



Unlocking Inspiration

A report into the impacts of Inspiring
Australia's Unlocking Australia's Potential
grants programme

2015



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Minister's foreword

Australian potential unlocked

Australians can be justly proud of the contribution that its scientists and technologists have made to modern society.

But sometimes our interest needs stimulation, we need reminding just how important science and research are.

The Australian Government understands the transformative power of using our great commercial and scientific strengths to build an agile economy – one comprising strong, self-reliant and innovative businesses.

We want to build a nation of science-literate citizens who understand how science and technology and the power of discovery to increase Australia's prosperity in a competitive world.

Part of this effort is boosting the number of young people who learn to explore the science, technology, engineering and mathematical disciplines from their early years of schooling and beyond, into a pattern of life-long curiosity and learning.

Inspiring Australia helps to build awareness and an appreciation of the excitement of science and scientific discovery among Australians, regardless of their background or where they live, by supporting a myriad of events and projects.

The *Inspiring Australia* programme, *Unlocking Australia's Potential*, has successfully reached out to people who are not normally highly-engaged with science. It does this by demonstrating that science and research is not just about people in white lab coats, but is occurring around us and is something that everyone can be a part of.

Through its many activities, this programme also shows at a grass roots level how effective collaborative partnerships can be in performing high impact science that delivers innovative outcomes in the real world. Some projects in local communities illustrate how these outcomes can benefit participating local industries, including small and medium enterprises and the community.

Unlocking Australia's Potential provided \$5 million in grant funding for 63 projects and hundreds of events across all states and territories between 2011 and 2014, reaching an estimated 470,000 people. The grants attracted \$11 million in co-funding contributions and significantly, over two-thirds of the projects are now continuing on their own resources.

Unlocking Australia's Potential has harnessed creative thinking to spread the science message to diverse audiences. It's supported a range of projects, from citizen science projects that involve people in mapping the changing distribution of Australia's marine species, to delivering the latest science news on platforms like Facebook that reach a worldwide audience including more than a million Australians a month.

Engaging all sectors of Australian society with science is helping to build an entrepreneurial, risk-taking culture that will help to unlock the nation's innovation potential and drive jobs, growth and discovery into the future.



The Hon. Christopher Pyne MP
Minister for Industry, Innovation and Science

Unlocking Australia's Potential

Overview

There are tens of thousands of new stories of science engagement in Australia, that might not otherwise have happened, as a result of the Unlocking Australia's Potential programme.

Many people in remote locations, or from backgrounds not normally interested in science, have been introduced to, and shown enthusiasm for, science through innovative programmes offering workshops, demonstrations, seminars, discussions, videos, competitions, concerts, citizen science and other community events that stretched across the country.

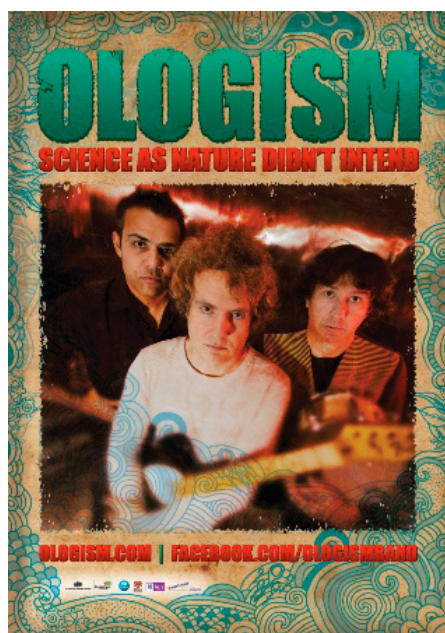
An analysis of Inspiring Australia's Unlocking Australia's Potential grants programme has shown that they were an effective way of providing science engagement to many Australians who might not otherwise have been easily reached.

The programme worth **\$5 million**, supported **63 projects** and hundreds of events across all states and territories between December 2011 and 2014.

Together the projects funded under the programme reached an estimated **audience of 470 000** people, many in close and direct engagement, and with about two-thirds through on-line engagement.

The programme has been successful in forming strong **partnerships** and finding ways to continue the programmes after the funding ceased. Over 200 organisations partnered with successful applicants, generating an extra **\$11 million in funding**.

The analysis also found that many of the projects had become **sustainable with 43 continuing** beyond the grant period, and another 12 that are continuing to some extent.



Ologism - Science-Inspired Rock Performance: Ologism is a rock band that promotes Australian scientific research and innovation to youth and general public through live music events featuring science-inspired rock/pop music, live science demonstrations and audience interaction.

The grants also sought to focus on the priority areas of **youth, Indigenous communities** and **regional Australia**, targeting groups who might not otherwise have had a strong interest in, or easy access to, science engagement activities. Of note, there were five discrete projects for Indigenous Australians, 11 projects with a specific Indigenous audience focus and two others with a partial Indigenous audience focus.

Media coverage of Unlocking Australia's Potential grants was also clearly effective, with significant media interest in projects, supported by an initial media strategy that contributed to approximately one media story about Inspiring Australia appearing every week over three years.

Interest in the round was strong with applications from **278 organisations** seeking a total of **\$41.4 million**, with projects being grouped into one of three categories (small, medium or large) depending on the amount funded.

Three expert committees selected the successful applicants, working together to ensure the best selection of projects. The committees comprised members from the three levels of leadership of Inspiring Australia, Commonwealth departments, state departments and leading non-government bodies such as the Australian Science Communicators and academies, as well as active science communicators and media specialists. One of the key objectives of the grants was to provide a strengthened, cohesive and sustainable national programme of activities – which was clearly met.



Parasites in Power promotional poster.



The Poo Power project created a series of anaerobic methane digesters in Melbourne to demonstrate how dog waste, provided by members of the community, can be processed to produce biogases, and then explaining the potential use of such by-products in generating renewable energy.

The national strategy Inspiring Australia announced a goal of “working together towards a scientifically engaged Australia”. These Unlocking Projects demonstrate the wisdom and success of that goal as the Science Sector in partnership with all aspects of the community delivered high impact science engagement for the country.



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State spread and target audiences

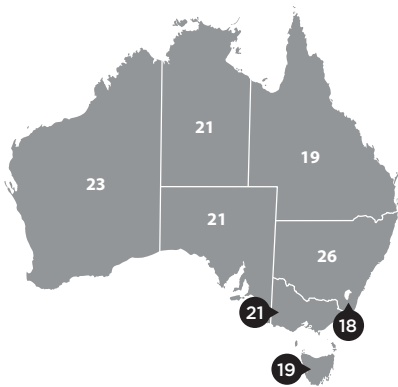
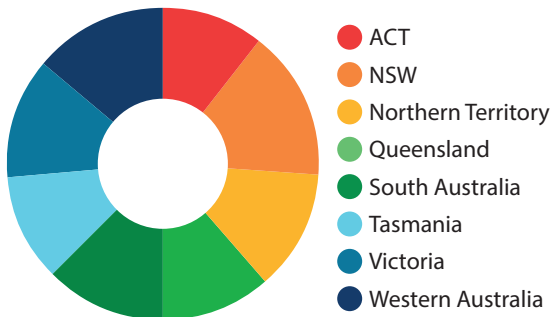
Unlocking Australia's Potential grants reached people right across Australia, in places as culturally diverse as they are geographically diverse, from Darling Harbour to Derby and from Adelaide to Alice Springs.

In short:

- 12 projects had a national reach, many utilising new media
- A further 9 projects were delivered to multiple states.
- The remaining 42 state-focussed projects were spread across all states and territories

The grants programme delivered science engagement projects at local, state, territory and national level across Australia, reaching people in places both culturally diverse and geographically diverse.

The following graph shows the project activity by state. The number of projects delivered in each state includes projects delivered on a national scale and in more than one state.

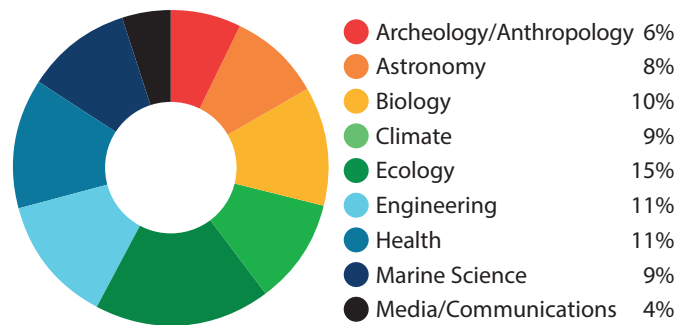


Above: Where Unlocking Australia's Potential grants were delivered.

Projects by subject area

The programme sought to fund projects that were likely to engage people who may not have had interest in, or access to, science engagement activities in the past. This diverse target

audience spans all ages, social, economic and cultural segments of the Australian community. The challenge of engaging such an audience was met by an equally diverse range of grant funded projects that covered the following broad groupings.



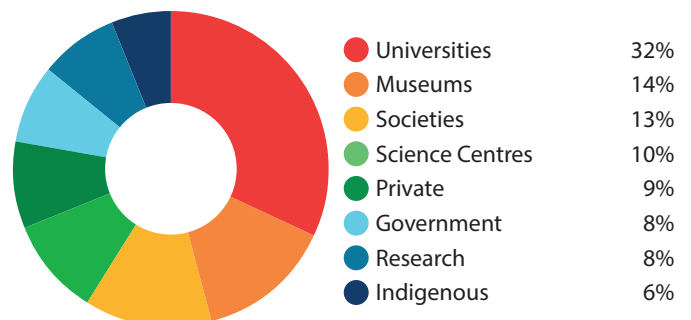
Funds by organisation

The projects undertaken offered a range of activities, from local community events to projects with a national reach. The ability of the projects to reach such a diversity of people throughout Australia was strengthened by the broad range of recipients.

A breakdown of funds allocated according to broad organisation categories showed:

18
26
21
19
21
19
21
23

GRANT RECIPIENT	NUMBER OF PROJECTS	GRANT VALUE (\$m)	PER CENT OF TOTAL
Universities	17	\$1.6m	32%
Museums	7	\$0.7m	13.6%
Societies/Groups	10	\$0.6m	12.8%
Science centres	5	\$0.5m	10%
Private	12	\$0.5m	9.4%
Government agencies	4	\$0.4m	8.2%
Research groups	3	\$0.4m	8%
Indigenous organisations	5	\$0.3m	6%
TOTAL	63	\$5m	100%



Impacts

Almost half a million people were engaged with Unlocking Australia’s Potential projects, which is more than the capacity crowds of the Melbourne Cricket Ground, the Sydney Cricket Ground, the Docklands Stadium, Stadium Australia, the Gabba, the Adelaide Oval, Canberra Stadium, York Park and the WACA combined.

Audience reach

While the main aim of the grants was to increase engagement of Australians in science, the programme also sought to provide a strong cohesive and sustainable suite of science engagement projects. The enthusiasm, drive and passion of many of the grant recipients proved a key ingredient in achieving this goal.

In short:

- The 63 projects reached an estimated 470,000 people
- Projects tended to favour deep engagement with smaller audiences
- A wide variety of engagement methods used
- Many audience members not normally engaged on science topics

The 63 projects funded under Unlocking Australia’s Potential had a combined audience reach of an estimated 470 000 people – but this does not reveal the depth of engagement. Many projects had very small audiences, of less than 100, but the impacts upon those participants were quite significant, based on the qualitative feedback from them (particularly given so many were from audiences not regularly engaged on science topics or from remote areas).

Individual comments on the impacts of engagement showed that there were significant and long-lasting impacts from many of the projects, particularly those that became self-sustaining after the granting period ended.

Many of the projects were also diverse in their methods of engaging, ranging from face-to-face through to online engagement. An estimated two-thirds of the 470 000 people reached was through online engagement activities, demonstrating how well grantees supplemented their activities with digital communication technologies.

STATE	HOME STATE	STATES BEING DELIVERED TO	DELIVERY METHOD			TARGET AUDIENCE			
			FACE TO FACE	NEW MEDIA (ONLINE)	MEDIA (OTHER)	GENERAL PUBLIC (ALL)	INDIGENOUS	YOUTH (ALL)	REGIONAL
ACT	3	18	9	8	1	15	0	3	15
NSW	19	26	17	8	1	21	0	5	22
NT	5	21	12	8	1	15	4	2	20
QLD	6	19	9	8	2	13	1	5	17
SA	7	21	11	9	1	17	1	3	20
TAS	4	19	10	8	1	14	1	4	16
VIC	10	21	11	8	1	16	0	5	18
WA	9	23	13	9	1	17	3	3	18
NATIONAL		14	4	8	2	12	0	2	12
TOTAL	63	182	51	9	2	43	9	11	50
<i>Total (not incl national)</i>	63	168	92	66	9	128	10	30	146

Above: Audience reach and delivery method of the 63 UAP grant projects

Case study

Project:
VIZBI+ Visualising the future of biomedicine – \$350 000

The project communicated biomedical research through images, animation and other visual means to young adults, business professionals and art lovers who may not be currently engaged with science.

A collaborative project between three of Australia's leading health and medical research institutions has led to the creation of stunning biomedically-accurate animations, that show exactly what actually happens inside our bodies at the micro scale.

Three of the biomedical animations were even premiered at a red carpet event at Federation Square in Melbourne.

