat environments since European settlement.
- **Dr Jussi Lehtonen** The University of Sydney—to reconcile and unify alternative methods in social evolution theory.
- **Dr Nengkun Yu** University of Technology Sydney—to develop fundamental technology for analysing the big data that arises from quantum physics.

2018 Douglas and Lola Douglas Scholarship awardee

- **Dr Shamil Cooray** Co-designed a patient-centred model-of-care for gestational diabetes.

2019 Moran Award for the History of Science Research

- **Ms Lisa Hunt** The University of Adelaide—The development of Australian science during a period of significant change (1945 to 1963), and its impact on popular perceptions of science in Australia.

2019 The WH Gladstones Population and Environment Fund

- **Dr Grace Muriuki** University of Queensland—Food security in rural and remote indigenous communities of The Pilbara; potential for resource corridors in local food systems.

2019 The Max Day Environmental Science Fellowship awardees

- **Dr Tim Doherty** Deakin University—Ecological consequences of introduced predator removal for a native mesopredator and ecosystem engineer *Varanus gouldii*
- **Ms Nicole Foster** University of Adelaide—Prioritising for success: Innovative approaches to management of coastal environments

2019 The Thomas Davies Research Grant for Marine, Soil and Plant Biology awardees

- **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.

2019 The Margaret Middleton Fund for endangered Australian native vertebrate animals awardees

- **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?
- **Ms Heather Neilly** Australian Landscape Trust—Malleefowl as ecosystem engineers and drivers of restoration.

CONFERENCE AWARDS

Conferences announced in 2018

- **Boden Research Conference** Evolutionary transformations in vertebrate history (2019–20)
- **Fenner Conference on the Environment** Managing wild and weedy Australia across boundaries and disciplines (2019–20).

- **Elizabeth and Frederick White Research Conference** Linking galaxies from the epoch of initial star formation to today (2019–20)



The 2018 Elizabeth and Frederick White Conference encompassed diverse topics—from astrophysics to volcanoes.

\$30,000

total committed in 2018

6

joint organisers

338

attendees at 4 conferences held in 2018 at two venues in the ACT

TRAVELLING FELLOWSHIPS AND LECTURES



(from left) In 2018, Dr Christina Kellogg, Selby Fellowship, Professor Stefanie Dimmeler, Rudi Lemberg Travelling Fellowship, and Dr Graham Nugent, Graeme Caughley Fellowship benefited from the Academy's travelling fellowships that foster the international exchange of scientific ideas and support lectures for the general public.

\$36,500

total committed

34

lectures held

26

universities and organisations

1160

estimated attendees across
Australia and internationally.

10

lectures were held in Canada,
Spain, Mexico and the USA.

Announced in 2018

2019 inaugural Aboriginal and Torres Strait Islander Scientist Travelling Research Awardees

- **Mr Tui Nolan** University of Technology Sydney—To visit the Alan Turing Institute in London to study computational methods that have applications in public health and education.
- **Ms Amy Searle** Baker IDI Heart and Diabetes Institute—To attend the Science at the Shine Dome Event in 2019, the annual signature event of the Australian Academy of Science.
- **Mr Bradley Moggridge** University of Canberra—To visit New Zealand to learn how Maori culture has incorporated Indigenous knowledge and values into their water management practice.

2019 Selby Fellow

- **Emeritus Professor Herbert Eric Huppert FRS** Professor of Theoretical Geophysics Emeritus, University of Cambridge—to present lectures in Perth, Adelaide, Sydney, Melbourne, Brisbane, Darwin and Alice Springs.

2019 Geoffrey Frew Fellowship

- **Professor Donna Strickland, awarded the 2018 Nobel Prize in Physics** Department of Physics and Astronomy, University of Waterloo Canada—to present the 2019 Frew Fellowship lecture at the CLEO Pacific Rim Conference in August 2020; will also visit institutes and presenting lectures at a number of venues in Australia.

Diversity and inclusion



Professor Veena Sahajwalla was elected a Fellow of the Academy in 2018

▶ science.org.au/diversity-and-inclusion

The Academy aims to be a leader in diversity and inclusion in Australia's science sector. We are committed to supporting excellence in science, and recognise that to achieve this we must celebrate and embrace diversity and inclusion in all its forms.

SAGE

15 organisations were presented with the first SAGE Athena SWAN Bronze Awards for improving gender equity and diversity.

SAGE:

- Delivered 52 workshops nationally and convened 23 regional network meetings
- Convened 4 peer review panel assessments for applications for Athena SWAN Institutional Bronze Awards
- Held the third national SAGE symposium and inaugural Bronze Awards event
- Contributed to two international workshops on gender equity and diversity, sharing the learnings and experience gained from SAGE with partner economies Canada and Japan
- Published the SAGE formative evaluation 'putting gender on your agenda'.
- Sponsored and supported a national tour by Dr Carole Thomas from the UK's John Innes Centre, the first institution to achieve a Gold Athena SWAN Institutional Award. The national tour comprised 6 workshops on Athena SWAN and actions to improve gender equity and diversity
- Contributed to the APEC Women in STEM Workshop in Brisbane.



Margaret Hartley, Chief Executive Officer Applied, Alison Johns, Chief Executive Advance Higher Education UK, Wafa El-Adhami, Executive Director SAGE, and Anna-Maria Arabia, Chief Executive Australian Academy of Science at the SAGE Awards.

ABORIGINAL AND TORRES STRAIT ISLANDER SCIENTIST TRAVELLING RESEARCH AWARD

The Academy launched the Aboriginal and Torres Strait Islander Scientist Travelling Research Award to recognise research in the natural sciences by outstanding Aboriginal and Torres Strait



Islander PhD students and early- and mid-career scientists. The award aims to support the expansion and growth of each scientist's research networks and international knowledge exchange through visits to relevant international centres of research.

The three inaugural recipients of the 2019 award, Bradley Moggridge, Tui Nolan and Amy Searle, were announced at the end of 2018. These recipients will be featured in the 2019 annual report.

WOMEN IN STEM

The Academy was requested to develop a Women in STEM decadal plan in collaboration with the Australian Academy of Technology and Engineering. The plan provides a 10-year roadmap for achieving sustained increases in women's STEM participation and retention from school through to careers.

