



Message from the Chief Executive—August 2018

August 28, 2018

August spells National Science Week and what a feast of activities on offer across the country.

The Academy celebrated¹ by exploring the Science of Us in Canberra and the Science of Sport in Sydney, and by presenting Academy Fellow Dr Veena Sahajwalla and Dr Karl Kruszelnicki to record crowds at the National Convention Centre in Canberra.

On 23 August the Academy partnered with the Australian Academy of Law to host a symposium exploring the intersection of science and the law. An august panel of speakers drawn

from the science sector and the judiciary was ably chaired by the Hon Justice Stephen Gageler AC. The panel and audience discussed and compared different notions of uncertainty, decision making and the impact of unconscious biases and memory in the courtroom.

This week we welcomed the Hon Karen Andrews MP, Minister for Industry Science and Technology. The Academy is pleased that the science portfolio has returned to the Cabinet and looks forward to working with Minister Andrews to advance science in Australia. There are a number of pressing issues impacting the science sector and the Academy will continue to engage with parliamentarians, particularly as we move into the pre-election period.

You can read about the extraordinary achievements of Australian scientists, many of which are Fellows of the Academy, in this month's newsletter.

Anna-Maria

Australia's science leaders reissue their call for stronger action on climate change

August 21, 2018

The Australian Academy of Science has reissued their call for the Australian Government to use the best available science to guide action on climate change.

The longer Australia delays decisive action towards reducing greenhouse gas emissions the more challenging that action will become.

Even if all the country commitments from the Paris Agreement are met, the best interpretation of the latest data shows that by the end of the century the global climate is likely to be 3°C above pre-industrial levels.

This is substantially higher than the Paris target to limit warming to less than 2°C and would have profound impacts affecting billions of people throughout the world.

The Academy stands ready to assist the Australian Government by continuing to provide sound scientific advice on issues relating to climate change.

¹ <https://www.science.org.au/news-and-events/news-and-media-releases/academy-reaches-new-heights-during-national-science-week>

The science clearly indicates that avoiding the worst impacts of climate change will require concerted global action to reduce atmospheric carbon.

The Commonwealth Academies of Science Consensus Statement on Climate Change, published earlier this year, represents the consensus views of tens of thousands of scientists. It marks the first time Commonwealth nations have come together to urge their Governments to take further action to achieve net-zero greenhouse gases emissions during the second half of the 21st Century.

View The Commonwealth Academies of Science Consensus Statement on Climate Change²

Australian mathematician wins Fields Medal

August 03, 2018

Australian mathematician Akshay Venkatesh has become only the second Australian to win a Fields Medal, often described as the Nobel Prize for mathematics. The first was Terence Tao FAA FRS in 2006.



Akshay Venkatesh has become only the second Australian to win a Fields Medal

The medal is awarded every four years to between two and four researchers under 40 years old, to recognise outstanding mathematical achievement for existing work and for the promise of future achievement.

The medal is named after the Canadian mathematician John Charles Fields (1863–1932), who conceived the award to celebrate the great achievements in the area. In addition to a gold medal, the winner receives \$15,400.

Venkatesh is a professor of mathematics at Stanford University, USA and has spent the past year as visiting professor at the Institute for Advanced Study (IAS) in Princeton, where he will soon take up a longer-term role.

He has been recognised for ‘his synthesis of analytic number theory, homogeneous dynamics, topology and representation theory.’

The other winners of the 2018 Fields Medal, announced at the **International Congress of Mathematics in Brazil**³, are Alessio Figalli, Caucher Birkar and Peter Scholze.

Professor Venkatesh said just manipulating numbers makes him feel happy.

“A lot of the time when you do math, you’re stuck, but at the same time there are all these moments where you feel privileged that you get to work with it. And you have this sensation of transcendence,

you feel like you’ve been part of something really meaningful,” Professor Venkatesh said.

Academy Fellow and UWA professor Cheryl Praeger AM FAA, has known Akshay since he was 12 and says he is extraordinary.

‘At our first meeting I was speaking with Akshay’s mother Svetha, while Akshay was sitting at a table in my office reading my blackboard which contained fragments from a supervision of one of my PhD students, just completed,’ recalls Professor Praeger.

‘At Akshay’s request I explained what the problem was. He coped with quite a lot of detail and I found that he could easily grasp the essence of the research.

‘Akshay became the youngest ever student to study at UWA and went straight into second year maths units, writing exam papers over the summer for core first year maths courses he had never taken to demonstrate that he did not need to do those units. He was not seeking credit but rather exemption from the courses,’ says Professor Praeger.

Venkatesh earned a BSc in mathematics and physics with first class honours at UWA in 1997, becoming the youngest ever to achieve this feat. At the age of 16 Venkatesh left Australia for the United States on a UWA Hackett Scholarship, completing his PhD in maths at Princeton in 2002.