The molecular movies have been depicted as bringing to life very complex biological processes that are researched by health researchers and usually only detailed in scientific journals. The molecular movies are available online at: <http://vizbi.org/plus/>

VIZBIplus – Visualising the Future of Biomedicine, has also been described as a project that is helping to make the invisible visible, whereby our unseen bodily processes are easier to understand. This in turn is expected to help us make better health and lifestyle choices.

With BAFTA and Emmy award winning biomedical animator Drew Berry as mentor, three talented scientific animators – Dr Kate Patterson (Garvan Institute of Medical Research), Chris Hammang (CSIRO) and Dr Maja Divjak (Walter and Eliza Hall Institute of Medical Research) used the same or similar technology as Dreamworks and Pixar Animation Studios, or that used by video game creators. Their animations reveal mesmerising magnifications of our interior molecular landscapes.

The animations feature:

- the role of the tumour suppressor protein 'p53', known as 'the guardian of the cell', in the formation of many cancer types.
- how starch gets broken down in the gut, showing how resistant starch, found in foods like beans and legumes, can protect us against one of Australia's biggest killers – colorectal cancer.
- how diseases associated with inflammation, such as type 2 diabetes, are 'lifestyle' diseases that represent some of the greatest health threats of the 21st century.

These biomedical animations will hopefully play a key role in reaching a wider audience, particularly younger people who are avid youtube watchers, and allow researchers to communicate the exciting and complex advances in medicine that can't be seen by the naked eye.

Case study

Project: ScienceAlert: Engaging and Inspiring Young Australians on Facebook – \$200 000

Using Facebook as a delivery device, the project supplied credible, defensible and accurate science content provided by Australasian universities, science centres and agencies to over 250,000 young Australians on a daily basis. Science Alert has gone on to become a successful small business employing several full and part-time staff.

Audience impacts

"The Inspiring Australia funding has been critical in helping ScienceAlert secure a larger Australian audience, build a sustainable business model and establish ourselves as leading curators of science and ambassadors of Australian research worldwide. The grant has helped ScienceAlert attract more than 250 000 new Australian fans on Facebook and reach more than 1 million Australians each month with the latest research breakthroughs, beautiful images and science videos. Acquiring this local fan base attracted support from local research organisations and has been crucial in developing our current sustainable business model, which involves partnering with leading Australian universities and helping them reach potential students."

— Chris Cassella, Managing Director, ScienceAlert Pty Ltd

"Perhaps most unexpectedly, the support from Inspiring Australia led to the success of our 2013 science week event IFLS Live! at the Powerhouse Museum, which attracted 600 young, science-loving Australians and sold out in less than an hour. This success, a direct result of our larger Australian audience and improved reputation both on and off Facebook, will enable us to create future events and get more Australians in the difficult-to-target 18-30 audience excited about science."

— Chris Cassella, Managing Director, ScienceAlert Pty Ltd

Case study

Project:

Regioneering Road Show – \$260 000

An annual four-week education outreach tour through regional and remote Australia. The Road Show involved travel across most states and delivered science education outreach activities in more than 30 rural locations. The Regioneering Road Show has the primary goal of engaging the community, and particularly, young Australians in engineering, technology and its underlying science.

Partnership Impacts

“Our work has expanded; we now have three new deliverable modules for high school students. Inspiring Australia has not only enabled us to put the resources in to develop these new modules and demonstrate them more widely (all over Australia!) but we are also able to provide equipment to all of our chapters nation-wide to deliver them locally and in perpetuity. We have forged new collaborations and partnerships ... cementing our work with our Indigenous partners and connecting more with remote and regional schools.”



Above: The Regioneering Road Show travelled through regional and remote Australia.

Sustainable Impacts

“We have developed better training for our volunteers, effectively empowered our chapters to run activities with support from the national office, but with the ability to self-organise. We have big plans from here. Inspiring Australia has allowed us to access the networks and resources necessary to expand and grow our program into something great. We look forward to continuing in delivering more quality workshops, to more and more students, in a greater range of topics through 2014 and beyond.”

— Final project report

Partnerships

What do Rio Tinto, the Poultry CRC and the Imperial College in London all have in common? They were amongst the more than 200 partner organisations whose collaboration made the Unlocking Australia's Potential projects so successful.

In short:

- \$5m funding supported with \$11m partner funding
- Over 200 partners involved
- 29 industry partners ranging from large corporations to small firms

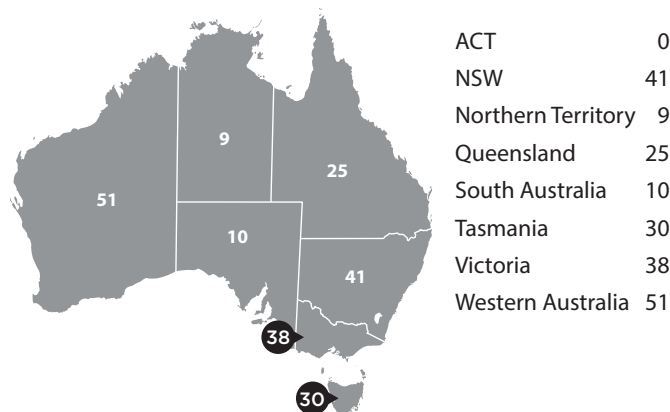
The \$5 million dollars of Government funding was supported by approximately \$11 million dollars in financial or in-kind support. This enabled the projects to link with a wider range of audiences and to bring new or prospective partners into the science sector.

A strong emphasis was placed on encouraging grant recipients to build partnerships and develop strong relationships with a range of industry, local government and community groups, and the inclusion of an estimated 200 co-contributors in the 63 funded projects demonstrated the reach of partnering.

This included 28 industry partners, who included major corporations such as CSL, Rio Tinto, Illawarra Coal and GlaxoSmithKline Australia, as well as smaller innovative firms such as Marinova Pty Ltd, JK Tech and Cytech Industries.

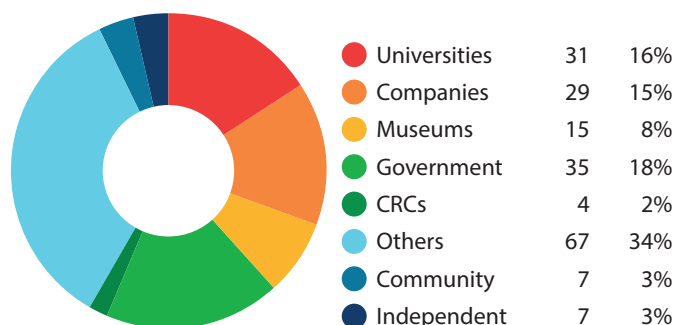
This is a key aspect of building the science engagement network in Australia, seeking to provide an environment that will sustain the projects beyond the life of the initial grant funding and will help foster a pattern of wider collaboration. This underpins the more recent strategies being pursued in promoting Science Technology Engineering and Mathematics (STEM) initiatives nationally.

Another benefit of the partnerships has been that it has led to greater exposure to the Inspiring Australia “brand” and strategy than would have been obtained through just grant funding alone.



Above: Numbers of partnerships by states and territories.

Partnerships by sector



Details of partnerships

NSW - 40	VIC - 38	QLD - 25	WA - 52	SA - 10	TAS - 30	NT - 9
Mid Mountains Neighbourhood Centre Incorporated	Dax Centre	The University of Queensland	Save the Children Fund	The University of Adelaide	Tasmanian State Government	Alice Desert Park
Blue Mountains City Council	CRC for Mental Health	ABC	Rocket Girl	University of Tasmania	Desert Knowledge Australia	Alice Solar City
Youth Eco Summit committee (NSW Dept of Education & Communities & Univ of Western Sydney Dept of Community Engagement)	Yarra Energy Foundation	State Library of Queensland	Disco Cantito Association	Faculty of Science, Engineering & Technology at University of Tasmania	Olive Pink Botanic Gardens	Centre for Appropriate Technology
Blue Mountains World Heritage Institute	City of Yarra	The University of Queensland	Murdoch University	Institute of Marine & Antarctic Studies	Desert People's Centre	Arid Lands Environment Centre
The Garvan Institute	Industrial Design students at RMIT	Robogals UQ	Decarbonising Cities and Regions funding	ActNow	The Antarctic Climate and Ecosystems CRC	Alice Water Smart
Marine Education Society Of Australasia Incorporated (MESA)	The Awesome Foundation	Marnie Lamprecht	Curtin University of Technology	Country Arts SA	Australian Maritime College's National Centre for Marine Conservation and Resource Sustainability	Alice Springs Town Council
Marine Discovery Centres	Pozible Crowdfunding	Australian National University	Unspecified community organisations	RiAus	Integrated Marine Observing System	Earth Sanctuary
Sydney Institute of Marine Science	Teacup Tumble	The University of Queensland	Chemfest (WA)	Professor Tracey McDonald	CSIRO Marine & Atmospheric Research	Department of Education
Information Communication Technology Educators of NSW	Bendigo Discovery Centre	Econnect	Perth Zoo	CSIRO	Australian Antarctic Division	Central Land Council
National Computer Science School	Bendigo (various)	University of Sydney	University of Western Australia	South Australian Museum	TOURISM OPERATORS: Southern Tasmania (Kingborough, Tasman Peninsula)	9
Astronomical Society of Australia	Asking for Trouble Physical Theatre	Atlas of Living Australia	Scitech	10	TOURISM OPERATORS: Northern Tas (Tamar Valley)	
Australian Institute of Physics	Teacup Tumble	Queensland University of Technology	Chefs - various venues		TOURISM OPERATORS: East Coast	
Australian Computer Society	Warrnambool Shire Council	Institute for Sustainable Resources	TSW Analytical		TOURISM OPERATORS: Northwest	
University of New England	Wimmera Regional Library	South Australian Museum	Chamber of Minerals and Energy Western Australia		TOURISM OPERATORS: West Coast	
NSW Government Science Leveraging Fund	Jeanie Clark	CSIRO Robotics Unit	Eastern Regional Council		EDUCATION PROVIDERS	
ARC Centre of Excellence for Free Radical Chemistry and Biotechnology	CSIRO	Mirning Indigenous people	The Chamber of Commerce and Industry Western Australia		PROFESSIONAL BODIES/NGOs:	
Armidale and Toormina and Shopping World Centres	Victorian DPI	Sea Turtle Foundation	Science Teachers Association of WA		GlobalNET ICT	
Poultry CRC	Bureau of Meteorology	Queensland Parks & Wildlife Service	Australasian Institute of Minerals and Metallurgy		Circular Head Christian School	
Australian Wool Education Trust	Centre for Australian Weather & Climate Research	James Cook University	Curtin University of Technology		Grosvenor Consultants	
CRC Spatial Information	Australian Climate Change Science Program	Various - contributions not broken down	Scitech/Horizon Program activity		Ten Days on the Island	
Mahoney Group Pharmacies	Department of Climate Change and Energy Efficiency	James Cook University	Kalgoorlie Visitor Centre		Tasmanian Museum & Art Gallery	
CSIRO	Australian Museum	University of Tasmania	Ninti One		Queen Victoria Museum & Art Gallery	

Key to categories

- University
- Company
- Museum
- Govt/State/Local
- CRC
- OTHER
- Community
- Independent

NSW - 40	VIC - 38	QLD - 25	WA - 52	SA - 10	TAS - 30	NT - 9
NSW Government Office for Science and Research	Queensland Museum	Launceston City Council	Curtin University of Technology		University of Tasmania	
University of Wollongong	Western Australian Museum	Murdoch University	Science Teachers Association of WA		Department of Education	
Illawarra Coal	Museum and Art Gallery of the Northern Territory	Scitech	Imperial College, London		Polytechnic Tasmania School of AgBiology and Env. Science	
IMB Community Foundation	South Australian Museum	25	Western Australian and South Australian Museums		The Science Teachers Association of Tasmania	
Australian Centre for Electromaterials Science	Tasmanian Museum and Art Gallery		CSIRO		National Science Week Tasmania	
UNSW Medicine Funding	Museum Victoria		62 participating libraries provide venue		Various	
NSW Government Funding	Engineers Australia		CSIRO		Department of Agriculture, Fisheries and Forestry	
UNSW Venues and Events Management	Yorta Yorta Nation		ANSTO		WA Fisheries	
UNSWTV	Kooma Nation		CST Composites		30	
Charles Sturt University	University of Ballarat		Zeobond Pty Ltd			
Southern Cross University	Engineers Without Borders		D.T. Engineering Pty Ltd			
Whale Watching Byron Bay	Science in Public Pty Ltd		Australian National Fabrication Facility, Plastic Technologies Ltd			
Erth Visual & Physical Inc	CSL		Go Grains			
10 Days On The Island – Tasmania's international arts festival	Melbourne Museum	Children's Cancer Institute Australia				
Ten Days media partners: ABC Radio & TV, print media through state-wide newspaper, commercial radio and television partners	New Scientist	Lowy Cancer Research Centre				
University of Tasmania	State/Chief Scientists	UNSW				
Queen Victoria Museum & Art Gallery	38	Cellestis Limited				
Department of Education		GlaxoSmithKline Australia				
40		Marinova Pty Ltd				
		Smith & Nephew				
		JK Tech				
		Cytec Industries				
		Rio Tinto				
		Alcoa				
		Xenome Ltd				
		Monash Institute of Pharmaceutical Sciences				
	NSW Department of Primary Industries					
	Scitech					
	RiAus					
	Science Alive					
			52			

Key to categories

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Sustainability of projects beyond funding period

Over 85% of projects funded under the Unlocking Australia's Potential programme reported some levels of sustainability, with the projects continuing beyond the grant period.