The Academy commenced a decadal plan and online website to support and promote women in STEM. We:

- undertook extensive consultations visiting every state and territory to deliver consultation workshops as well as holding 5 webinar consultations
- received 66 written submissions
- interviewed 104 stakeholders

► science.org.au/womeninstemplan

MORE DIVERSITY AND INCLUSION INITIATIVES

The Academy:

- commenced the development of a Reconciliation Action Plan
- supported the production of 'Profiles of Women Scientists in Asia', a book published by the Association of Academies and Societies of Sciences in Asia
- implemented a code of conduct for all participants in Academy activities, and focused on diversity and inclusion.



EARLY- AND MID-CAREER RESEARCHERS

The Academy supported thousands of early- and mid-career researchers (EMCRs). We:

- delivered the Science Pathways event remotely for the first time. 'Science Pathways 2018: Diversify your thinking' enabled remotely based EMCRs to interact with plenary speakers and take part in workshops session. The conference reached 209 onsite delegates plus 146 remote delegates across 14 sites throughout Australia
- established a Representative Network of 32 organisations to represent and communicate the interests of EMCRs at organisation around the country to the EMCR Forum Executive
- published a how-to guide for EMCRs to promote kindness in science
- provided 115 mobility and travel grants to facilitate attendance at events and 13 carer grants across 6 events.

► science.org.au/emcrs

4656

researchers were members of the EMCR Forum

330

researchers were members of the Australian Brain Alliance EMCR Brain Science Network

825

EMCRs participated in 11 events designed to improve scientific and personal skills and professional networks

4

policy submissions were made by the EMCR Forum to ensure voices of EMCRs were heard

Policy influence and advice



120

parliamentarians met with Academy representatives

28

submissions were made to government enquiries and reviews

The Academy provides independent, authoritative and influential scientific advice, with the aim of influencing Australia's science agenda and being a trusted independent advisor on scientific matters.

The Academy:

- provided advice to governments through submissions, position papers, commissioned research, direct engagement with MPs and Senators
- advocated for science through general and discipline-based advocacy and campaign activity in collaborations with sector stakeholders
- hosted parliamentary briefings and supported meetings of the Parliamentary Friends of Science
- undertook policy projects including decadal plans for science, economic analysis, policy discussion papers and sector analysis reports.

**Launched
'Crack the Brain's Code'**
science.org.au/brains-code



**Hosted Kosciuszko
Science Conference**
science.org.au/kosciuszko-conference



**Outlined science
priorities for the
2019 federal election**
science.org.au/election-priorities-2019



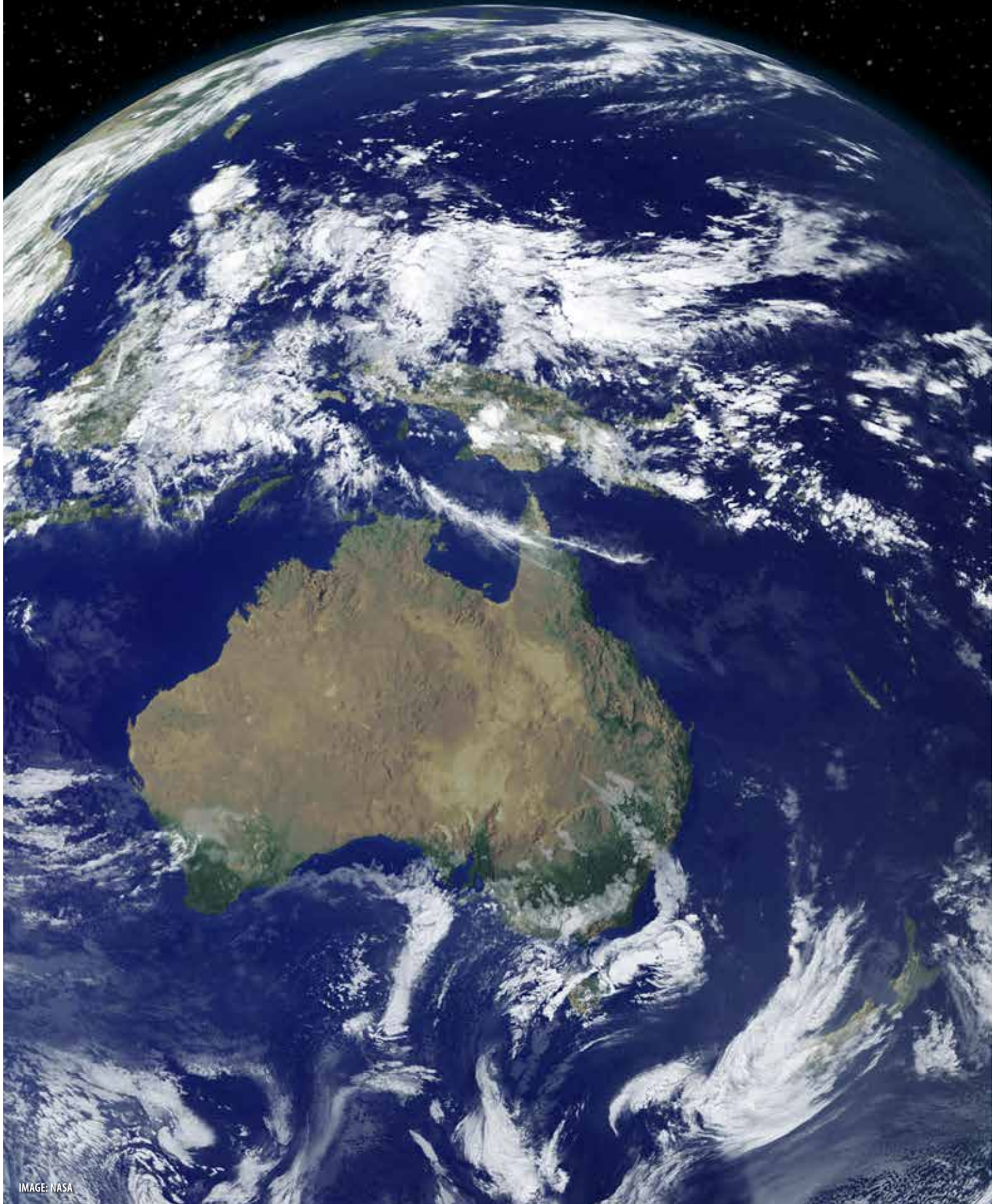
Published 3 major plans for science
science.org.au/decadal-plans



**Further developed
Future Earth Australia**
science.org.au/future-earth-australia



Reaching out in Australia and internationally





S20 Argentina 2018

GLOBAL NETWORKS

In 2018 we:

