

Shine On



This year, your generous support has enabled the Academy to celebrate and nurture excellence in science, and to bring outstanding science education to more Australians of all ages.

Primary Connections: supporting teachers to nurture curiosity

Thanks to your donations, Primary Connections is supporting teachers in regional, rural and remote locations to deliver outstanding science education in primary schools.

A one-day workshop was held in Emerald in central Queensland in November. Four teachers from remote Western Australian towns also received bursaries to attend the introductory workshop in Perth in October.

Alicia Druskovich from Tom Price Primary School commented: 'I now feel inspired, ready to get back into the classroom and teach inquiry-based, collaborative science. Thank you.'

These workshops and bursaries were supported by donations from Australian research scientists, science supporters in the community, and Australian businesses that understand the importance to our future of nurturing great science education at all levels. Further workshops and sponsored teacher bursaries will be offered in 2016.

Special thanks to Carol Wells and the St Peter Julian Eymard Primary School



Alicia Druskovich from Tom Price Primary School, Western Australia, attending a Primary Connections workshop in Perth

5/6 K for your donation. We will ensure your money goes to work straight away!

Nova: are you curious?

Since 'Nova: science for curious minds' went live on 30 June 2015, we have attracted worldwide interest and are building a solid reputation based on strong science and innovative communication.

Nova's evolution into a beautiful, engaging and high-quality science

explainer website has been made possible through a generous donation by Telstra.

As of 17 December there are 42 topics on the website, ranging from Mars to cars, with a new one going live each week. Our most popular topics so far relate to the greenhouse effect, the chemistry of cosmetics, the future of plastics, and dark energy. Coming topics include artificial intelligence, forensic science, and bushfire, among many others. During its short life, the site has already had more than 59 000 visitors and 82 000 visits—a good return rate.

Topics are produced by our small team of content and digital producers. So far, 63 of Australia's top scientific minds, including many Fellows of the Academy, have reviewed the topics to ensure they're scientifically accurate and represent current thinking.

Our first three Nova-sponsored videos by German animators Kurzgesagt have received a combined four million views, with another video under development. This collaboration has opened up a worldwide audience for Nova and is driving visits to our website and social media channels.



We are excited about the future and thank Telstra for supporting and believing in the value of Nova.

Strategic and visionary science policy

Your donations have allowed the Academy to double its science policy capacity, greatly enhancing its ability to ensure scientific evidence underpins public policy.

We will soon also initiate our new science policy internship program. This will allow us to improve our response rate to parliamentary enquiries and our ability to generate new evidence-based position papers to inform Australian science strategy. It will also educate science graduate interns about the policy landscape in which Australian science is carried out.

Visit <https://www.science.org.au/about-us/support-us> to read our most recent policy work.

Celebrating outstanding Australian science

Through the enduring gifts of our valued donors, the Academy is funding new research to help the survival of some of Australia's endangered species, reduce hospital readmissions in central Australia, and apply cutting-edge ecology and evolutionary biology to model climate change adaptation.

The Margaret Middleton Fund for the Conservation of Rare and Endangered Species

The Margaret Middleton Fund offers annual science grants of up to \$15 000 to support field-based, high-quality ecological research that ultimately will lead to tangible outcomes for ecology management.



Uperoleia laevigata. Photo courtesy Tnarg 12345 via Wikimedia Commons

The Academy acknowledges the generous ongoing support of Dr Middleton, who makes an annual donation to contribute to this valuable work. The awardees below are already undertaking the research supported by this fund.

2015 AWARDEES

Renee Catullo, CSIRO—Cryptic diversity on Cape York: assessing conservation priorities in endemic Toadlets (*Uperoleia*)

Michael Hitchcock, University of Melbourne—The decline of hollow-dwelling mammals in northern Australia: hollows be thy bane

Robyn Shaw, Australian National University—Halting Australia's mammal declines: a demographic, ecological and genetic approach to fire response in Australian native rodents

Melissa Wynn, Australian National University—Threat mitigation to support reintroduction of critically endangered reptiles on Christmas Island

Rod Rickards Fellowship

Rod Rickards Fellowships are made in honour of Professor Rod Rickards (1934–2007), one of the most important

contributors to Australian science through his outstanding achievements in the chemistry of compounds of medical, biological, agricultural and veterinary importance. Two Fellowships are awarded each year to outstanding scientists undertaking research in Europe in the areas of chemistry or biology. Generous annual \$15 000 donations from Anna Rickards enable this Fellowship to continue, and support outstanding young Australian scientists to broaden their experience and networks in Europe.

2015 GRANT RECIPIENTS

Dr Brooke Coombes of the University of Queensland undertook research on quantifying tendon elasticity using shear wave dispersion analysis in healthy and diseased tendons at the University of Nantes, where she will work with Associate Professor Antoine Nordez.