In short:

- 66% of the projects reported significant levels of sustainability
- Some attracted significant additional funding after proof of concept was demonstrated
- Another 20% showed lower levels of sustainability

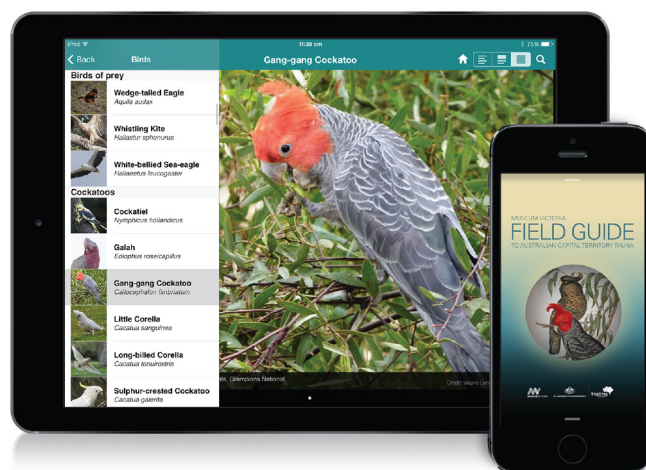
In 2014 the recipients of Unlocking Australia's Potential funds were asked to report on their levels of sustainability beyond the funding period, and 85% stated there would be some level of ongoing activity. Of the 63 projects, 43 had a significant level of sustainability, and another 13 projects were continuing to some extent. This is an excellent outcome for the programme demonstrating the commitment to the grantees to their projects and also the impact of the programme as a catalyst for ongoing work beyond the project funding period.

In many cases Unlocking Australia's Potential funding enabled projects to achieve proof of concept or proven viability, attracting other funding to continue their activities. These included:

- VizbiPlus: Visualising the Future of Biomedicine, has attracted a further \$100 000 from CSIRO <http://vizbi.org/plus/timeline/>
- dLux dLab National Programme, has attracted an extra \$600 000 from the Australia Council for the Arts.

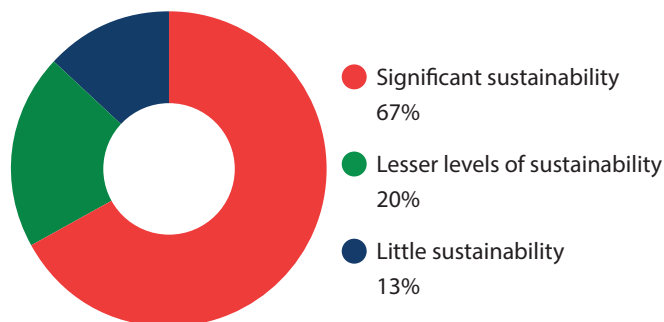
Other projects developed enduring infrastructure or materials that can be maintained for little cost. These include online activity or apps such as:

- REDMAP Eyes-on-the-water
- Field Guide Apps to Australian Fauna
- Fireballs in the Sky
- Locating Science, within the Cultural Atlas of Australia



Above: Field Guide to ACT Fauna app (iPhone & iPad).

Source: Museum Victoria.



Above: Levels of self-reported sustainability.

Examples of sustainable projects

Small projects (up to \$5000)

19 of the 21 small projects have activities continuing beyond the grant funded deliverables.

Pedalling Science to the People – Science Busking Bike (Scicycle) – \$4935

The grant enabled the purchase and set-up of a science busking bike that was used to undertake over 40 shows during the grant period. The Bike allows the delivery of science shows to locations and events that would otherwise not be easily possible.

Sustainability:

Opportunities to deliver shows using the bike have continued to grow, and show delivery will continue indefinitely, according the grantee, Dr Graham Walker. Ongoing partnerships beyond the IA grant include the ACT Government and ACT Science Week Committee, who have continued to fund the project. Also, initial grant-initiated events have become annual, such as performances at O-Week at ANU.

Testimonial:

“The Scicycle continues to be in demand and the more I use it, the more opportunities seem to pop up where it makes show delivery a possibility in cases where it would be difficult or impossible otherwise... most recently corporate Christmas science entertainment on the deck of a wine bar.”

— Dr Graham Walker



Above: Dr Graham Walker in action with the Scicycle.

Ancient Science – \$5000

The grant was provided to cover the cost of workshops on environmental science at Herdsman Lake, WA for Aboriginal communities, youth and the general public and included using Dreamtime stories in the teaching.

Sustainability:

The project led to partnerships or formal Memorandum of Understandings (MoUs) for ongoing work with the Catholic Education Office WA, and strengthened the Western Australian Gould League's value to the State Department of Education. Workshops on training leaders have continued beyond the grant period.

The grant also led to the employment of an Aboriginal Cultural Officer to continue the programme for youth, and youth paid bookings increased significantly, generating additional income to build capacity.

At a conservative estimate, bookings doubled in 2014 and have led to negotiation to train another Aboriginal Cultural Officer.

“...the resultant increase in capacity to deliver Aboriginal Education which was initiated by the Inspiring Australia Grant may be a key contributing factor which ensures the survival of WAGL as a leading environmental and Aboriginal education organisation in the near future.”

A video of the activities can be viewed at: <http://wagouldleague.com.au/education/programs/ancient-science-f-8>

Testimonial:

“Strictly from a financial perspective, the \$5000 Inspiring Australia grant for Ancient Science has resulted in a \$30 000/ year employee partnership, with an additional \$10 000 in funds in the MOU for materials and consumables. Interest in Ancient Science has exploded with over 1500 students currently booked for 2013, generating an additional \$15 000 in income to continue to build the capacity of the Aboriginal education program at Herdsman Lake Wildlife Centre. Consequently the \$5000 will have returned approximately \$55 000 in finances by the end of 2013.

“The partnership between CEOWA and WAGL and the resultant increase in capacity to deliver Aboriginal Education which was initiated by the Inspiring Australia Grant may be a key contributing factor which ensures the survival of WAGL as a leading environmental and Aboriginal education organisation in the near future.”

— Roger Harris, WA Gould League Inc

Medium-sized project: (up to \$45 000)

21 of the 25 medium-sized projects have activities continuing beyond the grant funded deliverables.

The Dream of the Thylacine – live puppet show – \$44 880

A live show for children and families based on the thylacine, using animated life-sized custom-made puppets.

Sustainability:

The initial season of performances led to a further season of the show being performed at Carriageworks, Sydney from 25 September through 5 October 2013. A film of the show was also used as part of an educational case study through the Tasmanian Museum and Art Gallery in Hobart and the Queen Victorian Museum and Art Gallery in Launceston. The project also led to the building of a second thylacine puppet to further develop audience engagement with puppet construction and the biology/anatomy of the animal. The show also planned tours of regional areas of Tasmania and in 2014-15 will be touring elsewhere, including to the South Australian Museum.

The project can be viewed at: <https://www.youtube.com/watch?v=sAi5GVOqkkc>

Indigenous Rangers Promote Science in their Communities – \$44 930

This project led to developing the skills of two Central Land Council community rangers groups to discuss and promote local natural science issues.

Sustainability:

The project led to opportunities to share developed strategies with other ranger programmes, and the ongoing use of training, presentation and booklet materials that were developed. It also led to increased ongoing interactions by Indigenous rangers in their communities, leading to more field trips, presentations, workshops and the development of more resources.

Testimonial:

“The CLC Indigenous Ranger Program is keen for this model of community engagement to extend to all 10 of their ranger groups and are encouraging these groups to include similar strategies for community involvement in the work plans they are currently developing. A strategy to source ongoing funds for the continuation of the project has been developed based on the support of the CLC Indigenous Ranger Program. This Program will encourage the project ranger groups to undertake community engagement work and will employ consultants wherever possible to support this work.

“In addition, as a direct result of the project, the project officer has been asked to be part of a CSIRO climate change adaptation project in which she will work with the Ltyentye Apurte ranger group to develop education resources for Indigenous communities on climate change.”

— Tangentyere Council

Parasites in Power – \$30 000

This project was a series of free public outreach events to explore what parasites are, how they can be managed and the work of parasitologists.

Testimonial:

“To ensure the sustainability of “Parasites in Power” we are producing a “toolbox” of workshop ideas and resources. This toolbox will enable scientists to run their own events, anywhere, in the future. This will be a permanent, living legacy of the “Inspiring Australia” strategy to translate and communicate parasitology research to Australians.”

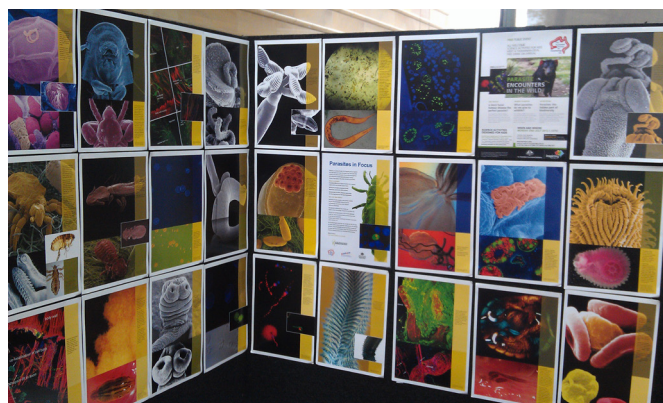
— Lisa Jones, recipient project officer



Above: Parasites in Power workshop.

Videos of the project can be viewed at:

<http://parasite.org.au/outreach/inspiring-australia>



Large projects

16 of the 17 large projects have activities continuing beyond the grant funded deliverables.

ScienceAlert – \$200 000

The project sought to engage and inspire young Australians on Facebook – communicating credible, defensible and accurate science content from Australian science organisations on a daily basis.

Sustainability:

ScienceAlert has continued to grow, well after the grant period, exceeding its target sizes. It has continued as a successful business with significant Australian content and growing audience and partners. As of April 2015, the site is reaching 5 million Australians per week, through sharing of the site's posts, with over 1 million unique Australians visits to the site each month, viewing content from over 2 million web pages.

Testimonial:

“Building a young and interested audience for science news through the ScienceAlert sites was fundamental. . . . Importantly, ScienceAlert went from being a struggling marginal operation to now being a confident and effective organisation which is transforming science communication, not only in Australia, but the world. Inspiring Australia must take a lot of credit for investing in a concept and operation that was at the cutting edge in the industry.”

— John Chandler, JCU, partner on project



dLux dLab National Programme – \$236 000

The dLab National Programme has been engaging young people across regional and rural Australia in creative programmes across the intersection of art, science and technology using a portable multimedia station.

Sustainability:

The grantee, dLux MediaArts, was able to demonstrate viability and excellence to secure significant funding through the Australian Council for the Arts which will enable it to continue to expand and extend programmes into 2016, as well as increasing locations into South Australia and consolidating its current audiences in New South Wales and the Northern Territory.

Testimonial:

“With the additional funds we will also be consolidating and expanding our existing locations, training new facilitators and bringing more “experts” - artists and scientists into the locations to communicate the science behind the art. In short, we are having great successes with solid projects in development and a definite sense of forward movement. A great example of what a small arts organisation, such as dLux can achieve if given the chance i.e. the start-up funds provided by the Inspiring Australia Programme.”

— dLux Media Arts



Above: Multimedia Artist Cindi Drennan working with dLab Participants in Wagga Wagga to create architectural projects for Science Week.

“A great example of what a small arts organisation, such as dLux can achieve if given the chance i.e. the start-up funds provided by the Inspiring Australia Programme.”

Regioneering Road Show – \$260 000

The project was an engineering outreach tour to regional Australia, run as Engineers Without Borders.

Sustainability:

Delivery of the programme will continue with three new modules of content, new partnerships in the Northern Territory and Victoria, improved training for volunteers, and empowering chapters to deliver more with less support from the national office. The project has also been able to secure further funding through winning the 2012 WA Science Engagement Initiative of the Year and other awards. This will significantly increase its chances of securing more support through major global corporations.



Above: The Regioneering Road Show took part in the Desert Smart Ecofair in Alice Springs.



Above: The Victorian Regioneering Roadshow.

Testimony:

"We have big plans from here. Inspiring Australia has allowed us to access the networks and resources necessary to expand and grow our program into something great. We look forward to continuing in delivering more quality workshops, to more and more students, in a greater range of topics through 2014 and beyond."

— Engineers Without Borders

Media

Over the course of the Unlocking Australia's Potential projects, an average of one news story a day on Inspiring Australia appeared in the media – with significant UAP content.

In short:

- Media releases were distributed to some 1600 journalists, generating coverage
- Twitter was particularly strong, the hashtag #inspiringaus reached almost 13 000 twitter users and a total of almost 29 000 impressions. The @inspiringaus account had over 1200 followers.

Unlocking Australia's Potential grants were supported with the development of an initial media strategy that individuals then built upon to increase awareness of both their projects and the role of Inspiring Australia and Unlocking Australia's Potential.