- facilitated access to global science and technology and promoted strategic partnerships between Australian and overseas researchers.
- supported the formation of the International Science Council
- delivered international science activities on behalf of the Australian Government
- joined global science leaders in the call for further action on climate change ahead of CHOGM 2018
- attended the S20 Science Forum in Rosario, Argentina, where a position statement on 'Food and Nutrition Security: Improving Soils and Increasing Productivity' was presented to the Minister of Science and Technology of Argentina.
- managed the Australia–Americas internship program for 40 PhD students from Argentina, Brazil, Colombia and the US on behalf of the Australian Government
- supported 4 early- and mid-career researchers from South-East Asia and the Pacific to attend Science at the Shine Dome
- supported 3 young Australian scientists to represent Australia in competitive international events
- continued as an executive member of the InterAcademy Partnership (IAP), with the Academy President a member of the Executive Committee of the IAP for Research, and the Foreign Secretary on the Board of the IAP for Science
- continued to participate in IAP projects, including projects that focus the UN Sustainable Development Goals, and that strengthen trust in and demonstrate the value of scientific advice.
- continued as a member of the Association of Academies and Societies of Sciences in Asia's (AASSA) Executive Board, chaired the AASSA Special Committee for Women in Science and Engineering
- in partnership with AASSA, launched the publication 'Profiles of Women Scientists in Asia: Their Inspiring Stories'.

18

international science meetings attended by Academy representatives

14

international events and collaboration opportunities supported by the Academy

168

researchers supported to participate in the Academy's international activities in Australia

75

researchers supported to participate in the Academy's activities overseas.

► science.org.au/international

2018 APEC Science Prize for Innovation, Research and Education (ASPIRE)

The Academy recommended Associate Professor Madhu Bhaskaran, from RMIT University, to the Department of Industry, Innovation and Science to be the Australian nominee for the 2018 APEC Science Prize for Innovation, Research and Education (ASPIRE). Associate Professor Bhaskaran's nomination was successful and she was awarded the ASPIRE Prize at the tenth APEC PPSTI meeting in Papua New Guinea in August, making her the first Australian to receive the prestigious award since 2011.

Lindau Nobel Laureate Meeting

Eight top young Australian scientists were supported by the Science and Industry Endowment Fund and the Academy to attend the 68th Lindau Nobel Laureate Meeting in Germany. The delegation was led by Academy Fellow Professor Jennifer Martin. A total of 600 young scientists from 84 nations had the opportunity to interact with, and learn from, 39 Nobel Laureates.

right: The Australian delegation to Lindau with delegation leader and Academy Fellow Professor Jenny Martin (centre back) at IBM Watson in Munich.



Falling Walls Lab Australia

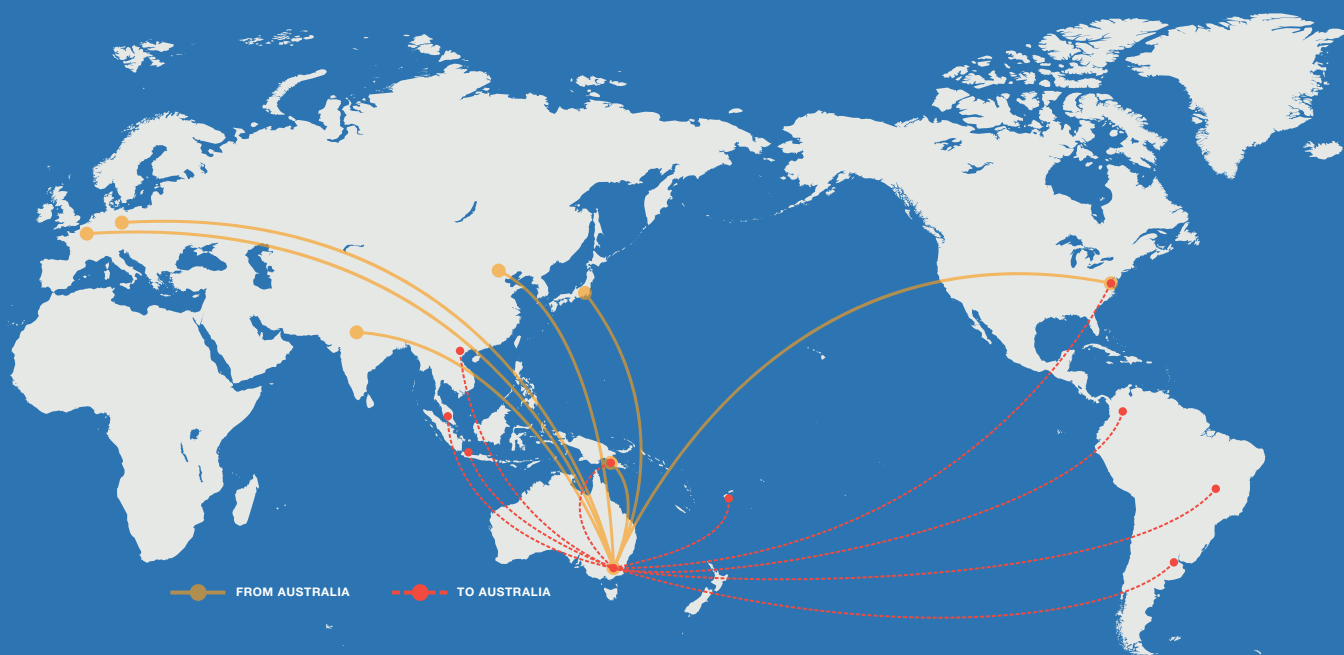
The Academy hosted the third annual Falling Walls Lab Australia in September. 20 researchers from across Australia presented their three-minute talk to a panel of distinguished jury members, chaired by Australia's Chief Scientist Dr Alan Finkel. The first and second place winners, Samantha Wade from the University of Wollongong and Hayley Teasdale from the University of Canberra, earned the opportunity to compete at the Falling Walls Lab Finale in Berlin. The Australian delegation included Academy Fellows Professor Veena Sahajwalla and Professor Terry Hughes, who spoke at the event.