² <https://www.science.org.au/supporting-science/science-policy/position-statements/cwealth-acad-science-consensus-statement-climate-change>

³ <http://www.icm2018.org/portal/en/home>

'He's had such a stellar career since then. A Clay research fellowship taken in New York; full professorship at Stanford and this year he will be moving back to Princeton. Twice Akshay has visited UWA as Professor at Large where it was great hearing his lectures and seeing his interactions with students,' recalls Professor Praeger.

Watch the video about Akshay's Fields Medal⁴

Academy reaches new heights during National Science Week

August 21, 2018

The Australian Academy of Science reached new audiences during National Science Week, capping off the annual celebration of science with record crowds attending shows featuring renowned science communicator Dr Karl Kruszelnicki and newly elected Fellow, UNSW Professor Veena Sahajwalla FAA.

The Academy kicked off the week with the fourth event of the year in **the 'Science of Us' series⁵**.

The event attracted the biggest audience for the series in 2018, with 227 people packing into the Shine Dome to hear **Professor Mike Kyrios⁶** (Flinders University) and Professor Helen Christensen (Black Dog Institute) talk about mental health and technology.

The Academy then moved to Sydney for the first event in the Academy's National Speaker Series for 2018, 'The Science of

Sport'. 120 attendees heard four outstanding speakers discuss how sport and science intersect, including the impact of caffeine on sports performance and how we can efficiently fuel our bodies during physical activity.

To finish the week the Academy brought Dr Karl Kruszelnicki and UNSW Sydney Professor Veena Sahajwalla to the National Convention Centre for two shows: high school students during the day and the general public in the evening. A total of 3,267 tickets were booked for both events.

Professor Hans Bachor, Academy Secretary for Education and Public Awareness of Science, said the Academy went boldly where it had not been before.

"The public events on the Friday were amazing, the response of the public, students, teachers were great. When do you have over 1,000 students quietly focussing on one topic, for over an hour? When

have you got people waiting for so long to get their book signed? What a buzz," Professor Bachor said.

The shows were supported by Defence Science & Technology, The Australian National University, The University of Sydney, UNSW Canberra, University of Canberra and the National Convention Centre Canberra.

On social media the Academy reached an audience of almost 26 million on Facebook and over 250,000 (impressions) on Twitter during National Science Week.

The National Science Week video produced by the Academy was viewed over 130,000 times.

View the National Science Week video⁷

The Academy video with the biggest reach during National Science Week (over one million views so far) featured APEC ASPIRE Prize winner, Associate Professor Madhu Bhaskaran.

View the video on Associate Professor Madhu Bhaskaran⁸



Renowned science communicator, Dr Karl Kruszelnicki

4 <https://www.facebook.com/AustralianAcademyofScience/videos/1769303643147159/>

5 <https://www.science.org.au/news-and-events/events/public-speaker-series/science-us>

6 <https://blogs.flinders.edu.au/fit/2017/10/09/new-leader-joins-college-of-education-psychology-and-social-work/>

7 <https://www.facebook.com/AustralianAcademyofScience/videos/1785105691566954/>

8 <https://www.facebook.com/AustralianAcademyofScience/videos/2653832888175742/>

Australian scientist wins APEC ASPIRE Prize

August 20, 2018

A talented local scientist's work to develop a form of 'electronic skin' that monitors the environment and the human body has been recognised with the APEC Science Prize for Innovation, Research and Education (ASPIRE).

Associate Professor Madhu Bhaskaran from RMIT University, who was nominated by the Australian Academy of Science for the prize, beat a strong international field of candidates from countries including the United States, China, Russia, Malaysia and

Canada. She is only the second Australian to win the prize since the award's inception in 2011.

The ASPIRE Prize, valued at US\$25,000, recognises scientists under the age of 40 who are working in APEC nations. This year it was announced at the 12th APEC PPSTI Meeting in Papua New Guinea in August.

Associate Professor Bhaskaran's work combining oxide, elastic and plastic materials at high temperatures, has led to sensors that can be worn as "electronic skin". The sensors are currently being integrated into new health monitoring technology to improve aged care, and can potentially

be used for detecting dangerous gases in mines, in monitoring UV rays and as smart contact lenses.

Watch a video about Associate Professor Bhaskaran's work⁹

Find out more about the ASPIRE prize¹⁰



Associate Professor Madhu Bhaskaran was nominated by the Australian Academy of Science for the APEC ASPIRE prize.



Chief Scientist of Western Australia, Professor Peter Klinken AC presents Professor Kliti Grice with her ANZAAS Medal.

Academy Fellow wins ANZAAS Medal for her scientific achievements

August 22, 2018

Newly elected Fellow and organic geochemist Professor Kliti Grice has been named the 2018 recipient of The Australian and

New Zealand Association for the Advancement of Science (ANZAAS) Medal for her extraordinary contribution to science.

Professor Grice, who is founding Director of the Curtin-based Western Australian Organic and Isotope Geochemistry Centre, was presented the medal by Chief Scientist of Western Australia, Professor Peter Klinken AC.