Media releases were prepared for mainstream media, niche media, and new and social media. Releases were also distributed by Members of Parliament, partner companies and grantees.

Several projects held media events, supported by photo or video opportunities.

Releases were distributed to around 1600 journalists/science communicators across the country via:

- AAP to major metro and regional media;
- A special media bulletin that reached 859 journalists Australia-wide and;
- the Australian Science Communicators media list, that reached about 500 science communicators across the country.

Trade press were also targeted.

All media releases were uploaded to the Inspiring Australia site and now provide a resource of the media releases on the grants.

About a dozen releases and bulletins were issued by grantees, that generated media coverage. Analysis concluded that print coverage was quite strong but some TV opportunities were missed because of the delays in issuing the releases.

There was also a lively twitter conversation using the hashtag #inspiringaus.

Analysing the responses it is clear that having an initial media strategy enabled better coordination of media messages and prevented the major media outlets being flooded with similar stories. Targeted use of new media and university publications also helped increase the reach of the stories.

Online analytics, although often rather blunt tools with variable error ratings, showed good reach and positive mentions of Inspiring Australia.

- Google analytics showed there were over 1000 online news stories that included the words 'Inspiring Australia' with 'Science' on the webpage (although this included links to Inspiring Australia pages).
- Other social media metrics, such as Social Mention, showed that the majority of online mentions of Inspiring Australia were either positive or neutral.
- Inspiring Australia tweets using the hashtag #inspiringaus reached almost 13 000 twitter users and a total of almost 29 000 impressions. The inspiringaus account had over 940 followers.



Twitter reach of Inspiring Australia hashtags.

Samples of media coverage obtained

Media Impacts: major mainstream media

A media release for the science busking bike led to a story in *the Australian* and an interview on ABC 666 in Canberra.

THE AUSTRALIAN LOGIN SIGN UP NEWS.COM.AU FOX SPORTS

HIGHER EDUCATION GOING TO A UNI IN THE WORLD'S TO

NEWS OPINION NATIONAL AFFAIRS BUSINESS AUS IT HIGHER ED MEDIA SPORT ARTS LIFE MAGAZINE

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HIGHER EDUCATION 0 | Tweet | Recommend | 0 | A+ | A-

On yer bike, to pedal science

The Australian June 18, 2012 12:00AM

THE campaign to raise scientific literacy and interest young people in studying the subject has been given a \$5 million shot in the arm via grants awarded under the federal government's \$21m, three year, Inspiring Australia strategy.

Among 63 recipients announced last week were museums, universities and indigenous organisations.

The biggest winner was the University of Newcastle's "New Science and Engineering Challenge" awarded \$450,000 to expand the existing competition between schools in four states.

Macquarie University was awarded \$350,000 to mount a series of science shows for rural, regional and indigenous communities in NSW, Queensland and Western Australia.

It will hire indigenous young people and elders to teach big topics such as climate change, water rights, food security and renewable energy.

The ScienceAlert website was awarded \$200,000 to use Facebook as a medium to publicise scientific research from Australasian universities, science centres and agencies.

THE TOP 50 THE MOST INFLUENTIAL PEOPLE IN SPORT Full List

A \$5000 grant went to "Pedalling Science to the People - Science Busking Bike" from the Australian National University Centre for the Public Awareness of Science. It will deliver science shows and workshops in the ACT using a modified cargo bike containing a variety of science-orientated props and materials.

Other programs included robotic workshops for young rural Queenslanders, the development of a free tablet app that will help people identify native creatures and a camp for young refugee migrants to encourage them to study science at school.

Grants under the Inspiring Australia scheme are aimed at boosting the number of students choosing science. Source: The Advertiser

Media Impacts: major mainstream media

A media release for the ScienceAlert project was distributed (<http://scinews.com.au/releases/670/view>) that obtained coverage in *Computer World*, *the Canberra Times*, *the Sydney Morning Herald*, *the Age* and *the Brisbane Times*.

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Canberra science website more popular than NASA

David Charles June 14, 2012

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Chris Cassella's website Science Alert has more Facebook followers than NASA and the CSIRO combined. Photo: Melissa Adams

More popular than NASA and the CSIRO combined, Canberra-based news service Science Alert has 1.3 million Facebook fans... and counting.

This compared with NASA's 952,000+ Facebook fans and the CSIRO - which only has about 14,000.

By aggregating "credible" research from Australian universities and institutions, the website presents findings to an international audience.

The brainchild of science communicator Julian Cribb, it aims to provide young Australians with factual and interesting science news.

"What we do is we find evidence based stories and we put them out there. Sometimes they contradict each other but that's the nature of science," Science Alert managing director Chris Cassella said.

Originally a Microsoft programmer, Cassella decided to create Cribb's dream as part of his master's thesis at ANU university.

"I took the idea that Julian laid down and I said 'we can do this' to bring together all of Australian science in one spot," Cassella said.

"Back in those days the only way you could find out about what was going on at all the different universities was to visit all of their websites individually."

The idea has now garnered international support and a vast social media following, something Cassella as a science enthusiast finds amusing.

"It's become a worldwide phenomenon, we did this and were averaging about 50,000-75,000 unique visitors and thought for a brief moment that we had saturated the market."

Their hope is to dissolve the illusion that science is for old people.

"It's kind of a neat thing. I consider myself kind of an old man [but] there is a whole young generation that actually has the same passion for science that I do."

Thanks to Inspiring Australia, the team behind Science Alert will use a \$200,000 grant to further promote their website to young Australians.

"We're going to use this money to shore up the editors, sub-editors, and the quality of the content we have and advertise to let kids know, 'hey Science Alert exists and you don't know about it,'" Cassella said.

Although a large sum of money manager of Inspiring Australia, Brenton Honeyman believes it to be an investment.

"The project team have already a huge international following on Facebook and through this grant we're looking forward to bringing Australian science to millions of people," Honeyman said.

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Media Impacts: major mainstream media

The Hidden National Treasure: Promoting the World's First Animals story received coverage in the *Adelaide Advertiser* as well as ABC Broken Hill and ABC North and West radio stations.

The first look at the world's first animals

SCIENCE REPORTER CLARE PEDDIE THE ADVERTISER JUNE 13, 2012 11:00PM

SHARE 0 COMMENTS SAVE THIS STORY

Scientist Damia Ettakadoumi from Straight Up will work with scientists at the SA Museum to develop guided tours of Ediacaran fossils in the Flinders Ranges. Picture: Tricia Watkinson

VISITORS to the Flinders Ranges will be able to take a guided tour of the world's first animals at a heritage-listed site off limits until now.

The project is one of 63 awarded a total of \$5 million in federal funding under the \$21 million Inspiring Australia initiative.

Adelaide-based consultancy Straight Up Science Marketing won \$90,000 for the Hidden National Treasure project, which will conserve, protect and promote ancient Ediacaran fossils.

Straight Up director Damia Ettakadoumi said the money would be used to train local guides and improve security at the still secret site. "This is a national heritage-listed site that has been a bit neglected," she said.

"Our aim is to create a sense of ownership and brand awareness among the local community, and to increase their capacity to protect the fossils."

SA Museum palaeontologist Dr Jim Gehling said the project was an opportunity to educate people.

"Most people see the Flinders as a wilderness with an interesting landscape; sometimes it's got wildflowers and sometimes they see animals, but ... the geology of a place like the Flinders Ranges is the memory of the Earth," he said.

Media Impacts: university media

A media release triggered a university publication report on the Science Centre and Planetarium Outreach Programme.

UNIVERSITY OF WOLLONGONG AUSTRALIA

STUDY AT UOW RESEARCH & INNOVATION

CAMPUS NEWS

UOW > News & Media > Campus News > Reaching out to regional areas

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Campus News
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REACHING OUT TO REGIONAL AREAS

Travelling science shows to regional schools and public areas is now possible after a funding boost to the University of Wollongong's Science Centre and Planetarium's Outreach program.

The program is one of 63 other projects across Australia sharing in \$5 million worth of funding as part of the 'Unlocking Australia's Potential' program.

The Science Centre and Planetarium Outreach program will involve spectacular science shows and a domed planetarium theatre with high-tech audio visual equipment to engage people who may not have had previous access to, or interest in, science-communication activities.

"A total of 60,000 people visit the Science Centre and Planetarium each year. However, with transportation becoming increasingly expensive for our visitors, the Science Centre will now be able to travel its science shows, and share the same exciting interactive science shows and full-dome presentations currently available at the Wollongong Science Centre", according to Director of the Science Centre, Glen Moore.

The science shows which cater for all ages (K-Year 12), will highlight diverse areas such as the science of bubbles and balloons, science of the human body and science of sport and superconductivity.

The full dome planetarium shows will cover not only astronomy but also topics such as nanotechnology, oceanography and biology.

The Unlocking Australia's Potential science communication grants were announced by the Minister for Science and Research, Senator Chris Evans on 12 June. The funding received through the 'Unlocking Australia's Potential' program matched the existing support from the IMB Community Foundation and Illawarra Coal to the Science Centre project.

For more information about the Outreach program, contact Glen Moore at glen.moore@uow.edu.au; phone: (02) 4286 5000 or email: glen.moore@uow.edu.au

For more information about the national program and a complete list of grant recipients visit www.sciencepublic.com.au/inspiration

Published: 15 June 2012

Media Impacts: university media

A media release on the Fireballs in the sky project triggered a University publication report.

Curtin University

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Fireballs in the Sky (FITS)

Fireballs in the Sky (FITS) is a citizen science initiative that provides a way for the public, particularly those of West and South Australia, to work alongside research scientists studying meteorites. The focus of the project is to improve the people's understandings of planetary science research and enhance their attitudes to science.

Here, an emphasis will be placed on the people being included in the research process, improving their scientific literacy. It is an innovative program because it involves the public in authentic science research activities and will engage Indigenous and non-Indigenous people in remote and regional areas of Western Australia and South Australia. The project will be delivered by Curtin University.

Underpinning the Fireballs in the Sky (FITS) project is the Meteorite Fireballs - Illuminating the Origins of the Solar System (MFIOS) research program led by ARC Laureate Fellow, Professor Phil Bland of Curtin University. It uses cameras, the Desert Fireball Network, to capture images of incoming meteorites. In 2007, a meteorite was the first specimen to have its origin determined - a ground breaking event in planetary science.

The website research portal will be an important component of FITS. It will be accessible across Australia, and with advances of the NBN, allow for video streaming and webinars. Further, it will encourage the public to participate in the research by providing information about "shooting stars" or meteorites, and information about "meteor like" rocks that they have found by uploading images for discussion. The website provides a way for people to input data about an observed meteorite, and the data will be pushed into a citizen science database, and integrated into the research data captured by the camera network. Social media networks, for example, Twitter and Facebook, will integrate distributing information to participants, and a smartphone application, allowing accurate time and GPS data, developed to feed field observations.

Activities will be partnered with agencies in regional cities and towns and Indigenous communities, for example, the Kalbarrie Visitor Centre. Some activities will focus on the sharing of Indigenous knowledge about

Fireball information
For more information head to <http://fireballsinsky.com.au>, like us on facebook at <https://www.facebook.com/fireballsinsky/> or follow us on twitter @fireballsinsky

Free Fireballs in the Sky app
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Media Impacts: Radio feature

Hidden National Treasure: Promoting the World's First Animals

The programme led to a story on ABC Radio's Landline on 3 August 2013, on Ediacara fossils on Nilpena Station, that included interviews featuring the Inspiring Australia training.

The full transcript and video can be accessed here:
<http://www.abc.net.au/landline/content/2013/s3817544.htm>

Part of the segment was repeated for the children's educational programme 'Behind the News'. See the video here:
<http://www.abc.net.au/btn/story/s3825549.htm>

Excerpt from the Landline programme.

Kerry Staight: *The scientist from the South Australian Museum has been working with Mary Droser for 15 years and says it's important local landholders take some level of ownership over what's in their backyard, so the history is promoted and preserved.*

Jim Gehling: *In the past, we had this thing where the scientists came in, did their thing, told no-one for fear that the fossils would be looted, the animals would be stolen and so on. But these things happened anyway. In the 1990s, I had two sites which were raided by fossil looters and they could get away with it because the local landowners didn't know what we were doing because we didn't tell them. We didn't think they'd be interested. And once we've begun to engage them, they've become our eyes and ears. These are more than just pretty rocks. These are actually a giant and ancient library book. So each page has a bit of history on it.*

Kerry Staight: *Landholders also see what they're studying as a step towards greater security for themselves.*

Michelle Reynolds, Willow Springs: *Geology, and the fossils and everything, is something that's now becoming more popular in the Flinders and people are becoming more aware of it and because we've got tourism on the property and we're hoping to do tours, I wanted to expand my knowledge there and be able to express that information to other people.*

Jim Gehling: *Look at these ripples, that fantastic washboard effect is one piece of evidence that this was an ancient but shallow sea floor.*

Kerry Staight: *Did you know much before?*

Michelle Reynolds: *I knew very little, so I thought it was fantastic, and I've actually been able to, from what I've learnt, find things on my own property.*

Media Impact Case Study

Fresh Science – \$210 000

Fresh Science is a competitive media training and awareness programme for early-career researchers. The programme, run by the company Science in Public, aimed to develop young scientists to communicate and engage with the public and relate stories of their work. The programme was designed to break down the barriers between the world of the media and the world of research, and was considered a practical means of bridging the gap between science and the media.