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

SAMANTHA WADE—UNIVERSITY OF WOLLONGONG. FALLING WALLS LAB AUSTRALIA 2018 WINNER, AND PRESENTER AT FALLING WALLS LAB FINALE, BERLIN.

below: 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 Academy supported 75 Australian researchers to travel internationally, and 46 overseas researchers to travel to Australia, with the goal of increasing collaboration and building networks between scientists.

| List of activities and how many Australian and international researchers supported for each activity | | |
|--|---|---------------------------------------|
| Activity | No. of researchers supported in Australia | No. of researchers supported overseas |
| APEC Science Prize for Innovation, Research and Education (ASPIRE)—Papua New Guinea | 3 | 1 |
| Visit to the National Institutes of Health in the USA by a Junior Scientist, including support from the Adam J Berry Memorial fund | | 1 |
| France-Australia Science Innovation Collaboration (FASIC) Fellowships | | 4 |
| Science at the Shine Dome | 4 EMCRs—1 each from Malaysia, Indonesia, Fiji and Vietnam | |
| Australia-China Joint Workshop on Measurement Solutions for Electrical Networks | | 8 |
| 14th China-Australia Symposium: Light changes our life | | 14 (includes 5 Australian EMCRs) |
| Research Data Science Winter School | 2 EMCRs—1 from Indonesia and 1 from PNG | |
| 2018 Australia-Americas PhD Research Internship Program | 40 EMCRs—21 from USA, 10 from Brazil, 4 from Argentina, 5 from Colombia | |
| 10th HOPE Meeting with Nobel Laureates in Japan | | 6 |
| Japan Society for the Promotion of Science fellowships | | 13 |
| Australia-India Strategic Research Fund (AISRF) Early- and Mid-Career Fellowships | | 14 |
| Falling Walls Lab Australia | 22 | |
| Falling Walls Lab Berlin | | 4 |
| European Cooperation in Science and Technology (COST) France | | 1 |
| SIEF-AAS Fellowships to the Lindau Nobel Laureate Meetings | | 8 |
| SIEF-AAS Heidelberg Laureate Forum Fellowship | | 1 |

“The Hope meeting with Nobel Laureates provided me with an excellent opportunity to present my research and hear about ground-breaking research from around the world in a friendly environment that encouraged creative and critical thinking.”

DR JAMES ARIDAS, MONASH UNIVERSITY—10TH HOPE MEETING WITH NOBEL LAUREATES PARTICIPANT

“This is an excellent scheme considering the potential of research and economic collaboration opportunities between Australia and India. India has a growing industry looking for advanced technology which is an excellent opportunity for collaboration for Australian research institutes. The fellowship also fosters opportunities to engage research students through joint projects and exchange studies.”

DR RANGAM RAJKHOWA, DEAKIN UNIVERSITY—AUSTRALIA–INDIA STRATEGIC RESEARCH FUND (AISRF) EARLY- AND MID-CAREER FELLOWSHIPS RECIPIENT

“This international collaboration was fundamental to add scientific quality to my research. From the links established, our work will have a global collaboration and will be characterised as a multicentre study adding even more value to the scientific evidence produced from this research.”

GISELE JUNG FRANCISCATTO, PONTIFICAL CATHOLIC UNIVERSITY OF RIO GRANDE DO SUL, PORTO ALEGRE (PUCRS), BRAZIL—HOSTED BY THE UNIVERSITY OF ADELAIDE UNDER THE 2018 AUSTRALIA–AMERICAS PHD RESEARCH INTERNSHIP PROGRAM

“This meeting has opened my mind about how to be a great scientist and I committed to be a great and professional scientist since then. I am really impressed with all participants, fellows and awardees. It would be great opportunity if I could collaborate with the early- and mid-career researchers someday in the future. I found that Australian scientists are very nice, open and welcome to any possible cooperation, which is completely different with my thought before joining the event.”

DR HERI KUSWANTO, CENTER FOR EARTH, DISASTER AND CLIMATE CHANGE & DEPARTMENT OF STATISTICS INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS) INDONESIA—ATTENDING 2018 SCIENCE AT THE SHINE DOME

22

National Committees for Science,
involving 250 volunteer members

40%

of National Committee members
were women

► science.org.au/national-committees

NATIONAL COMMITTEES FOR SCIENCE

The Academy's National Committees for Science:

- represented the scientific breadth of the Academy
- linked the Academy to the broader Australian research community (members represent more than 70 research organisations and societies)
- worked with their communities to publish strategic plans for Australian science
- provided discipline-specific advice to government and the Academy
- hosted public events to celebrate and communicate outstanding research in their field
- advised the Academy on Australia's membership of the international scientific unions
- coordinated Australian participation in global research and science policy programs
- supported and mentored discipline-based early- and mid-career researchers.

Plans under preparation

- Decadal plan for nutrition science
- Australia's digital future: a strategic plan for information and communications sciences, engineering and technologies

- Big data in Australian research: issues, challenges and opportunities
- Review of current physics plan
- Review of current astronomy plan

| Change to National Committee chairs | | |
|-------------------------------------|---------------------------|---------------------------------|
| National Committee | Outgoing Chair | Incoming Chair |
| Astronomy | Professor Lisa Kewley FAA | Professor Lister Staveley-Smith |

National Committees published 2 major decadal plans for science: Decadal Plan for Australian Geoscience, and Geography: Shaping Australia's Future

Contributions to union subscriptions from Australian societies and organisations

The following Australian organisations partnered with the Academy and contributed towards Australia's annual subscriptions to international unions of the International Science Council:

- Australian Institute of Physics—towards the International Union for Pure and Applied Physics
- Royal Australian Chemical Institute—towards the International Union for Pure and Applied Chemistry
- Australian Mathematical Science Institute—towards the International Mathematical Union
- Geoscience Australia—towards the International Union for Geological Sciences
- Australian Antarctic Division—towards the Scientific Committee for Antarctic Research
- CSIRO and the Bureau of Meteorology towards the World Climate Research Programme

Inspiration and impact in schools



The Academy continued its strong track record delivering evidence-based school science and mathematics professional learning and curriculum resources for Australian teachers and students.