Professor Grice is a world-leading authority on molecular fossil and stable isotope geochemistry. Her research into modern and ancient environments has greatly enhanced the understanding of Earth's early life, microbial ecosystems of the past, aspects of plant and algal physiology and food webs.

Grice pinpointed sulfide toxicity as an underlying cause of rapid biological turnover, by identifying the frequent presence of green sulfur bacteria in mass extinction sedimentary records. She also established the role of microbial activity in exceptional preservation of fossils.

Professor Grice said she was honoured to be the recipient of the ANZAAS Medal and acknowledged the contributions of a large cohort of Australian and international researchers she has collaborated with.

"The many inspiring students and early career researchers at Curtin who bring such enthusiasm and energy to our research program

⁹ <https://www.science.org.au/curious/video/electronic-skin-leads-win>

¹⁰ <https://www.science.org.au/apec-science-prize>

have also played an important role in any individual achievement of mine," Professor Grice said.

Professor Grice said she was passionate about science research and enjoyed the challenges it frequently presented.

"As researchers, we often face setbacks, but it is important to remain curious and pursue research projects with determination and persistence in search of greater knowledge of the world," Professor Grice said.

Read more about Professor Kliti Grice and the ANZAAS Medal¹¹

Chand Gudi wins Heidelberg Laureate Forum Fellowship

July 30, 2018

PhD student and social roboticist Siva Leela Krishna Chand Gudi has been selected by the Australian Academy of Science to represent Australia at the highly prestigious 6th Heidelberg Laureate Forum in Germany in September.

The forum will see 200 leading young mathematicians and computer scientists from around the world 'engage in a cross-generational scientific dialogue' with the laureates of the most prestigious prizes in their fields: **the Abel Prize, Turing Award, Nevanlinna Prize and Fields Medal¹²**.

Mr Gudi, who is based at the University of Technology Sydney's Magic Lab/Centre for Artificial Intelligence, is one of only 30 of 200 researchers worldwide attending this year's forum that will present their research.

Mr Gudi said social robotics research is an emerging field which explores how robots can assist humans.

"For example, the role of a robot to act as a companion to an elderly person or to ensure they take their medications on time. In the future, I can also see robots taking on the role of coach or giving advice to humans in different situations," Mr Gudi said.

"My goal is to make a groundbreaking contribution in the field of robotics using artificial intelligence, which can make a big impact on society."

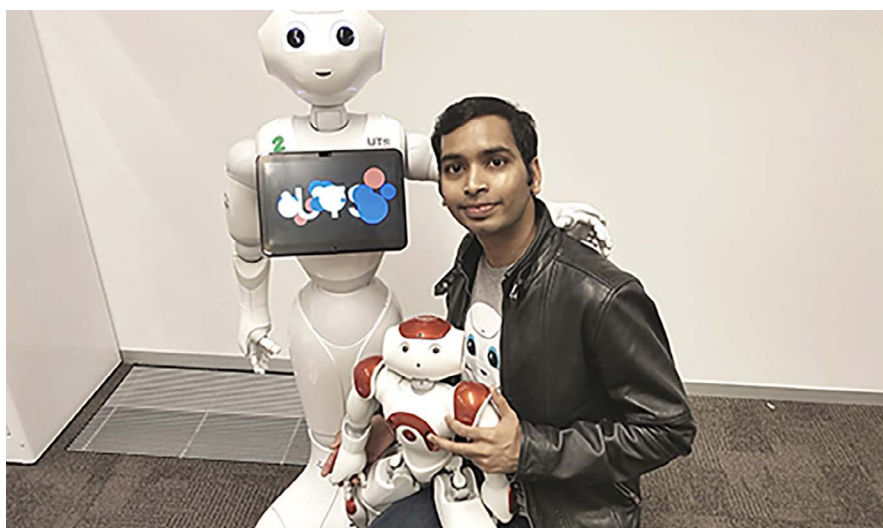
At the age of 26 Mr Gudi has already registered patents for a range of new technologies

including a drone based wireless network, a wearable smart tight cross-legged detector, an infant mental state analysis system and an autonomous reconnaissance bot.

The 6th Heidelberg Laureate Forum¹³ will take place from 23 to 28 September 2018.

The Academy's Heidelberg Laureate Forum Fellowship is open to young researchers at all phases of their careers: undergrad, PhD or postdoc.

The 2018 Fellowship¹⁴ has been made possible thanks to support from the **Science and Industry Endowment Fund¹⁵** with the successful delegate receiving a travel grant of \$3,500 and complimentary registration for the Academy's annual Science at the Shine Dome event.



PhD student and social roboticist Chand Gudi

11 <http://news.curtin.edu.au/media-releases/curtin-geochemist-wins-anzaas-medal-scientific-achievements/>

12 <http://www.heidelberg-laureate-forum.org/the-laureates/?hlfyear=2018>

13 <http://www.heidelberg-laureate-forum.org/>

14 <https://www.science.org.au/opportunities/travel/grants-and-exchange/heidelberg-laureate-meetings>

15 <http://www.sief.org.au/>



Scientists from around the world, including Academy President Professor John Shine, met in Argentina recently, with a focus on the importance of soils to food and nutrition security.