Dr Daniel Johnstone from the University of Sydney travelled to France to work with Dr Cecile Moro from the French Alternative Energies and Atomic Energy Commission (CEA) on understanding how infrared light protects against Parkinson's Disease.



*Astrophysicist Ray Jayawardhana, 2015 Selby Fellowship recipient.
Picture courtesy Professor Jayawardhana via Twitter*

Dr Romana Stark from Monash University worked with Professor Serge Luquet at the Université Paris Diderot on how the brain senses the body's needs and drives food intake.

Selby Fellowship

The Selby Fellowship is made possible through the generosity of the trustees of the Selby Scientific Foundation, which was established in 1980 with contributions from HB Selby Australia Ltd and its shareholders, along with the Selby family. It finances education, research and development in the fields of science and medicine, with which the company had been involved for some 80 years as a supplier of scientific instruments, laboratory apparatus and chemicals.

Fellowships are awarded to distinguished overseas scientists to visit Australia for public lecture and seminar tours and to visit scientific centres in Australia. These enlightening talks are made possible by the Selby Foundation's annual donation of \$15 000.

2015 WINNER

Professor Ray Jayawardhana is Dean of the Faculty of Science of York University, Canada. He is a renowned astrophysicist, award-winning science writer and popular speaker. A graduate of Yale and Harvard, he uses the world's largest

telescopes to explore planetary origins and diversity. Professor Jayawardhana gave seminars at a number of universities and delivered public lectures in several Australian states and territories.

Improving gender equity in science

The Science in Australia Gender Equity (SAGE) Athena SWAN Charter pilot was officially launched at Parliament House in September. Participating organisations have now commenced work towards improving their gender equity policies and performance, and earning an Athena SWAN Bronze Institutional Award. This process involves more than two years' work collecting and analysing data, as well as developing an action plan to address institutional barriers to gender equity and gender diversity.

SAGE is a partnership between the Australian Academy of Technology and Engineering (ATSE) and the Australian Academy of Science. Its size and scope has been made possible through the generosity of sponsors, whose gifts have enabled the program to significantly increase participation. The SAGE pilot now includes half of the higher education sector (25 universities) as well as five medical research institutes and two



publicly funded research agencies. Our deepest gratitude to our sponsors, who are integral in helping us transform the landscape of scientific research in Australia:

- ARC Georgina Sweet Australian Laureate Fellowship to Professor Nalini Joshi FAA
- Professor Brian Schmidt AC FAA FRS FTSE
- Sally Speed and Professor Terry Speed FAA FRS
- ARC Georgina Sweet Australian Laureate Fellowship to Professor Tanya Monro FAA FTSE

Plans for 2016

The Academy is excited to announce that we will introduce a new Annual Giving program in 2016. We hope you will consider joining our program to support the ongoing work to nurture outstanding science and science education, and provide independent and influential scientific advice. We look forward to sharing more information about this exciting new initiative in May next year.

Thank you

The Academy works hard to create excellence in Australian science, a scientifically informed community and a society that is guided by and enjoys the benefits of scientific endeavour. But we cannot do it alone: your support plays an important part in achieving this vision. Every contribution to this important work is meaningful, valued and appreciated.

Donor roll of honour

Academy Pillars

(Donations of or valued at \$500 000 +)
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- Estate of Thomas Lewis Davis
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- FJ Fenner AC CMG MBE FAA FRS and Mrs Bobbie Fenner
- Dr Margaret Middleton
- The Royal Society (UK)—Theo Murphy (Australia) Fund
- Estate of Ian Gordon Ross AO FAA
- Estate of Miss JG Russell
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The Australian Academy of Science acknowledges the support of donors who have given generously in 2015. Their support plays a critical role in helping the Academy achieve its mission.

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(Donations of or valued at \$100 000–\$499 999)

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(Donations of or valued at \$20 000–\$99 999)

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- Dr Margaret R Middleton
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- Anonymous 1

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- Dr Anna Rickards

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- The Late Professor John Swan AO FAA
- Anonymous 1

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- Ms Carol Wells—St Peter Julian Eymard Primary School 5/6 K
- Anonymous (2)

NOTE: Every effort has been made to ensure the accuracy of this report. We sincerely apologise if any error or omission has occurred. If you notice an error or omission please notify the Academy of Science on 02 6201 9471.

Making a donation

The Australian Academy of Science is registered as a Deductible Gift Recipient (DGR): your donation to the Academy is fully tax-deductible.

To make a gift to the Academy please visit <https://www.science.org.au/support-us>, or for more information about giving to the

Academy through a donation or bequest, please contact:

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