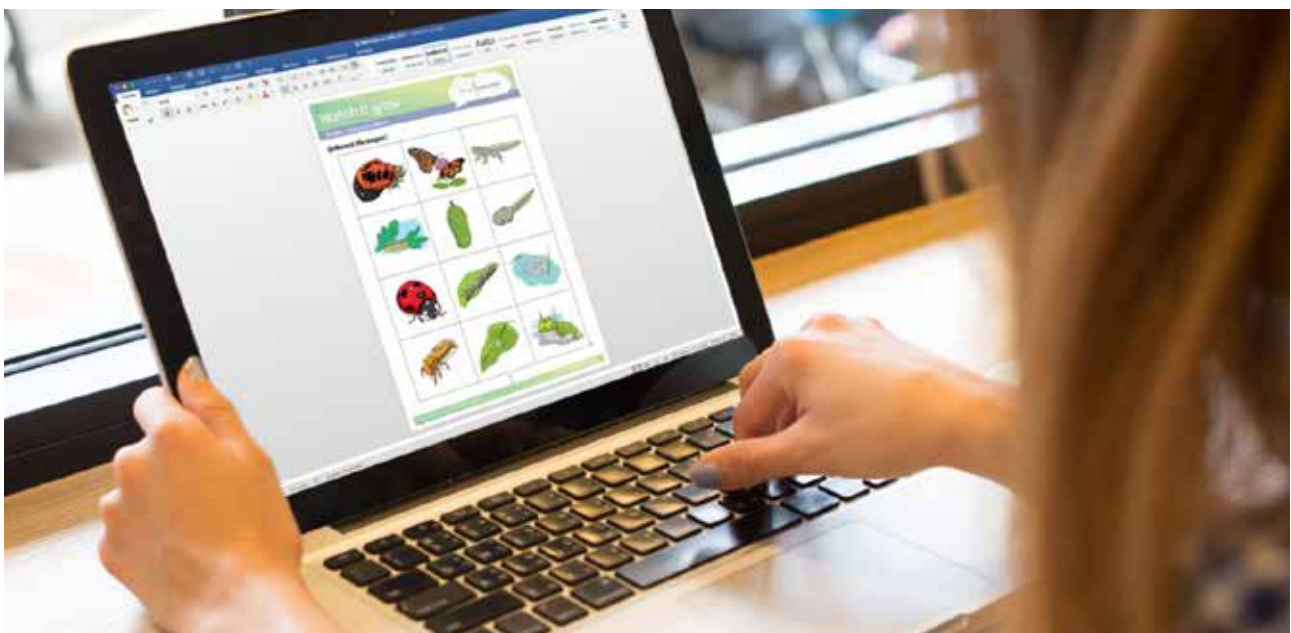
Our widely used programs, Primary Connections: linking science with literacy, Science by Doing and reSolve: Mathematics by Inquiry, supported and gave confidence to teachers and students throughout Australia and internationally.

Primary Connections

Three new Primary Connections curriculum units were published and available free-of-charge in the Education Services Australia’s repository, Scootle, during National Science Week. Primary Connections launched e-resource sheets, which were shown to reduce teachers’ planning time and make it easier to differentiate lessons while also being easy for students to use and increase their engagement.

“Never has there been a more important time for science in Australia. More than ever, we need a scientifically-literate community to engage in debates about issues that affect us all. We also need imaginative thinkers to discover the opportunities in our exponentially expanding knowledge base. Teachers play a vital role in nurturing the minds of our future citizens and scientists.”

AUSTRALIAN ACADEMY OF SCIENCE
PRESIDENT, PROFESSOR JOHN SHINE
[PRIMARY CONNECTIONS FOREWORD, 2018]



reSolve Champions celebrating the program’s impact at a national showcase event at the Academy.

reSolve: Mathematics by Inquiry

The reSolve Champions are volunteers who have a commitment to better mathematics outcomes for their students, and to working with colleagues in and beyond their school in mathematics. A national showcase celebrated the commitment and investment of the project's Champions network.

The number of reSolve resource downloads increased from an average 3000 a month in 2017 to an average 11,000 a month in the third quarter of 2018.

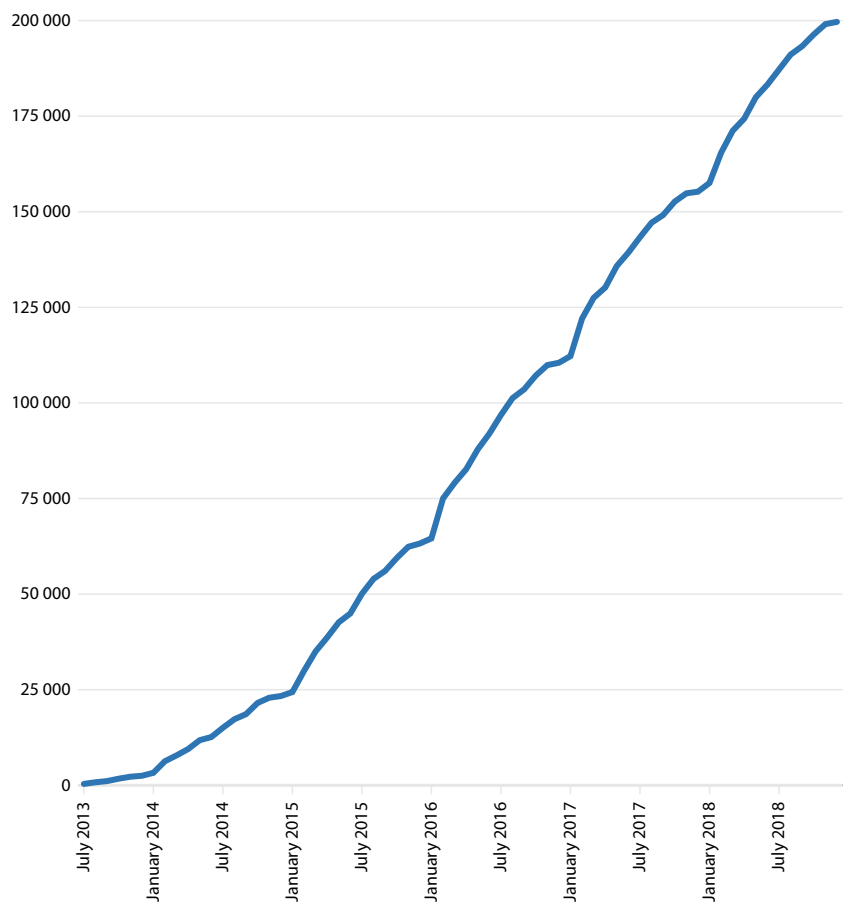
"I'm really pleased that the resource is being constantly updated and made relevant. My only worry is that we have implemented the SbD resource and so will always be concerned if it gets cancelled or stopped. It is a tremendous resource and the enotebook has now become a significant part of our program. Navigation on the updated units are great—thank you."

SCIENCE TEACHER

Science by Doing

Science by Doing continued its rise in popularity, consistent with previous years.

Number of Science by Doing program registrations (cumulative)



EVALUATIONS AND IMPACT

External evaluations of the Academy's education programs showed significantly positive outcomes for teaching and highlighted their ongoing contribution to Australian education.