Importance of soils the focus of S20 summit

August 02, 2018

The importance of soils to food and nutrition security was the focus an international summit of scientists held in Argentina recently.

Academy President, Professor John Shine, joined more than 200 other scientists at the Science 20 (S20) Summit in Argentina, from which recommendations for achieving a sustainable food future were made. The S20 is made up of academies of sciences of G20 countries and is a powerful voice for science across the world.

The group's recommendations, **Food and Nutrition Security: Improving Soils and Increasing Productivity**¹⁶ was presented to Dr Lino Barañao, Argentine Minister of Science, Technology and Innovative Production. The minister was also presented with four books containing research on food and nutritional security by the InterAcademy Partnership, an organisation that represents 120

academies of science from around the world including Australia, for consideration by the G20 leaders.

The S20's statement focused on promoting good soil governance and knowledge about soil. It encouraged new international programs to boost scientific cooperation on sustainable soil management, and the creation of opportunities for professionals and scientists from developing countries. Academy Fellows Dr TJ Higgins and Professor Alex McBratney contributed to the statement.

More information on the summit and the recommendations¹⁷



Professor Christine Beveridge is one of Five Fellows to receive ARC Laureate Fellowships

Fellows receive prestigious ARC Laureate Fellowships

August 03, 2018

Five Fellows of the Australian Academy of Science are among 16 recipients of the Australian Research Council's prestigious Laureate Fellowships, announced by the Minister for Education and Training Simon Birmingham.

The recipients are:

- Professor Christine Beveridge FAA from the University of Queensland. Awarded \$2.9M to investigate the genetic mechanisms of shoot branching in agricultural and horticultural plants.
- Professor Karl Glazebrook FAA FASA from Swinburne University of Technology. Awarded \$2.8M to develop deep learning techniques for use by the James Webb Space Telescope (launching in 2020 as successor to Hubble) in mapping and understanding the universe during its first billion years.

¹⁶ <http://www.s20argentina.org/wp-content/uploads/2018/07/S20-Soils-with-Executive-Summary.pdf>

¹⁷ <https://www.g20.org/en/news/s20-issues-recommendations-sustainable-food-future>

- Professor Julian Gale FAA from Curtin University. Awarded \$2.5M to develop new predictive methodologies for crystallisation processes that underpin food and minerals processing, and pharmaceutical development
- Professor Bostjan Kobe FAA from the University of Queensland. Awarded \$2.8M to investigate mechanisms of innate immunity in plants and animals.
- Professor Peter Visscher FAA FRS from the University of Queensland. Awarded \$3.5M to use big data and genomic technologies to understand the causes and consequences of human trait variation.

The Academy warmly congratulates these distinguished Fellows on the awarding of one of Australia's most distinguished research Fellowships.

More information about the Laureate Fellowships can be found here¹⁸

Academy sees rapid rise in social media audiences

August 28, 2018

The Academy's rise in social media continues to surprise even its most enthusiastic supporters—we are clearly filling a need for accessible and accurate science. Our Facebook videos are regularly viewed by millions around the world and our articles read by many thousands. More than 660,000 now follow the Academy on Facebook, from a start of 9000 just 10 months ago.

Academy Fellows and other leading scientists participate in or review our videos and articles, so our followers can be sure they're not seeing fake facts.

Find us on Facebook¹⁹ (you don't need a Facebook account), or **see all our content on our website²⁰**. Here are just a few of our recent favourites.

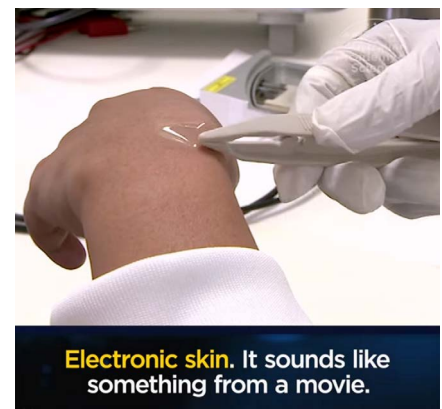
Videos

Manuka Honey²¹



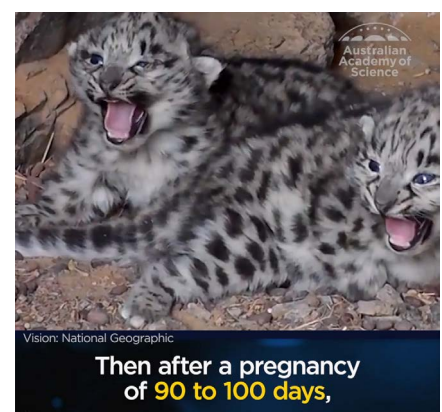
4,527,319 views

Electronic Skin²²



1,604,183 views

Rare snow leopard footage²³



5,599,187 views

18 <http://www.arc.gov.au/australian-laureate-fellowships>

19 <https://www.facebook.com/AustralianAcademyofScience/>

20 <https://www.science.org.au/curious/>

21 <https://www.facebook.com/AustralianAcademyofScience/videos/660304961023231/>

22 <https://www.facebook.com/AustralianAcademyofScience/videos/2653832888175742/>