The challenge for Science in Public was to substantially reshape Fresh Science and dramatically increase its impact by creating a series of state finals to reach many more scientists, providing a more comprehensive training programme to the national finalists, and creating wider media coverage and promotion of their achievements.

Outcome Impacts:

In 2012 fresh science held state finals for the first time in Queensland, New South Wales, South Australia and Victoria. Offering media training and a stakeholder event in each state enabled the training of more young scientists than in previous years – 39 rather than 16.

The importance of media training for scientists has been highlighted in a number of reports and with the release of the website for the media savvy website, produced by the Australian Science Media Centre to help make scientists more media savvy. www.mediasavvy.net.au

Participant impacts:

"Just today I am set to give a presentation to a group of geologists on a mine site. I feel so much more in control of the way I present information that I am less stressed than I have ever been before a presentation."

— 2012 Fresh Science national finalist Aaron Stewart

"I have spoken with quite a few people in the various commercial tuna companies I work with and they said that I made a great spokesperson for their industry. They (and I) have all been receiving calls from all over the world from buyers or other industries who want to copy this science."

— 2012 Fresh Science national finalist Nicole Kirchoff

Media Impact Case Study

Locating Science: Mapping Ecological Themes in Australian Film and Literature – \$35 000.

This project, run out of the University of Queensland and funded by a grant of \$35 000, developed a resource, and an app, aimed at locating ecological issues in the narrative landscapes of acclaimed Australian books and films that foreground eco-cultural themes.

The *Locating Science* project targeted members of the public who would not typically engage with science, and might not otherwise actively search for science information. These include:

- Cultural tourists, backpackers and retirees travelling in the areas identified in the project
- Film and literature enthusiasts who seek further engagement with the issues and locations featured in the films and books identified in the project
- Secondary and tertiary students who are studying Australian film and literature

Located within the larger Cultural Atlas of Australia, *Locating Science* is an interactive digital map that has plotted more than 300 locations depicted in over 150 texts. The app version of the larger Cultural Atlas of Australia resource can be found as CultureMap.

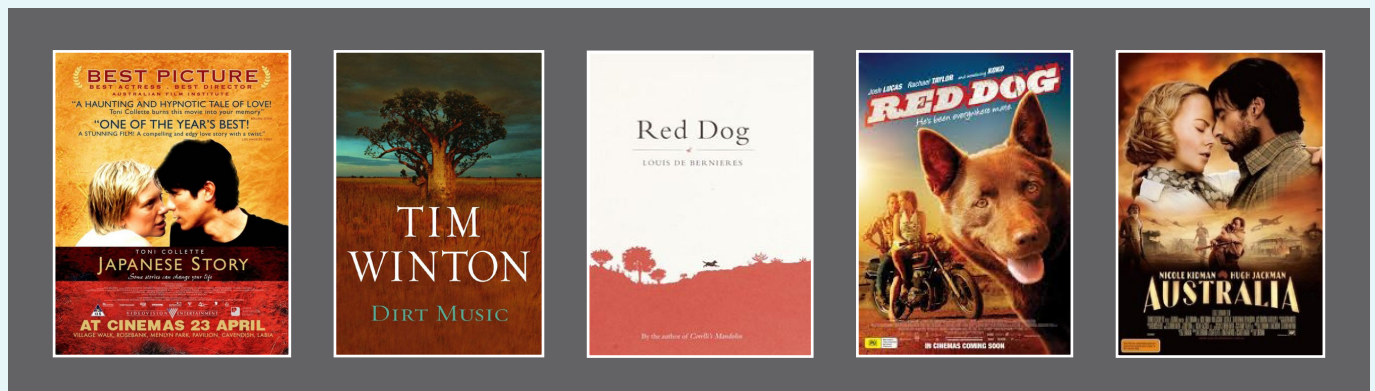
The *Locating Science* project sought to reframe understandings of environmental science, drawn from cultural texts, and to engage with members of the public for whom film and literature could open a window onto eco-cultural issues, whether in the desert regions, tropical zones, coastal ecosystems, or Indigenous communities where Australian narratives take place.

It features six fact sheets on the films or books:

- *Red Dog* and *Japanese Story*, looking at mining in the Pilbara
- *Dirt Music*, looking at asbestos and tides in Western Australia
- *Dirt Music*, looking at commercial fishing in Western Australia
- *The Hunter*, looking at biodiversity in Tasmania
- *Australia*, looking at water and extensive farming in Northern Australia
- *The Man from Snowy River*, looking at hydroelectricity and grazing in the Victorian high country

The evaluation of the project included a media strategy to increase knowledge of the project. It included information on the Cultural Atlas of Australia being sent to an extensive list, including:

- mainstream media (newspaper, television, radio, online)
- national science and environment publications and reporters
- State government education learning portals for students and teachers
- the production companies and publishing houses of the films/ books mentioned in the app
- university communication officers and publishers in each state
- visitor centres, schools and councils located in areas which the app cover



Two media releases were distributed on Tuesday 17 December 2013 and Tuesday 7 January 2015, and these were sent to over 1000 Australian journalists, as well as posted them to the Australian Science Communicators mailing list, raising awareness about the Cultural Atlas of Australia, as well as the Locating Science app within it.

Media release distribution: Note: the second media release used a new media release distribution service that did not count open and click rates.

MEDIA RELEASE	NUMBER OF RECIPIENTS	OPENS*	CLICKS**
1	1202	177	21
2	1280	N/A	N/A

* Opens is the number of people who opened the email

** Clicks are the number of people who clicked on links in the email. Links for the Atlas and Facebook page were included in each media release.

Media impacts:

Media release

Tuesday 17 December 2013

- ABC Radio, Gippsland, Tuesday 17 December 2013
- 4BC Radio, Brisbane, Thursday 19 December 2013
- ABC Radio Mornings, Melbourne, Monday 23 December 2013
- News Maker, blog post, Monday 23 December 2013
<http://www.newsmaker.com.au/news/28628/cultural-atlas-of-australia-plots-film-and-literary-locations#.Ure3H2QW3z0>
- Business Insider, blog post, Monday 23 December 2013
<http://www.businessinsider.com.au/an-interactive-map-plots-the-locations-of-australian-landscapes-depicted-in-art-2013-12>
- ABC Radio, Regional Afternoons, Queensland, Sunday 29 December 2013

Media release 2

Tuesday 7 January 2015

- ABC Radio Breakfast, Illawarra, Wednesday 7 January 2014
- 4BC Radio Mornings, Brisbane, Wednesday 21 January 2014
- UQ News – <http://www.uq.edu.au/news/article/2015/01/map-app-reveals-australia%E2%80%99s-cultural-landscape>
- In addition a direct pitch led to ABC Radio National's Bush Telegraph running a story along with author Richard Flanagan on Tuesday 5 November 2013.
- <http://www.abc.net.au/radionational/programs/bushtelegraph/cultural-atlas-of-australia/5068360>

With regards to the Locating Science resources, the six ecological theme fact sheets are the most downloaded files, and the most popular of which is the fact sheet for the novel and film *The Hunter*.

Indigenous impacts

Unlocking Australia's Potential projects had significant impacts for Indigenous Australians, with one in five projects focussed on Indigenous science or topics of relevance to Indigenous audiences.

In short:

- 11 grants had a specific Indigenous focus
- Two others had partial Indigenous focus
- Over 20 per cent of grants targeted Indigenous audiences, which received 25% of the funding
- Total Indigenous audiences were about 3500 people
- Four grants were awarded specifically to Indigenous organisations.

Eleven of the Unlocking Australia's Potential grants had a specific Indigenous audience focus, while two others had a partial Indigenous audience focus – which is just over 20% of grants. Total funding to Indigenous grants was \$1.15 million – which was almost a quarter of the \$5 million total monies awarded.

Indigenous activities were developed in six states/territories (WA, NT, QLD, SA, NSW, TAS – although they had impacts across all states and territories) including capital cities of Darwin, Perth and Hobart, and regional and remote locations such as:

- The Kimberley, Albany (WA)
- Tiwi Islands, Alice Springs, Arnhem Land, Yirrkala, Papunya, Santa Teresa, Hermannsburg, Ilpili Springs, Tjuwanpa (NT)
- Cairns, Cardwell, Innisfail, Bundaberg, Cape York (QLD)
- Koonalda Cave (SA)
- Wagga Wagga, Casino, Wilcannia, Broken Hill (NSW)

"This is the first time representatives of the whole Aboriginal community, ie leaders, children, youth and elders, have been involved in science on our own land, fostering Indigenous science knowledge and presenting outcomes to families."

Four grants were awarded specifically to Indigenous organisations (totalling \$300 000), which were:

- ANKAAA (Association of Northern, Kimberley and Arnhem Aboriginal Artists)
- Akeyulerre Incorporate (Central Australian Aboriginal Healing Centre)
- Tangentyere Council (main service delivery agency for 18 Housing Associations in Alice Springs)
- Tasmanian Aboriginal Centre (community centre in Hobart)



Above: Participants in the Tiwi climate change project.

Estimates of audience numbers were 3500 Indigenous participants (as well as appealing to 13 000 non-Indigenous/general public participants). Audiences included school-aged children, youth groups, young hunters, community groups, Indigenous elders, Indigenous researchers, Indigenous ranger groups, Indigenous artists and Indigenous art conservators.

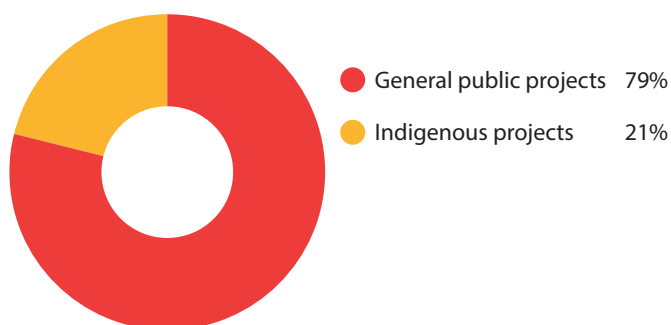
Activities undertaken included:

- hands-on activities where Indigenous youth and elders are trained to be "teachers" to their own and the broader community
- art conservation workshops on country involving artists and scientists exchanging techniques
- high school workshops to develop materials (eg seasonal calendars, sea level rising models) to engage their broader community
- horticultural training and propagation workshops alongside intergenerational bush trips to share ecological knowledge
- working with Indigenous communities to scan and record Indigenous cave artwork
- training Indigenous ranger groups in engagement techniques and developing material to share with their broader communities
- on country workshops focusing on Indigenous understandings of environmental change and climate change impact
- artists residencies and hands on activities with ICT focus to engage hard-to-reach youth in remote areas.

An assessment of the impact of the Unlocking Australia's Potential grants on Indigenous audiences was that the programme had significant impact, often providing science engagement that would not otherwise have occurred, to audiences that are rarely reached with science engagement activities. That the majority of activities focussing on Indigenous audiences were about issues relevant to those audiences increases the likelihood of the impact of the programme over general science engagement activities.

That almost a quarter of all funding went to projects with Indigenous focus also demonstrates that this was an audience that was well-supported by successful projects.

More details on the individual projects focussing on Indigenous communities can be found at Appendix C.



Above: Percentage of UAP projects with an Indigenous focus.



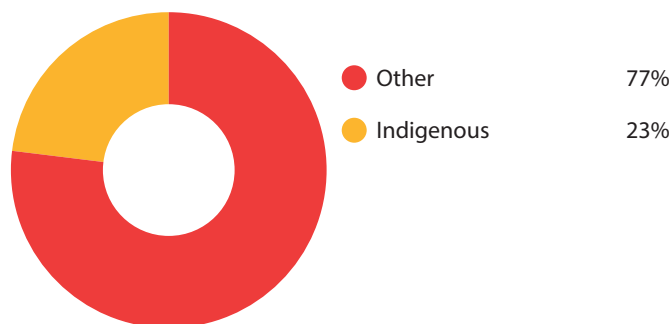
Above: Tiwi College girls Alex Guy and Natalie Lorenzo (in blue uniforms) demonstrate the 3D model of the Tiwi Islands to Milikapiti primary students.

Many Indigenous communities across northern Australia are located in regions which are particularly susceptible to projected sea-level rise from climate change, and the resulting impacts on coastal ecosystems and natural resources. However, engagement of Indigenous Australians in discussions about climate change has been generally low, resulting in poor awareness and understanding of climate change and its implications.

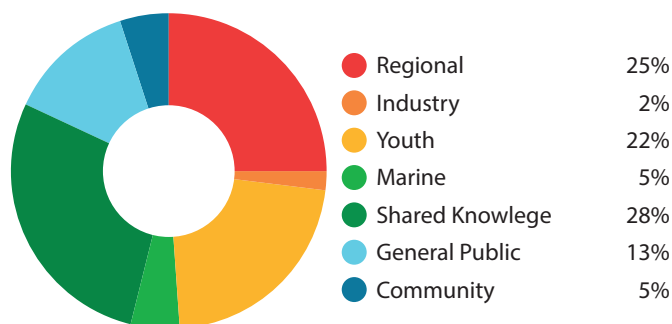
“An assessment of the impact of the Unlocking Australia's Potential grants on Indigenous audiences was that the programme had significant impact, often providing science engagement that would not otherwise have occurred, to audiences that are rarely reached with science engagement activities.”