Primary Connections

The findings in the University of Technology Sydney research and evaluation report of Stage 6 of Primary Connections are positive and provide evidence of the significant impact of Primary Connections on the teaching and learning of science and literacy in Australian primary schools.



Teachers at a Primary Connections workshop

The Stage 6 of Primary Connections evaluation found that:

- Primary Connections has extraordinary brand recognition and has been widely implemented
- 99% of teachers agreed that Primary Connections would help them to implement the Australian Curriculum: Science, and 97% agreed that the workshop increased the likelihood of them comprehensively implementing the Primary Connections program in their teaching
- teachers' feedback about the effectiveness of the Primary Connections resources, and their enthusiasm to employ them in their science teaching, show they value Primary Connections.

reSolve: Mathematics by Inquiry

Preliminary findings by dandalopartners, which is undertaking an external evaluations of reSolve, suggest that reSolve is making:

- **high quality resources:** reSolve resources are high quality and comparable to other mathematics education resources
- **an impact on teachers:** reSolve resources appear to be having a positive impact on teachers' knowledge, attitudes and actions
- **an impact on students:** While it is too early to measure impact on students, anecdotal evidence suggests that students are engaged with the resources, with some promising signs related to achievement.

Science by Doing

According to the evidence gathered from teachers and students in the University of Technology Sydney evaluation of Stage 4 of Science by Doing, the program has had a very positive impact on

teaching and learning. Students said they enjoyed learning science using the Science by Doing resources.

COLLABORATIONS AND PARTNERSHIPS

A key strength of Academy education programs are collaborations and partnerships with state and territory governments, science and maths teacher associations and other peak bodies, and university education faculties.

The Academy worked with organisations including:

- Australian Association of Mathematics Teachers and Australian Science Teachers Association
- Catholic Education Melbourne; Ecolinc: Victoria Department of Education and Training Specialist Science Centre; Department of Education WA; NSW Department of Education
- Deakin University; La Trobe University; University of Canberra; University of Sydney; University of Technology Sydney
- Education Services Australia
- Commonwealth Bank of Australia.

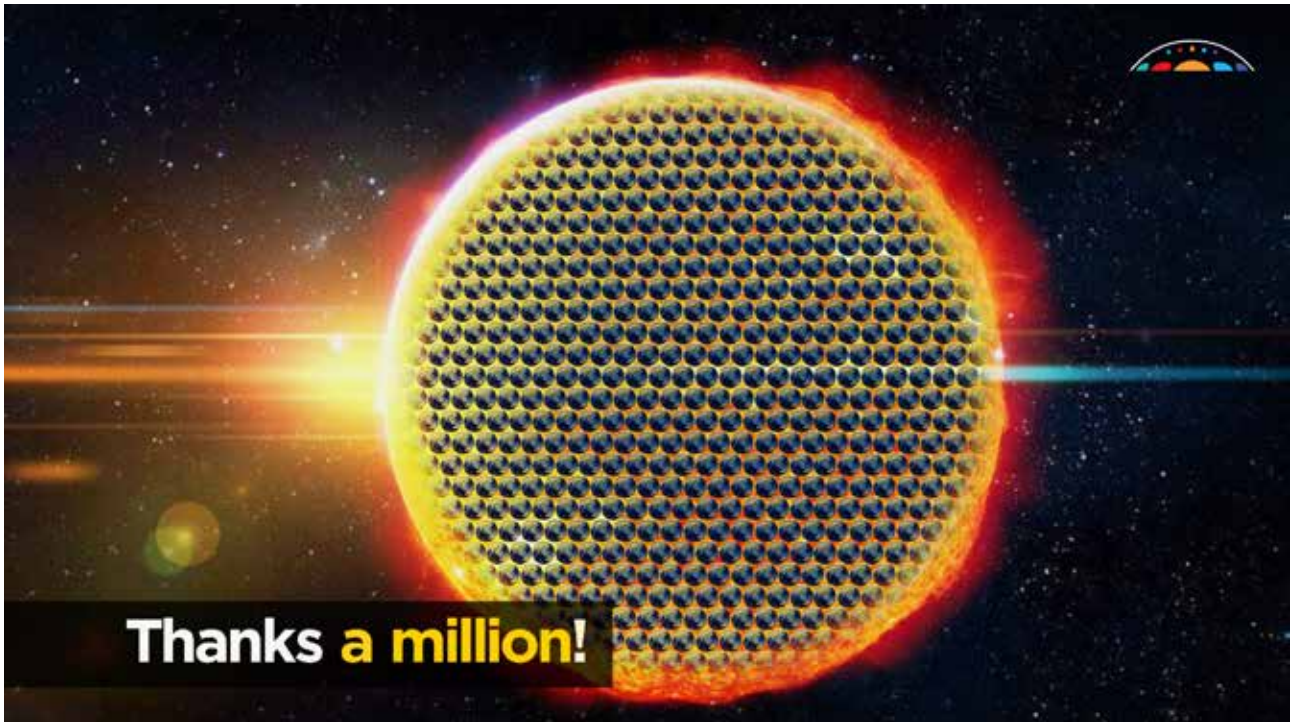
Australian Government support

The Australian Government, through the National Innovation and Science Agenda, committed additional funding of \$3 million for the Academy's three education programs to 2020.

Science for everyone



The Academy reached 1.2 million Facebook followers



The Academy reached 1 million Facebook followers in October, and 1.2 million by the end of December. Our posts reached over 42 million people.

VIDEOS AND ARTICLES

Science is important to everyone—there’s so much to be curious about, but often it’s hard to find answers that are both trustworthy and interesting.

The Academy aims to fill that need by providing accurate and engaging content for everyone. With a team of scientists, science communicators and journalists, we publish current, interesting and understandable information covering the breadth of science.

The Academy’s video production capability achieved rapid growth in both the quantity of videos created and number of people reached. Most videos explored science, some were designed for specific events like the SAGE Awards, International Brain Initiative or Science at the Shine Dome, and others were public education campaigns covering topics like immunisation and meningococcal disease. Our articles added depth to many of the videos produced and gained a significant audience of their own.

The success of the video production capability attracted interest across the media and marketing industry. Presentations were given at the industry-leading Mumbrella 360, World Congress of Science and Factual Producers, and Public Communication of Science and Technology events. The team was also recognised by the Public Relations Institute of Australia, receiving the Golden Target Award for Not-For-Profit In-House PR Team of the Year.