23 <https://www.facebook.com/AustralianAcademyofScience/videos/1773765012701022/>

Articles



Coriander: yes or no?²⁴

Want to liven up your next dinner party? Throw some coriander into your main dish, sit back, and wait for your guests to react. It's the humble herb that divides people like nothing else can (except perhaps discussing politics, or religion, or relationships, or the price of houses...): you either love the fresh, citrus-y, zesty flavour, or you reckon it tastes like bath soap and can ruin an otherwise fabulous meal.



The link between cats, your brain and your behaviour²⁵

Do you consider yourself to be a 'cat person'? Does your ideal future involve surrounding yourself with fluffy, contented feline friends? If you've ever owned a cat (or been in contact with undercooked meat, or unwashed vegetables), you may be carrying a parasite called *Toxoplasma gondii*.



What are archaea?²⁶

The world of microorganisms is much more vast, varied and vital to the ongoing function of our planet than any of us can imagine. Microorganisms are involved in ecological processes like taking CO₂ out of the atmosphere or recycling waste materials and nutrients. Many microbial species are still undiscovered, but there's one group in particular that scientists know comparatively little about: the archaea.

Recent contributions to government policies— June to August 2018

August 28, 2018

The Academy regularly provides the Australian Government with feedback on important policy measures. Following is a round-up of the Academy's submissions since June.

See all Academy submissions in full²⁷

House of Representatives Inquiry into Funding Australia's Research

Growing Australia's base of public support and facilitating further private investment in research and development is necessary if we are to keep pace scientifically and economically with international collaborators and competitors over the coming decades.

The critical requirements for Australia in the context of research funding are:

1. long-term funding growth and program stability
2. a comprehensive, funded international STEM strategy with capacity to drive strategic

country-level engagement with major science initiatives and with priority partners

3. gender equity and diversity in STEM
4. increased collaboration between academia and industry
5. streamlined and efficient research funding processes.

The Academy's Early- and Mid-Career Researcher (EMCR) Forum also made a submission to the inquiry.

Read the submission (6 July 2018) and the EMCR Forum's submission (30 June 2018)²⁸

24 <https://www.science.org.au/curious/everything-else/coriander-yes-or-no>

25 <https://www.science.org.au/curious/everything-else/link-between-cats-your-brain-and-your-behaviour>

26 <https://www.science.org.au/curious/earth-environment/what-are-archaea>

27 <https://www.science.org.au/supporting-science/science-policy/submissions-government>

28 <https://www.science.org.au/node/9610>

Supplementary on the Review of the Defence Trade Controls Act

The Academy made a supplementary submission to the Review of the Defence Trade Control Act in response to a suite of proposals made by the Department of Defence. The Academy believes that further restrictions on Australian researchers' ability to engage in international research collaboration would be significantly detrimental to Australia's national interest.

Read the submission (16 July 2018)²⁹

Senate Inquiry into the Great Barrier Reef 2050 Partnership Program

The Academy welcomes the intent of the recent increase in funding for some aspects of improved stewardship of the Great Barrier Reef. The Academy's position has always been that research to better understand, manage and protect the reef should be premised on excellence, conducted at scale, focused on science-informed priorities, coordinated across agencies, and supported by rigorous and transparent processes of peer-review.

The Academy notes with concern many of the ongoing stressors to the Great Barrier Reef World Heritage Area. The proposed funding does little to address these issues. In the aftermath of unprecedented back-to-back coral bleaching and mass mortality in the northern and central reef, the Academy is concerned with the

direction of attention away from curbing the escalation of the major stressors on the reef in favour of small-scale restoration projects. The Academy is also concerned about the redirection of funding from experienced and well established Commonwealth agencies in favour of a nongovernmental organisation (NGO).

Read the submission (20 July 2018)³⁰

Women in STEM Discussion Paper

The gender disparity in STEM education and employment outcomes is both inherently inequitable and represents a significant cost to Australia's economic prosperity and national interests. The Academy firmly supports the principle that all Australians should be afforded equal opportunities to engage with, participate in and benefit from STEM education and employment.

Many of the changes that are required to realise this vision rest with businesses, educational institutions and with sector and community organisations, while others fall within the remit of Australian governments. The Australian Government and sector organisations have invested significantly in recent years in programs and policies to promote engagement and participation of girls and women both in the general workforce, and specifically in STEM. However, programs in Australia today have in the main been developed independently and without a coordinated approach.