As part of the Unlocking Australia's Potential programme, CSIRO worked in partnership with Tiwi Islanders in the Northern Territory to develop a range of climate science communication tools. These included:

- the production of a plain-English climate science information booklet for Indigenous people;
- creating a large 3-dimensional model of the Tiwi Islands for natural and cultural resource management planning, including impacts from sea-level rise on coastal areas;
- the delivery of a climate science programme to Tiwi students;
- monitoring environmental change by Tiwi Land Rangers and Tiwi College students using key Tiwi plant species;
- production by Tiwi College students of a music video about climate change; development of a highly-visual Tiwi Seasonal Calendar with key Tiwi knowledge holders; and
- the production of a DVD for Tiwi community members highlighting the range of climate change project activities.



Above: Amount of funding to Indigenous projects.



Above: Indigenous projects by key impact group.

Above: Indigenous Projects by Key impact groups



ACT	4
NSW	6
Northern Territory	10
Queensland	6
South Australia	9
Tasmania	5
Victoria	4
Western Australia	11

Above: Spread of impacts of Indigenous projects.



Above: Harvesting traditional knowledge project.



Above: Stripping bark as a part of the Harvesting Traditional Knowledge project.



Above: Participants in the Tiwi climate change project.

Case study

Indigenous Rangers Promote Science in their Communities – \$44 930

The project developed the skills of Central Land Council Indigenous community ranger groups to discuss and promote local natural science issues and activities, most of which they are directly involved in.

Engagement impacts:

In the short term both ranger groups improved their engagement of elders and schoolchildren, and extensive dialogue based on applied science and culture resulted. This effectively created two-way learning environments for the young people, where elders' traditional and scientific knowledge were valued and explained.

In the longer term a number of projects that have simultaneously developed with carriage by the ranger groups are set to continue the two-way science dialogue. For example, the Ltyentye Apurte bush medicine and springs monitoring projects involving elders and schoolchildren are now ongoing annual projects with new developments planned for each.

Partnership impacts:

The experience of the Inspiring Australia Project has also stimulated the Ltyentye Apurte ranger group to begin negotiations to work with CSIRO and others on a climate adaptation project. Again the thrust is about rangers developing materials and presenting two-way science ideas to community members and groups, with confidence both culturally and professionally.

Stakeholder impacts:

"The Anangu Luritjiku Rangers had a number of difficult and complex issues to communicate to Traditional Owners and members of their community around feral animal management...With the timely assistance of this program, rangers were able to develop appropriate materials to assist in communicating these matters...The training undertaken and the materials produced met more than our expectations...The fact that we achieved consensus [at a community meeting where the materials were shown] on the feral animal management strategy indicates a positive response from the community."

— Jeff Hulcombe, CLC Indigenous Ranger Programme Coordinator

Case study

Aboriginal Discovery Science at Risdon Cove – \$5000

The programme sought to engage Aboriginal youth and the wider Risdon Cove community in a scientific and cultural appreciation of local geographical features, as relayed through video and podcasts by Aboriginal elders.

Community impacts:

"This is the first time representatives of the whole Aboriginal community, ie leaders, children, youth and elders, have been involved in science on our own land, fostering Indigenous science knowledge and presenting outcomes to families. Inspiring young Aborigines to take an early interest in natural sciences using innovative approaches will assist in achieving a scientifically engaged Aboriginal community. The Tasmanian Aboriginal Centre is showing leadership in science with this project and it is expected that on-going engagement by young Aborigines with scientific studies will result and continue to strengthen.

"The focus on science, using the language of science, enhancing our usual focus on the cultural aspects of the site is innovative and has emphasised to children, youth and their families that the Tasmanian Aboriginal Centre is a strong supporter of a deeper community involvement in science as valuable to our future.

"The Inspiring Australia grant has initiated a focus on science at the Centre which is being followed up with further professional development sessions for early childhood educators from the broader educational community. The Risdon Cove site is being promoted as a valuable area in Hobart to involve educators, students and the Aboriginal Community in natural science activities."

— From project report

Case study

NISEP – The National Indigenous Science Education Programme – \$350 000

The grant project NISEP – Engaging Rural, Regional and Indigenous Communities in Science, involved a series of hands-on science shows conducted in regional and rural NSW, QLD and WA for communities with high Indigenous populations. Events engaged Indigenous youth and elders as 'teachers' to communicate science to the communities, allowing for the target audience (particularly youth) to see science as accessible and potentially as a career option.

Participant impacts:

"There was keen interest by young and old in the Yugul Mangi Rangers and their bush medicine. By the end of the first school day, we had a plan intact where the boys showed off the spears and boomerangs, the Rangers talked about some of their work, bush medicine and told people about life in Arnhem Land. Everyone couldn't believe the interest shown by the Sydney-siders. It really was empowering for everyone. The young people especially were really proud of their culture, where they came from and that people really wanted to hear their stories and learn from them."

Emilie Ens, one of the 7 people from Ngukurr, NT, who came to present and participate in the Experience @ Redfern event that included Aboriginal elders and community members from Yaegl country, Arnhem Land, Wagga Wagga and Perth.

"Also 97% of the 55 adult workshop participants who completed an evaluation survey indicated that the workshop provided them with strategies, principles and knowledge to assist them in engaging Aboriginal youth in environmental science."

Case study

Ancient Science – \$5000

A series of workshops delivering a range of hands-on biological and environmental learning experiences for Aboriginal participants and people who work with Aboriginal Communities.

Financial impacts:

"Strictly from a financial perspective, the \$5000 Inspiring Australia grant for Ancient Science has resulted in a \$30 000 per year employee partnership, with an additional \$10 000 in funds in the MOU for materials and consumables. Interest in Ancient Science has exploded with over 1500 students currently booked for 2013, generating an additional \$15 000 in income to continue to build the capacity of the Aboriginal education program at Herdsman Lake Wildlife Centre. Consequently the \$5000 will have returned approximately \$55 000 in finances by the end of 2013."

— Final project report, June 2013

Engagement impacts:

There was an overwhelming (99%) response that in their opinion the Ancient Science programme was highly effective in engaging students, particularly Aboriginal students, in environmental science. Also 97% of the 55 adult workshop participants who completed an evaluation survey indicated that the workshop provided them with strategies, principles and knowledge to assist them in engaging Aboriginal youth in environmental science.

Partnership impacts:

The most exciting long-term result of the Ancient Science Project has been that the seed funding and 12 month trial of the programme has resulted in a formal partnership between Catholic Education Office, WA and WA Gould League Inc to continue the delivery of Ancient Science in 2013. CEOWA and WAGL have signed (May 2013) a Memorandum of Understanding for the employment by CEOWA of an Aboriginal Cultural Education Officer (3 days/week), to continue the Ancient Science programme for all school-aged youth and provide professional learning to Aboriginal educators and adults working with Aboriginal youth.

— Final project report, June 2013

Case study

From fire-stick farming to the friendly frontier: landscape change at Albany – \$30 340

A University of Western Australia archaeology field-school programme involving Noongar community representatives, archaeologists, scientists and the general public, aiming to outline how landscapes and human activities have changed Albany's oldest archaeological site, Kalgan Hall.

Cultural impacts:

"In some ways the impact of the current project has been to extend existing appreciation for archaeology in the community. The community sees archaeology as an important way of communicating their culture to others and of reinforcing their connections to places. They also value archaeology for providing a vehicle for teaching culture to their children and other youngsters in the general community. Thus the communication of science facilitated by Inspiring Australia is helping develop community initiatives and support the maintenance of Aboriginal culture in this region."

— From project report

Reaching Youth

Young people loved the Unlocking Australia's Potential activities. Almost half of the 63 projects were aimed specifically at youth audiences, in particular at youth audiences who might not normally be easily engaged on science and technology issues, and feedback from them was uniformly high.

In short:

- **30 of the projects were aimed specifically at youth audiences**
- **There was an enormous breadth of activities for youth that included hands-on science, tours, workshops, demonstrations, theatre and online activities**
- **Feedback across all ages of young people was uniformly high.**

Australia's Chief Scientist, Professor Ian Chubb has repeatedly called for more and better quality engagement on science, technology, engineering and mathematics (STEM) targeted at young people. He has said, "Australia needs to prepare our young people with the education, skills, competencies and attitudes that set them up for a rewarding working life where they can both contribute to, and benefit from, a strong economy."

"Australia needs to prepare our young people with the education, skills, competencies and attitudes that set them up for a rewarding working life where they can both contribute to, and benefit from, a strong economy."

This is important, because against most measures Australia is under-performing internationally in young people's involvement in STEM. Participation by primary and secondary school students has been decreasing and student performance is also below many countries in terms of international comparisons.

There are many innovative activities being developed and promoted to address this, both in schools and out of schools, but many are underpinned by a need to allow young people to discover the excitement and enjoyment of science, particularly by participating in it in some way. The Unlocking Australia's Potential activities aimed at young people demonstrated this in many ways, across a wide variety of subjects and different delivery mechanisms, with feedback from those young people who participated showing they became quite excited by the opportunities offered to them and rated them very highly for engaging them on the science topic.

As the Chief Scientist has asked, "How many students think what they learn in maths and science is irrelevant? What number of students have we lost in this process?"

Providing new ways to foster a love of learning, an interest in science and curiosity about the world around us is vital to keep young people engaged in science and science futures.



Above: The Chief Scientist of Australia, Professor Ian Chubb.

Case study

Science Rocks on the Road – \$30 000

An outreach programme that utilises a trailer equipped with resources for hands-on demonstrations and activities. The programme was developed by mining volunteers across all science fields with assistance from educators and travelled to communities in the Goldfields – Esperance and neighbouring regions delivering targetable education to communities.

Audience impacts:

“Feedback from the students shows success of the Girls & Guys Forum in encouraging students to participate in the resources industry. It also showed an interesting distinction between boys and girls. Girls had an initial awareness/interest of the sector of 48% but the event nearly doubled their awareness and interest to 89%. Whereas boys initial awareness/interest in mining was at 53% and was increased by the forum by 14% with a number of boys stating they had already set their career pathways.”

- From project report



Above: Participants in the Science of Underground Mining Activity.
(Photo: Michelle Campbell).

Sustainability impacts:

The programme will continue to be delivered beyond the term of the grant, and donations received from mining and community organizations have been sufficient to purchase a purpose-built trailer which was delivered in February 2014.

Audience impacts:

“One student said that she would consider a career in mining after completing the forum activities.”

- Project report

“Scientists do things that you have never seen before!!”

“I like science because it’s not that boring stuff and that you have fun while doing it and make cool stuff.”

“Thanks for sharing all these amazing things.”

- Participants in Girls and Guys Mining Forum, Science Awareness Festival, August 2013: (Year 7 students)

“Today made it (a job in the resources industry) seem more appealing and showed the different careers in mining.”

“My dad’s a geologist and he has never shown me all these interesting things.”

“I learnt and saw how the chemistry that I am studying can be applied on the field.”

- From Girls & Guys Exploring Mining: (Year 10, 11 & 12 students)

Case Study

Project:

Megafauna Makeover – \$5000

A workshop engaging young offenders from Magill Training Centre, as well as local volunteers, in the collection, conservation and preparation of megafaunal fossils for a planned expansion of the South Australian Museum megafauna display.

Participant impacts:

"The feedback from the workshop participants was very positive. Many of the participants were inspired by the experience, expressing enjoyment and enthusiasm and a wish to volunteer in future workshops. Some of the volunteers have even become new members of the Flinders University Palaeontology Society."

Report of Megafauna Makeover Workshop
Sunday 28th October 2012

Participant impacts:

"Thank you for such a fantastic opportunity! Amazing day and the weather was perfect!"

"Thank you for the opportunity to participate."

"A great adventure, super people, can't wait to do it again :)"

"Would be a fantastic experience for local school to attend a half day workshop."

"I totally enjoyed the whole experience. The staff were incredible."

"Please do more, fantastic opportunity for enquiring minds. Thanks and congratulations to all staff and experts for their wonderful work."

— Adult surveys general comments

"Many of the participants were inspired by the experience, expressing enjoyment and enthusiasm and a wish to volunteer in future workshops."



Above: A young participant working on a fossil encased in its plaster jacket.

Participant impacts:

"Awesome!!!"

"Sorry, im too speechless. I had such a good time :)"

"This was an incredible experience! It inspired me further into paleontology, the experience was surreal and I feel privileged"

"I think the workshop was absolutely AWESOME! Everybody was so friendly!!!"

"The workshop was interesting and informative. Loved the hands on experience with the fossils would love to come back again."

— Under 17 surveys general comments

Citizen Science

Citizen Science is a growing movement across the globe and the Unlocking Australia's Potential projects demonstrated how active citizen scientists can be and what they can achieve in areas such as marine conservation, endangered species and astronomy.

In short:

- Five projects contained strong citizen science elements
- Citizen science projects included marine sightings of whales and animals outside their normal habitat zones, and meteorite sightings.