1.2 million

Facebook followers

42 million

people reached by our
Facebook posts

200+

videos produced

115

articles published

188

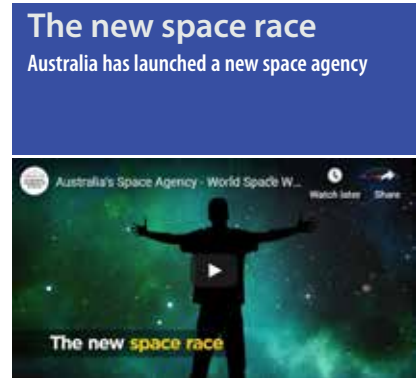
Fellows featured in or reviewed
a video

▶ science.org.au/curious

Participation of Fellows

Fellows were crucial to the success of the Academy’s video production capability. Fellows also provided suggestions of science stories or papers to be covered by video, and a group of the Academy’s Fellows oversaw the project.

TOP SCIENCE VIDEO STORIES OF 2018



IMMUNISATION

Our immunisation campaign included six videos and five articles to answer the most common questions, including what is immunisation, what's in a vaccine, who benefits from vaccination, how safe are vaccines and the future of vaccination. Total social media views of the videos were 4.2 million, and shares nearly 3500.

CLIMATE CHANGE

This video, produced on behalf of 22 national academies and societies of science, called for Commonwealth leaders to take action to address climate change. The video was released along with a consensus statement among the science academies. It had more than 1.1 million views on social media.

CURIOS WEBSITE

The Curious website, where we publish our science articles and videos for a broad audience, received 961,000 visits, nearly tripling the number from the previous year.



OUR SOCIAL PLATFORMS



1.2 million people followed the Academy on Facebook and our posts reached over 42 million people.

The Academy published 514 posts, with a collective total of 331 million impressions, 33,000 comments, 1.3 million likes and 154,000 shares.



Twitter remained a valuable platform for the Academy, with most followers also engaged in science news (97%), space and astronomy (96%), politics (91%) and tech news (90%). The Academy had 36,000 followers and posted 1900 tweets.



The Academy published 128 posts, yielding a collective total of 5200 video views, 39,000 likes and 474 comments.



143 videos were uploaded, yielding a collective total of 96,388 video views.

MEDIA

The Academy maintained a high media profile throughout the year, with Fellows and National Committee members contributing to mainstream media stories. We also produced many breaking news videos that were embedded by media outlets in online stories.

Most embedded video: Climate warning—the world must act now (IPCC report)



Most embedded science article: Which came first—the chicken or the egg?



EVENTS

Science at the Shine Dome

Science at the Shine Dome, The Academy's celebration of science held in May each year, saw 400 attendees hear from 57 speakers over three days.

The event started with the Academy's annual symposium, which looked at the role of science in predicting, mitigating, responding to and recovering from natural hazards and weather events. The event also saw 21 new Fellows admitted to the Academy in recognition of their work in science.

Australian of the Year, Professor Michelle Simmons spoke at the gala dinner about her science career so far and the quest to build a quantum computer. The dinner also saw the launch of the Academy's Aboriginal and Torres Strait Islander Scientist Travelling Research Award.

26

media releases issued

40

news articles published on our website

4680

mentions of the Academy on social media

2764

pieces of media coverage across radio/TV, print and online

28

embeds of videos into online media stories, including syndications

195

embeds of videos into all websites, including syndications

The Academy delivered multiple engaging events across Australia, with a highlight being more than 3000 people enjoying Dr Karl and Professor Veena Sahajwalla in during National Science Week.

21

new Fellows admitted

15

Academy medals presented

4

EMCR workshops

398

total attendees



Adjunct Professor Virginia Haussegger (right) in discussion with Australian of the Year Professor Michelle Simmons at the gala dinner.



A smoking ceremony was an integral part of the event.

On the final day of the event, 15 researchers received highly sought-after honours for outstanding achievements in science.

National speaker series—The science of sport

The series answered some key questions about sport and physical activity, such as Does the soccer World Cup get people off the couch? How can we efficiently fuel our bodies during physical activity? How do you motivate the physically inactive? How does exercise impact our mental health? It also explored a day in the life of an elite athlete and scientist, what research says about female participation in sport, and even how science and maths play a role in football.

407

total audience

7

total speakers

141,000

reached on Facebook



National speaker series—The science of us

The series 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. Topics covered included reproduction, mental health, addiction, ageing of the body and brain, organ donation and palliative care.



12

total speakers

1172

total audience

36,000

reached on Facebook

National Science Week—Dr Karl and Professor Sahajwalla

This two-part event was a resounding success, with over 1500 school students at the first show and over 1600 members of the public in the evening. Dr Karl Kruszelnicki and Professor Veena Sahajwalla informed and entertained, answered audience questions, and engaged with guests after each show. These events enabled us to continue to build public awareness and understanding of science with two of Australia's most widely recognised science personalities.



3000+

total audience

THE ACADEMY WEBSITE

The Academy website received 673,000 visits, an increase of 27% on the previous year.

PEER-REVIEWED JOURNALS

Historical Records of Australian Science

- 12 articles on the history of science
- 7 biographical memoirs
- 15 book reviews

CSIRO Publishing Journals of Scientific Research

- 14 peer reviewed scientific journals from CSIRO Publishing, supported by the Academy.



Philanthropy and partnerships



IMAGE: JULIAN FINN/MUSEUMS VICTORIA CC BY-N 4.0



The development of the decadal plan for taxonomy and biosystematics was supported by the Ian Potter Foundation. IMAGE FROM THE PLAN BY GARY CRAMITCH / © QUEENSLAND MUSEUM



Studying specimens at the Australian National Insect Collection. CREDIT © CSIRO



Dr Paul Lasky, recipient of the 2018 Pawsey Medal, meeting Mr Hastings Pawsey, son of Dr JL Pawsey FAA after whom the medal is named.

\$1,502,131

in bequests

\$36,727

in general donations

\$201,000

in award funding

90

donors

DONATIONS

The power of giving

Many of the Academy's core activities, such as scientific meetings, advice to support policy development, publications, education, public awareness and outreach, international activities, awards and fellowships would not be possible without philanthropic donations.

In 2018, more than \$1.7 million in philanthropic donations were made to the Academy, including a generous bequest. This funding strengthens our organisation and ensures that as an independent science leader we are able to influence the future of science in Australia.