As a result, they are widely variable in their delivery mechanisms and scale, and only a few programs have in place formal mechanisms for evaluating efficacy and impacts. For this reason, the Academy warmly welcomes and supports the Australian Government's commitment to developing a national strategy to coordinate efforts to increase girls' and women's participation in STEM.

The Academy's Early- and Mid-Career Researcher (EMCR) Forum also made a submission to the discussion paper.

Read the submission (27 July 2018) and the EMCR Forum's submission (27 July 2018)³¹

29 <https://www.science.org.au/node/9898>

30 <https://www.science.org.au/node/9566>

31 <https://www.science.org.au/node/9608>



From right: Academy Fellows Professor Nalini Joshi and Professor Cheryl Praeger at the Australian reception with Professor Anthony Henderson from the University of Sydney and Academy Fellow Professor Geordie Williamson.

International news— August 2018

August 28, 2018

Nalini Joshi elected Vice- President of the International Mathematical Union

Academy Fellow Professor Nalini Joshi was announced as Vice-President of the International Mathematical Union following her election recently at the IMU general assembly in Brazil. Professor Joshi is a strong champion of increasing the participation of women and minority groups in science and mathematics, including the **Science in Australia Gender Equity (SAGE) initiative**³².

The general assembly was part of the International Congress of Mathematicians, which for the first time in its 121 year history was held in the Southern Hemisphere. During the congress, the Academy hosted a special Australian reception attended by

more than 100 people, including the Australian Chargé d’Affaires in Brazil, Mr Peter Doyle; past, present and future IMU presidents; and many congress participants from Asia–Pacific nations.

Australia–India Strategic Research Fund (AISRF) Early- and Mid-Career Fellowships 2019

Applications are now open for the Australia–India Strategic Research Fund (AISRF) Early- and Mid-Career Researcher (EMCR) Fellowships 2019.

The EMCR Fellowships provide support of up to \$16,500 for Australian researchers to travel to India and work with leading researchers at major Indian science and technology organisations for a period of between one and three months. Applicants should propose a collaborative research project or a specific activity that has been developed in consultation with the host organisation(s) in

India. The EMCR Fellowships are a component of the AISRF, a platform for bilateral collaboration in science jointly managed and funded by the governments of Australia and India.

The deadline for applications is 9am (AEST) Wednesday 12 September 2018.

More information on these fellowships³³

Be part of the audience at Falling Walls Lab Australia

The third Falling Walls Lab Australia will take place on 11 September 2018 at the Shine Dome in Canberra, hosted by the Academy in partnership with the Embassy of Germany in Canberra and the German–Australian Chamber for Industry and Commerce.

Falling Walls Lab Australia is an inspiring innovation forum for 20 young Australian researchers, social scientists, academics, entrepreneurs and professionals across all disciplines. The Lab provides a platform for each participant to present their research work, business model, innovative project, social initiative or idea in just 3 minutes on stage, in front of peers and a distinguished audience from academia and business.

This event is open to the public and entry is free. However, we recommend that you book early as seats are limited and will fill quickly. **Please book your seat**³⁴ by Friday 31 August 2018.

32 <http://www.sciencegenderequity.org.au/>

33 <https://www.science.org.au/opportunities/travel/grants-and-exchange/australia-india-strategic-research-fund-emcr-fellowships>

34 <https://www.science.org.au/news-and-events/events/falling-walls-lab-australia>



The scholars celebrating their successful placements in the internship program.

2018 Australia–Americas PhD Research Internship Program wraps up

The Australia–Americas PhD Research Internship Program supports the **Australian Government’s National Strategy for International Education 2025**³⁵. It is funded by the Australian Government’s Enabling Growth and Innovation Fund and administered by both the Australian Embassy in Washington DC and the Academy.

This year, through placements of 8–10 weeks in Australian research organisations, American second- and third-year postgraduate research scholars in education, science and engineering built collaborative partnerships and fostered ongoing collaboration.

The placements from June to August started with a two-day orientation program in Canberra, which provided an opportunity for the US and Latin American participants to meet. The placements concluded recently with a one-day session where each of the 40 scholars shared glimpses

of their time here; spoke about their struggles and achievements and what they learned in their time in Australia; and identified what they were taking back with them to either Argentina, Brazil, Colombia or the USA.

The wrap up was also attended by representatives of the Department of Education and Training and the Department of Foreign Affairs and Trade. Dr Matthew Woolley from UNSW shared his experience as a host for a Colombian participant, and Mr Justin Withers from the Australian Research Council presented opportunities for the students for future collaborations. Participants were then presented with a completion certificate.

The Academy is pleased at the success of the program and looks forward to supporting future collaborative opportunities between participating nations.

Royal Society Foreign Secretary meets with Fellows

The Royal Society’s Foreign Secretary, Professor Richard Catlow, recently met with Fellows of the Academy in Sydney and Canberra who are also Fellows of the Royal Society. They explored how the two organisations could promote scientific collaborations between Australia and the UK as well as across the Commonwealth.