Citizen science is a growing global trend, with more and more members of the public either wishing to take part in science projects, or wishing to work with scientists on their own community investigations. For scientists, harnessing the power of citizens can provide invaluable practical assistance, quickly doing tasks that may have taken a research assistant, or several assistants, many months, if not years to complete.

Many citizen science projects are based around people's habits or interests in collecting "things". Thousands of people collect data on everything from stars to fish and from sea turtles to dog droppings. And harnessing the interests of citizens to gather data for scientific purposes is one of the key fundamentals of most citizen science projects. There is however another benefit to science – getting people involved!

Volunteers have long been collecting data on the health of coral reefs, and ornithologists have long encouraged volunteers to collect data on bird migration. Across the globe thousands of people regularly now collect data on everything from counts of stars in distant galaxies to the timing of flowering events.

As citizen science evolves, existing projects that have successfully developed working relationships between scientists and citizens, and deliver scientifically valid outcomes are needed to demonstrate how such projects can work.

A number of UAP projects were citizen science based, including:

- Fireballs in the Sky
- Hidden National Treasure?
- East Coast Humpback Whale Watch
- Redmap: Eyes-on-the-water
- Understanding the Wombat (in terms of engaging farmers etc in discussion from the perspective of understanding how their business and environment work)



Above: A tail fluke of a whale used in the Humpback whale tracking citizen science project (photo courtesy Whale Watching Byron Bay).

Many people are going out on boats to watch the whales and are taking scientifically useful photos of the tail flukes. These 'citizen scientists' are collecting data at many points along the whale migration path which is providing valuable information about migration patterns that can be incorporated into a long-term dataset.

Fireballs in the Sky, for instance, is a citizen science project that allows anyone with a smart phone to contribute to and participate in real-time planetary science research. Participants record and share their fireball (meteor) sightings with scientists via the app. The data is then combined with that from custom-made, skyward-facing cameras to calculate where in the Solar System a meteorite originated and where it landed.

This project stems from research by the Desert Fireball Network, led by the ARC Laureate Fellow Professor Phil Bland. And since launching in October 2013, the app has been downloaded by over 10 000 individuals in more than 15 countries. Fireballs in the Sky was also a finalist for the WA Premier's Chevron Science Engagement Initiative of the Year Award.

As one participant at the Fremantle Fireballs in the Sky Day said, "This is a great way to learn about Earth science – I love meteorites!"



Above: "Saw one!" (members of the Fireballs in the Sky research team on a meteorite searching trip).



Above: Fireballs in the Sky team member Jay, with two brothers doing meteorite dissection activity at Earth Science day.

Citizen Science Benefits:

Citizen science has many benefits for both the citizen scientists taking part in varying projects and for professional scientists. Scientists get access to an inexpensive and potentially large labour force – and citizens get knowledge and fulfilment, and are often exposed to the environment and develop a stewardship ethic.

Citizen science projects also tend to create more scientifically-literate participants, building the capacity for people to take information they receive in their everyday lives and then make more informed choices based on what they have learned. Those choices could be anything from the products they buy as consumers or the political parties they choose to support.

Central to the issue of engaging with science is the recognition that science is not a thing in itself – it is an approach. And it can be applied to any number of disciplines or activities. If people can learn to see how they engage with the world systematically, and can relate that system to science, there's the opportunity to demystify science and encourage people to better engage with it, rather than having them assume that a) it's not relevant, b) it's too hard, c) it's for scientists.

Citizen science recognises that there's a wealth of knowledge, and a wealth of capacity to generate knowledge, in the Australian community, which has incredible value, but there hasn't been the science-based context for people to understand and utilise it. By getting more Australians engaged with science, we are enabling the kind of dialogue where that knowledge can produce real benefits for industry, for the scientific community, and for Australians in general.

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Case Study

Eyes-on-the-water REDMAP – \$300 000

Redmap (Range Extension Database and Mapping), was coordinated by the University of Tasmania through a large grant over three years, to expand this citizen science resource. Redmap is based around users sharing their sightings of marine species that are ‘uncommon’ to their local water ways or seas. Over time Redmap is using this citizen science-generated data to map which Australian marine species may be extending their distribution range in responses to changes in the marine environment, such as ocean warming.

Australian waters are warming at 2–4 times the global average and as they warm, species distributions shift in response.

Redmap members use their knowledge of the seas to help monitor Australia’s vast coastline and the data, largely generated by citizen scientists. There are millions of fishers, boaters, divers, and beachcombers throughout the country equipped with recording devices, such as smartphones with cameras and GPS, that are able to contribute important information on what they observed whilst out on the water.

The data they generate can highlight areas where research can be focused. The Eyes-on-the-water project further developed the Redmap website to engage the fishing and marine communities around Australia in monitoring and recording data.

The project has been successful on both scientific and engagement fronts. All photographs submitted are verified by one of an expert panel of over 80 scientists around Australia, leading to high quality observational data.

Important sightings have been recorded across the country and these have been used in multiple publications in high impact journals and to highlight new avenues for productive research projects. Redmap has also been an extremely successful community engagement tool, helping increase understanding of participation in science within the general community as clearly demonstrated by a successful website page (with over 650 000 web pages downloaded from 150 000 users; over 5400 Facebook ‘likes’ and over 1400 newsletter subscribers).

Redmap reporting efficiency was increased in 2013 with the launch of the Redmap phone application – increasing ease of submitting information and improving location accuracy of submitted data.

Redmap was recognised in the Tasmania Together programme for promoting community collaboration and participation in marine science research; and was a finalist in the Recreational Fishing Awards for Excellence in Support of Research Outcomes in 2012, and also the Tasmanian Science Excellence awards in 2013.



Above: A trophy shot. Tasmanian Ashlee Sinclair with a 6.5kg snapper (*Pagrus auratus*) caught near Hobart. Snapper are not commonly found in Tasmania. And especially not so large and so far south. This was such a rare find that this story and photo made its way into the local Mercury newspaper (photo: Jonah Jick).

Participant Impacts:

“Direct contact with the very friendly scientists and you know the sightings are right as they are verified by photo and can also be read about on other forums.”

— Anon (Evaluation report, July 2013)

“Outreach, engagement, early warning system it is a brilliant concept – to gather data using passionate non-scientists who love what they do and care deeply about the environment that gives them so much joy.”

— Anon (Evaluation report, July 2013)

“I have checked out the website and I have summed it up- ‘fascinatingly exciting’

— Ken Martin, 8 August 2013 (email to Redmap, August 2013)

Stakeholder Impacts:

“Such a worthy cause. The staff of Sapphire Coast Marine Discovery Centre is proud to be involved with Redmap.”

— Jenny Robb, August 18, 2013 (Facebook)



Above: A Wahoo (*Acanthocybium solandri*) caught by Michael Irwin at Port MacDonnell, South Australia, and logged on Redmap. This species is usually found in tropical and subtropical waters: so it is way out of its usual range!



Above: Juvenile white-ear (*Parma microlepis*) which isn't normally found in southern Tasmania was recorded by Redmapper Antonia Cooper near Hobart in mid-winter 2014! Juveniles of potential range-extending species recorded in colder months are particularly important as they indicate the prospect of species being able to survive (and therefore reproduce) throughout the year – thereby increasing their likelihood of establishing a stable population. (Photo: Antonia Cooper).

Engagement impacts:

“Outreach, engagement, early warning system - is a brilliant concept - to gather data using passionate non-scientists who love what they do and care deeply about the environment that gives them so much joy.”

— From initial project evaluation report (University of Adelaide)



Right: A warty prowfish (*Aetapcus maculate*) spotted at Pope's Eye in Port Phillip Bay, Melbourne. This unusual-looking fish is not well studied and people have been asked to log it around Australia to find out more about its distribution (Photo: Redmap member Sarah Speight).

Marine Science

Australia's marine territory is almost as large as our land mass, but traditionally much less explored and understood. The Unlocking Australia's Potential grants are helping to change that.

In short:

- Six projects addressed marine science specifically
- The projects had a strong emphasis on marine conservation.

Marine science was one of the priority areas identified by Inspiring Australia for strategic attention. The report on marine science released by Inspiring Australia noted that as an island nation, the majority of our population live close to the coasts and we have deep cultural, economic – and even spiritual connections – with the oceans that surround us. Our oceans and seas provide food and energy, carry most of our imports and exports, support national security, and provide opportunities for recreation, sport and the arts.

Australia's marine territory also covers an area roughly equal to our land mass, making it the third largest marine jurisdiction in the world. And we have a duty to protect it that is outlined in the United Nations Convention on the Law of the Sea, conferring on Australia an obligation to protect and preserve the marine environment while ensuring that marine resources are sustainably developed.



Above: Year 11–12 winner of the state-wide photo competition held under the Exploring, understanding and appreciating Tasmanian marine natural values project.

Australia's marine environment stretches from the tropics right down to Antarctica, and those Unlocking Australia's potential activities with a marine theme, sought to capture some of this wide diversity, and had a strong emphasis on not just education and awareness raising, but also on marine conservation.

Six projects either addressed marine science specifically, or included significant marine science components, which were:

- Exploring, understanding and appreciating Tasmanian marine natural values
- Eyes-on-the-water
- Sea Turtle Co-Management Travelling Roadshow
- East Coast Humpback Whale Watch Catalogue
- General public learning for involvement in marine science
- Field Guide apps to Australian Fauna.

Case study

Exploring, understanding and appreciating Tasmanian marine natural values – \$45 000

This project sought to increase awareness of Tasmania's unique marine environments with a state-wide programme of activity designed to impart knowledge of local marine research via tours of Tasmanian marine environments. Special tours were also held for secondary school students with a focus on careers in marine research.

Participant impacts:

"All scientists have reported they enjoyed the opportunity to share their knowledge with students and said that the experience was very worthwhile. All involved to date have expressed their desire to participate in further tours with school groups and members of the public."

— From project report

"A new experience for the students, something many of them would not ever get to experience. A chance to expand their horizons."

— New Norfolk High School feedback

"Thank you for your support. It was a fantastic trip for the students. We snorkelled at Return Point, Howells Point, The Painted Cliffs and at Darlington near the jetty. The range of marine life was fantastic and differences in the sites is very noticeable especially when observing our target species of crays, abs, urchins and macro algae. It links to our ongoing studies of fisheries and the effects of the long spine sea urchin invasion and the how the removal of crayfish is also promoting the development of native urchin barrens."

— Sean McCarthy, Triabunna District High School,
(April 2014 – following day trip to Maria Island)

"The trip was great, we got to see a 'feeding frenzy' of dolphins, seals and heaps of birds. Also got some nice rolling waves into Port Arthur, so education and excitement. One girl said it was one of the best experiences of her life!"

— Clinton Jordan, St Marys College, Pennicott Tours
(following 2014 Tasman Island and Bruny Island tours)

"The Inspiring Australia programme provided me with a chance to show students seabirds at sea - the soaring flight of an albatross over the ocean. I was able to describe the flight of an albatross while the students were observing it themselves - the most powerful of experiences that they will have for their entire lives."

— Eric Woehler, BirdLife Tasmania/University of Tasmania



Above: Year 11 – 12 participants in the exploring, understanding and appreciating Tasmanian marine natural values project.



Above: Year 9 – 10 winner of the state-wide photo competition held under the Exploring, understanding and appreciating Tasmanian marine natural values project.

"The Inspiring Australia programme provided me with a chance to show students seabirds at sea - the soaring flight of an albatross over the ocean. I was able to describe the flight of an albatross while the students were observing it themselves – the most powerful of experiences that they will have for their entire lives."

Other impacts

Analysis of project reports has shown that Unlocking Australia's Potential projects have led to significant other impacts.

Other impacts included:

- engagement impacts
- knowledge-sharing impacts
- partnering impacts
- financial impacts
- stakeholder impacts

The nature of these impacts are best understood in the context of their projects.

The Art and Science of Mental Health – “Not just one thing: Art, Science and Schizophrenia” – \$4303

Two public events featuring a panel discussion and exploration of schizophrenia from different perspectives including the lived experience, scientific, research and art, and broadcasting through ABC Radio National's All in the Mind programme in association with the Melbourne Fringe Festival.

Audience impacts

The project sought to engage with audiences who would not self-identify with existing science communication initiatives, and the use of both visual artwork and narrative structures allowed for the exploration of complex scientific ideas as well as challenging mental illness stigma. Evaluations showed that 59% of respondents had not attended a science communication event in the last year. And of these individuals, 93% indicated that they would attend a similar event in the future.

Also, involvement in the Melbourne Fringe Festival provided breadth exposure of the project to an estimated 250 000 people. The Melbourne Fringe Festival indicated their audience consists of predominantly 20 – 34 year old young professionals living in the inner suburbs of Melbourne.

Liddell Education's Science on the Road – \$5000

A science show/workshop hosted at public spaces in Queensland, Liddell's Education was a part-time science communication operation run on the side by Steve Liddell, a QLD high school science teacher. He received a small grant through the Unlocking Australia's Potential grant programme to run science shows and workshops around regional Queensland. While targeting students aged 6 to 14, the workshops or shows were suitable for parents and adults as well. The science content was delivered on-stage and through hands-on experiences combined with Web 2.0 interactive activities and promoted by digital media.