Acknowledgements

For the period 1 July 2017 – 30 June 2018:

ACADEMY PILLARS: DONATIONS OF OR VALUED AT \$500,000+

- Professor GW Kenneth Cavill Bequest (\$1,456,000), received March 2018

PRESIDENT'S CIRCLE: DONATIONS OF OR VALUED AT \$100,000 – \$499,000

- Dorothy Hill contribution from the University of Queensland (Principal Partner) (\$120,000), received December 2017
- Estate of the Late Professor John Newton FAA and Dr Silva Newton (\$338,856.67), received December 2017

SCIENCE CIRCLE: DONATIONS OF \$20,000 – \$99,000

- Doug Hooley PSM
- Dr Margaret Middleton
- Dr Anna Rickards
- University of Melbourne (final installment of \$77,000)
- Anonymous

PARTNERSHIPS

In 2018, many Academy projects and public events were supported by sponsors and partners. Examples of support include sponsorship from government, research organisations and academia at Science at the Shine Dome and National Science Week events.

The value of Science at the Shine Dome sponsorship increased by 68% over the previous year.

Thank you to all 2018 Academy donors, sponsors and partners—we look forward to continuing to collaborate in 2019 and beyond in support of all that is science in Australia.

Seven partnerships were delivered in collaboration with externally funded organisations to create, produce and distribute scientific video communications. For example, the Australian Government Department of Health partnered with the Academy to produce videos and articles on immunisation and meningococcal disease.

Other valued partnerships included:

- Theo Murphy initiatives for early- and mid-career researchers
- supporters of the Australian Brain Alliance
- supporters and members of Future Earth Australia
- the Ian Potter Foundation and other partners to produce the decadal plan for taxonomy and biosystematics.

The Academy created a Partnerships Manager position to work across the Academy in support of current and future fundraising initiatives.

Case study: Future Earth Australia partnerships

19 members and partners worked with Future Earth Australia and each other to co-design and produce inputs into a 'science for cities' initiative, to be launched in June 2019. In addition, Future Earth Australia partnered with Qwestacon to produce a video on the Sustainable Development Goals,

reaching over 1.2 million people on social media. This content builds on Future Earth Australia's collaboration with Young Person's Plan for the Planet and other activities.

National collaborations saw Future Earth Australia link scientists and industry to work together on developing scientific standards for the disclosure of physical climate change risk (partners include NAB, QBE, Swiss

Re and others); partnerships with Climate-KIC Australia on early-career practitioner mentorship programs; and linkages with the Future Earth global network including hosting of the global Urban Knowledge Action Network.

Future Earth Australia supported more than 115 early-career researchers and practitioners to participate in its activities.



MAGIC workshop participants

Case study: Supporting early- and mid-career researchers

17 organisations partnered with the Academy to deliver 5 Theo Murphy Initiative (Australia) activities for early- and mid-career researchers in 2018.

The EMCR Forum partnered with 20 organisations to deliver Science

Pathways 2018 in Brisbane, with Griffith University as the main supporter.

One of the EMCR events, the Mentoring and Guidance in Careers (MAGIC) workshop, welcomed 34 early-career female or gender diverse researchers in mathematics and physics based in Australia. The event allowed the participants to explore the many facets of forging a career in

academic, government or industry settings, and how to build career success and resilience. The workshop was supported by funding from the Theo Murphy Initiative (Australia) through the Australian Academy of Science, the Payne-Scott initiative of the University of Sydney, the Australian National University and the ARC Centre of Excellence in Future Low-Energy Electronics Technologies.

Operational excellence



GOVERNANCE

The Academy is governed by a Council of 17 Fellows, which met four times. To ensure Academy business was progressed effectively between Council meetings, the Executive Committee (EXCOM) met seven times. See all members of Council and EXCOM as at 31 December.

About council:

Officers of Council (EXCOM) who retired

- Professor Andrew Holmes, President
- Professor Cheryl Praeger, Foreign Secretary
- Professor Pauline Ladiges Secretary Education and Public Awareness

Ordinary members of Council who retired

- Professor Ian Hume, Ordinary Member (Biological Sciences)
- Professor John Mattick, Ordinary Member (Biological Sciences)
- Professor Sue O'Reilly, Ordinary Member Physical Sciences
- Professor Mandyam Srinivasan, Ordinary Member Physical Sciences

Fellows elected to Council Officer (EXCOM) positions

- Professor John Shine AC, President
- Professor Elaine Sadler, Foreign Secretary
- Professor Hans Bachor AM, Secretary Education and Public Awareness of Science

Fellows elected to Ordinary Member positions

- Professor Wendy Hoy AO, Ordinary Member (Biological Sciences)
- Professor Marilyn Anderson AO, Ordinary Member (Biological Sciences)
- Professor Frances Separovic, Ordinary Member (Physical Sciences)
- Professor Halina Rubinsztein-Dunlop, Ordinary Member (Physical Sciences)

Council appointments

- Professor Ian Chubb AC, to fill a casual vacancy on Council
- Professor Sue O'Reilly AM, co-opted onto EXCOM to assist Secretary Education and Public Awareness and Observer at Council.

The Finance Committee met four times. It is one of seven governance committees of Council that have an advisory role.

▶ science.org.au/about-us/governance

FINANCIAL SUMMARY

2017–18 financial year

The Academy:

- raised \$18.9 million (\$11.4 million government and grant funding, \$3.6 million investment revenue, \$3.9 million self-generated revenue)
- invested \$17.1 million, with major investments in \$9.6 million grant-related expenditure, \$5.43 million administration, \$1.51 million project-related expenditure, \$0.56 million Primary Connections.

▶ science.org.au/annual-and-financial-reports

OPERATIONAL IMPROVEMENTS

The Academy:

- engaged a new Venue Manager to increase venue hire of the Shine Dome
- implemented a new financial management information system
- reviewed the five-year Capital Management Plan for the Shine Dome and Ian Potter House
- reviewed the three-year ICT Strategic Plan
- reviewed all building management systems.

THE SHINE DOME AS A VENUE

With a focus on external hire, the Shine Dome was hired on 106 days and earned a total of \$223,000.



A new website to promote the Shine Dome as a venue provided an excellent opportunity to support marketing impact and revenue growth.

► shine.dome.org.au

OUR EMPLOYEES



Academy Secretariat employees, 2018

74

employees at 31 December,
of which 20 were part time

9

work teams implementing the
Academy's strategic objectives

26

years service by longest-serving
current staff member