About 80 Australian researchers are Fellows of the Royal Society, the second largest number of overseas Fellows after the United States.



From left: Fellows of the Academy and Royal Society, Dr Jim Peacock and Professor Susanne von Caemmerer, with Professor Richard Catlow, Foreign Secretary Royal Society, before the meeting with Fellows at the Academy in July.

35 <https://nsie.education.gov.au/>

Coming events—August–September 2018

August 28, 2018

Dancing with Strangers: Imagining an Orinary Moment for Australian STS Sydney

6.00 pm

Thursday 30 August

State Library of NSW, Sydney

In this Dyason Lecture 2018, Helen Verran will explore the moment when the first Europeans arrived in Sydney and danced with the strangers who had been warily awaiting them. She will take this promising moment in which knowers in disparate traditions engaged each other with curiosity and respect, as occasion to articulate (another) orinary moment in Australian science and technology studies.

Book your seat for this intriguing lecture.

More about this event³⁶

Falling Walls Lab Australia Canberra

11.00 am – 6.00 pm

Tuesday 11 September

The Shine Dome, Canberra

Falling Walls Lab Australia will be an inspiring innovation forum for 20 young Australian researchers, social scientists, academics, entrepreneurs and professionals across all disciplines. The Lab provides a platform for each participant to present their research

work, business model, innovative project, social initiative or idea in just 3 minutes, on stage in front of peers and a distinguished audience from academia and business.

Join the audience—**book your seat by 31 August.**

More about this event³⁷

Introducing Future Earth Melbourne

4.15 – 5.15 pm (followed by refreshments)

Tuesday 4 September

RMIT, Swanston Street, Melbourne

Future Earth is an eminent global research network aimed at enhancing sustainability by enabling and translating the Sustainable Development Goals from research to practice.

This informal public event will showcase the activities of the global Future Earth network by bringing together three key Future Earth initiatives underway in Australia and abroad.

More about this event³⁸

2018 Australasian Early Career Researchers Network (AECURN) Queensland Symposium Brisbane

5.00 pm

Thursday 23 August 2018

Federal Court's Ceremonial Court,
Level 21 Law Courts Building,
Queen's Square, Sydney

Cost: Free for Academy Fellows,
\$25 for non-fellows

This event features cutting-edge research from early-career urban researchers on transforming cities.

Attendance is free but places are strictly limited so register now to avoid disappointment. To register your attendance, please email ed.morgan@griffith.edu.au

Future Earth Australia is offering financial assistance to assist attendees from **Future Earth Australia member organisations**³⁹ to attend this event.

More about this event and travel scholarships⁴⁰

Opportunities for scientists—August– September 2018

August 28, 2018

Academy opportunities

Australia–India Strategic Research Fund (AISRF) Early- and Mid-Career Fellowships 2019

Applications are now open for the Australia–India Strategic Research Fund (AISRF) Early- and Mid-Career Researcher (EMCR) Fellowships 2019.

The closing date for applications is **9am (AEST) Wednesday 12 September 2018.**

More information on these fellowships⁴¹

36 <https://www.science.org.au/news-and-events/events/dyason-lecture-2018>

37 <https://www.science.org.au/news-and-events/events/falling-walls-lab-australia>

38 <https://www.science.org.au/supporting-science/future-earth-australia/events/introducing-future-earth>

39 <https://www.science.org.au/supporting-science/future-earth-australia/partners>

40 <https://www.science.org.au/supporting-science/future-earth-australia/events/2018-australasian-early-career-researchers-network>

41 <https://www.science.org.au/opportunities/travel/grants-and-exchange/australia-india-strategic-research-fund-emcr-fellowships>

External opportunities

Order of Australia Honours

Nominations are received from the public to recognise people who have contributed above and beyond to the Australian community or humanity at large. To encourage diverse representation of the community, nominations of women are being sought.

More information on the Order of Australia Honours⁴²

Nominations accepted **all year**

Fonds Pacifique

Projects relating to climate change and the risk prevention of disasters, economic and industrial, or sanitary safety or food safety.

More information on the Fonds Pacifique call for projects⁴³

Applications close
2 September 2018

Lurie Prize in the Biomedical Sciences

Recognises outstanding achievements by a young biomedical research scientist—US\$100,000

More information on the Lurie Prize in the Biomedical Sciences⁴⁴

Applications close
14 September 2018

Wolf Prize

Awarded to outstanding scientists for their achievements for the benefit of mankind in the following

fields in 2019: agriculture, chemistry, mathematics, medicine—US \$100,000 in each prize area

More information on the Wolf Prize⁴⁵

Applications close
17 September 2018

Balliet Latour Health Prize

The prize recognises outstanding scientific achievements in biomedical research for the benefit of human health. The theme for 2019 is cardiovascular diseases—€250,000

More information on the Balliet Latour Health Prize⁴⁶

Applications close
30 September 2018

Fellows update— August 2018

August 27, 2018

Honours and awards to Fellows

Professor Nalini Joshi AO FAA—elected Vice-President of the International Mathematical Union

Professor Kliti Grice FAA—recipient of the 2018 Australian and New Zealand Association for the Advancement of Science (ANZAAS) Medal for extraordinary contribution to science

Emeritus Professor David Blair FAA—inducted into the WA Science Hall of Fame in recognition of his extensive

achievements in experimental physics, focusing on the direct detection of gravitational waves

Professor C. Jagadish AC FAA FTSE—2018 Recognition Award from the Nanometer Science and Technology Division (NSTD) of the American Vacuum Society, for his contributions to semiconductor nano-optoelectronics and nano-photonics

National Health and Medical Research Council

Professor Melissa Little FAA—NHMRC Elizabeth Blackburn Fellowship Award (Biomedical)

Professor Melissa Little FAA—NHMRC Research Fellowship Award

Professor Stephen Nutt FAA—NHMRC Project Grant Award

ARC Laureate Fellowships

Professor Christine Beveridge FAA, University of Queensland—awarded \$2.9 million to investigate the genetic mechanisms of shoot branching in agricultural and horticultural plants

Professor Julian Gale FAA, Curtin University—awarded \$2.5 million to develop new predictive methodologies for crystallisation processes that underpin food and minerals processing, and pharmaceutical development

Professor Karl Glazebrook FAA, Swinburne University of Technology—awarded \$2.8 million to develop deep learning techniques for use by the James

42 <https://www.gg.gov.au/australian-honours-and-awards/order-australia>

43 <https://au.ambafrance.org/Call-for-projects-Fonds-Pacifique>

44 <https://fnih.org/what-we-do/current-lectures-awards-and-events/lurie-prize>

45 <http://www.wolffund.org.il/index.php?dir=site&page=content&cs=3152>

46 http://www.fnrs.be/docs/Prix/FRS-FNRS_Call_for_nomination_Health_Prize.pdf

Webb Space Telescope (launching in 2020 as successor to Hubble) in mapping and understanding the universe during its first billion years

Professor Bostjan Kobe FAA, University of Queensland—awarded \$2.8 million to investigate mechanisms of innate immunity in plants and animals

Professor Peter Visscher FAA FRS, University of Queensland—awarded \$3.5 million to use big data and genomic technologies to understand the causes and consequences of human trait variation

Obituaries

Professor Alex Moodie FAA
1923–2018

Professor Alex Moodie was a pioneer of electron diffraction and was elected to the Academy in 1973. He played an essential part in the theoretical and experimental developments that revolutionised the fields of electron diffraction and microscopy of crystals. His theoretical work included important contributions to the

initial formulation of a complete n-beam theory of electron diffraction, the formal quantum mechanical basis for this, and the computing methods permitting its application to practical problems in solid-state physics and chemistry.

Professor Moodie was a member of the Academy's National Committee for Crystallography from 1970 to 1979 and served as Chair from 1979 to 1983. He received the Ewald Medal from the International Union of Crystallography in 1988 in recognition of his contributions to his field.

Professor John Veevers FAA
1930–2018

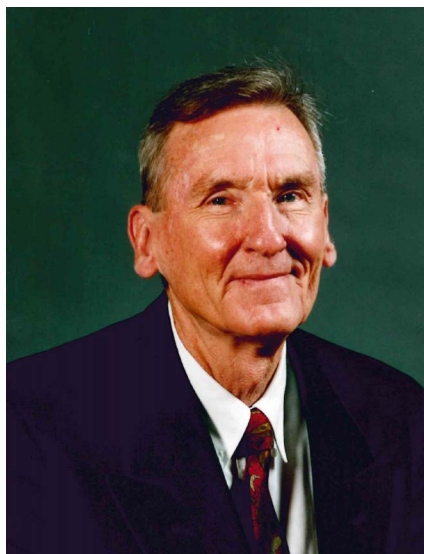
Professor John Veevers was elected to the Academy in 1995 for his outstanding contributions to the understanding and mapping of the sedimentary basins of Australia (both on and offshore) and for his work on the tectonic-climatic global supercycles that define major phases in the development of the Earth during the last 1,000 million years.

While at the University of Sydney, Professor Veevers commenced as a Cadet Geologist at the Bureau of Mineral Resources and during the Summer of 1948–49 he assisted in making a reconnaissance map of the forthcoming Snowy Mountains Hydro Scheme. He worked at the bureau until 1968 when he joined the newly formed Macquarie University, where he was appointed Emeritus Professor in 1998.

Professor Veevers was actively involved in the Academy, serving on the National Committee for Solid-Earth Sciences from 1981 to 1983 as well as several Academy committees following his election. John was an Honorary Fellow of the Geological Society of London and of the Geological Society of America. He received the Stillwell Award in 1968 and the Carey Medal for Tectonics in 1992 from the Geological Society of Australia. 'Veevers Crater' was named in recognition of John's extensive work in Western Australia.



Professor Alex Moodie



Professor John Veevers