Outreach and Sustainability impacts

The flow on effect of this grant has now provided quality science engagement activities for tens of thousands of Queenslanders since the grant was awarded, with more being added every week.

Love2Read (aka Read 4 Nature) \$5000

A series of library-based workshops targeting adult readers, run in town libraries in the lower Wimmera area, concentrating on environmental science that is found in story books.

Read4Nature aimed to change attitudes towards Nature Science in picture books and to develop confidence in ordinary people that they can transmit it to the next generation and they can do this with simple tools like picture books. It had a great impact in inspiring people to look at science and picture books in a new way.

Knowledge sharing impacts

A presentation on the Read4Nature programme was made at the 7th World Environmental Educators Congress in Marrakesh, Morocco in 2013, attended by nearly 3000 people from 105 countries of the world.

Participant impacts

“Thanks Jeanie for organising this event and bringing your passion, energy and enthusiasm to Stawell! It is contagious, which is fantastic! I learn a lot- more than I thought I would actually, and gained some very valuable skills and awareness for future reading with young people. We will be in touch in the future I am sure. Thanks again “

— Participant at Stawell workshop

Perth Zoo mobile outreach 'Living with Wildlife' Programme for newly arrived refugee families – \$5000

A 'Living with Wildlife' programme for newly-arrived refugee families, including the development of a resource package and programme for upper primary students, and a conservation focused learning experience for children under five and their parents.

Engagement impacts

"The presentations you made were aimed really well for our kids, they responded well to the enthusiasm you all had for the animals. They also responded to your authority well, and you were very good at keeping them focussed (sic) on task. The information you presented was relevant to our kids, and definitely busted some myths they had about native animals. .. All of the presenters acted as positive role models, not only did they look the part, they were confident and well spoken (knowledgeable) about their subject. All presenters treated our kids with respect and this was well received. It was clear that all presenters loved their jobs and they conveyed this to the kids with the passion with which they all spoke."

- Amy Dyer, Live and Learn Team Leader, Save the Children
"Thank you so much for your presentation last Friday. The feedback from the clients has been amazing with all of them saying what a valuable experience it was. Your guest animals were brilliant."
- Debra Guiney, Community Detention Team Leader, Centrecare Migrant Services (Cannington)
"We liked it because we have never seen these animals before, it was a good experience."
- Burmese/Karen mum – information obtained through Bicultural play worker
"Very good, good experience, because we did not know the names of the animals before and now we know, we would like to see more animals next time."
- Indonesian mum of child aged 3

The Dream of the Thylacine – \$44 880

A live puppet show for children and families based on the thylacine.

Engagement impacts

"I thought the show quite remarkable. To myself, a non-puppeteer but one with much curiosity who has studied what is known of thylacine and other marsupial carnivore behaviour, and locomotion with the view to 'filling' some gaps in knowledge, it was evocative and informative. Evocative because the history represented was real... Informative since the models were remarkably accurate given the lighting and viewing conditions and their movement conducted by people who understood animals... The 'reclining' thylacine, with its subtle body movements and haunting stare, was a particular bridge with the past. I could have watched it for ages, as could the kids, those with the finest imaginations and least inhibitions. Even the gradually imposing presence of the puppeteers was relevant to the changes in superiority felt by early Europeans as they dominated the land. The aboriginal voice behind it all was a most relevant constant, something suggested that old knowledge will outlast 'it all'. The author of the inspiring book should be pleased."

- Nick Mooney – Conservationist, biologist, writer, wildlife expert and ecological educator

Partnership impacts

Research and development was conducted with the Australian Museum, exploring their artefacts and exhibition items, while the Tasmanian Museum and Art Gallery have expressed interest in using the community/educational outcomes, with links to TMAG's collections wherever possible. It has been proposed to use the footage produced as a centrepiece of a suite of online education materials for TMAG associated with the Thylacine. Discussions have also been opened with the World Wildlife Fund and the Wilderness Society.

- Anna Young, General Manager, Erth

Hidden National Treasure: Promoting the World's First Animals – \$90 000

The programme sought to engage both local and wider communities in paleontological science through providing a training course to enable people from the Central Flinders Region to participate in the recovery and study of Edicaran fossils (from the geological Edicaran Period, named after the Ediacara Hills of South Australia), as well as developing tourism opportunities for the area.

Engagement Impacts

“Embedding science stories in other experiences is another way of getting science out into the community. The locals were looking for this opportunity. They have both the passion and the means to pass it on. By teaching these few, we can potentially reach thousands of tourists. The beauty of the project is its ability to reach ‘beyond the converted’. Breathtaking scenery, wildlife, bushwalking tracks and the landscape paintings of Hans Heysen attract a wide range of visitors to the region – people who might not otherwise engage with science. The people living up there running cattle stations and tour operations are not geologists, botanists or palaeontologists, but they’re very hungry for information about these topics and Indigenous knowledge because they love it! They want to talk about it!”

— Damia Ettakadoumi of Straight Up Science

Outreach impacts

Comments from respondents who participated in the training suggest Flinders residents are hungry for more of this sort of thing in their region.

“I really think the geology and fossils will be a great asset to my tourism experience.”

“The course was immensely valuable. I am ready for a level 2/ advanced practical week. An online forum to keep us up to date, where we could pose questions to each other and experts in various fields- geology, flora, fauna, Adnymathanha...”

“The week I spent at the course has proven to be very beneficial. It gave lots of clarification, a good amount of new info and greatly improved my overall ability to share with the passengers.”

“The whole experience was amazing and this course should be run again because there are some many people out there interested in doing it.”

Sustainability Impacts

Ten locals have received Certificate III training and an intensive course in Ediacara palaeontology and geology (from the geological Edicaran Period, named after the Ediacara Hills of South Australia), and are now able to confidently explain the Ediacara fossil story to tourists. The next stage of the project will involve developing tourism experiences and resources, such as formalised fossil tour routes, brochures and tourism apps. An Ediacara brand is also being developed to help promote Flinders fossil finding adventures internationally.



Above: Jim Gehling from the South Australian Museum and Chris Matthews from Straight Up examining Nilpena fossils.



Above: Tour guide students exploring Blinman Cave, during their course.

“Embedding science stories in other experiences is another way of getting science out into the community.”

Fact or Fiction – \$45 000

The programme hosted 12 cinema-style events across Australia in 2013 and 2014, using clips of science-fiction movies to engage attendees on questions of science and technology. A critique of the science-related cinematic content was delivered by qualified ANSTO scientists.

Audience Impacts

“Enjoyed the show and so did my 11 year old. Are you aware if ANSTO runs more rural and regional events for children. It is unfortunate that we don't have groups like Double Helix in Albury-Wodonga to get those young science minds working.”

“It was a great time, thank you very much: I greatly enjoyed it and I learned a few things as well.

Entertainment and education are a perfect match!”

“I went last night with my sister and we both thoroughly enjoyed it, we had lots of laughs and learned a lot too. We were not as informed as we thought we were! My son went earlier in the day with his school Lavington Public and he and his friends said they thought it was great. Unfortunately though my son didn't quite understand the message about the cost and energy needed to create and run a plasma light sabre as he wants one for Christmas!”

“The Fact or Fiction event in Albury last night was great. I have been hearing only positive things today with everyone going out of their way to tell me it was fabulous. I personally think one of the best outcomes for me was seeing young scientists from ANSTO stepping out into an unconventional role in the show. It is important that the upcoming generation of potential scientists actually see role models that they can relate too. I heard both kids and parents talking excitedly all the way to their cars after the show, and met parents of kids that had seen the show during the day and who had come along themselves in the evening. My partner and I discussed science all the way home.”

“It was also great to see the staff making themselves available to High School students with an interest in fields of science that we don't have much access to in our region.”

— Audience feedback from the Albury shows in November 2013

Project:

SciWorld Inc – \$45 000

The project funding expanded the already successful Whyalla event to a series of free family science fairs run in regional South Australia, designed to expose participants to, and encourage careers in, science. The events were expected to attract an estimated 2500 people.

Sustainable Impacts

“Grant monies have been invaluable in helping us to establish ongoing sustainable events in Port Augusta and Whyalla and we are hopeful that this can also be achieved in Port Lincoln and Roxby Downs over the coming 12 months or so.”

— From project report

Night Skies on the Eyre Peninsula – \$5000

The project brought the resources of SkyWatch Astronomy Education to the Eyre Peninsula to provide high-interest astronomy engagement programmes, open to all members of the community. The programmes included provision and staffing of a portable, fully functional planetarium and 360 degree movie theatre, as well as computerised telescopes to deliver night-sky observing experiences.

Significant support was received from librarians at locations who were very enthusiastic. Librarians personally advertised, organized venues and supported events such as a public barbeque at Cummins. An evening star-gazing session was held at Lock and Cummins, with 60 attending at Lock and 130 attending at Cummins.

Audience impacts

“The public response was universally enthusiastic. People of all ages were excited, and continually asking questions of the presenter/s ... Many people commented that they would pay a lot more attention in the future to the night sky (and in fact the natural world around them), and expressed gratitude that they had been given a taste of the possibilities for their future activities and education.”

“The public response was universally enthusiastic. People of all ages were excited, and continually asking questions of the presenter.”

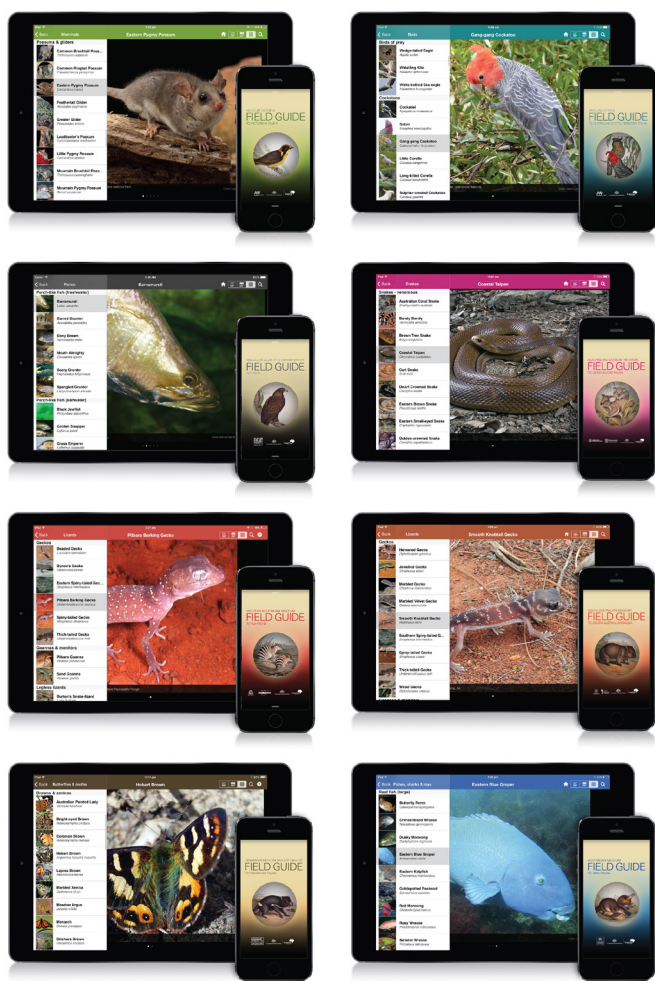
— From project report

Field Guide apps to Australian Fauna – \$390 000

The project was to develop a smart phone applications or online content at the Atlas of Living Australia website to provide state-based access to images, sounds and distribution information for iconic and recognisable animal species in each State and Territory.

The field guide, developed by the Museum of Victoria and state partners, is actually a suite of eight apps, one for each state and territory, that allows scientists, families, students and natural science lovers anywhere to identify animals in parks, beaches or in their backyards. The apps include photos, maps and habitat details of over 2100 animals, as well as distribution maps, endangered status, audio calls and 7281 stunning images of mammals, birds, fishes, reptiles, frogs and invertebrates from terrestrial, freshwater and marine environments.

The app can be found by searching for Field Guide to Fauna.



Above: Field Guide apps to Australian Fauna for each state and territory (iPhone and iPad). (Source: Museum Victoria)

Quality impacts

In 2015 the app, which has had over 10 000 downloads, has been recognised with a number of awards:

- In 2014, the Northern Territory app won an NT Chief Minister's Award for Excellence in the category Enhancing our Culture and Lifestyle.
- During 2015, the Field Guide apps have been recognised internationally and nationally, winning two prestigious international awards and Australia's most highly-regarded museums award.
- The **Best of the Web** awards, announced at the 2015 Museums and the Web Conference in Chicago, recognise outstanding museum technology projects and is judged by a committee of museum peers. The Field Guide apps received the award for the best mobile application.
- The **Muse Awards**, announced at the 2015 American Alliance of Museums Annual Meeting in Atlanta, recognise outstanding achievement in Galleries, Libraries, Archives or Museums (GLAM) media. The Field Guide apps won bronze in the mobile category.
- The **Museums and Galleries National Award (MAGNA)**, awarded at the 2015 Museums Australia conference in Sydney, recognise excellent work nationally in the categories of exhibition, public programmes and sustainability projects. The Field Guide apps won the award in the category Interpretation, Learning and Audience Engagement (Level 3 – \$150 000–\$500 000).

Partnership and sustainability impacts

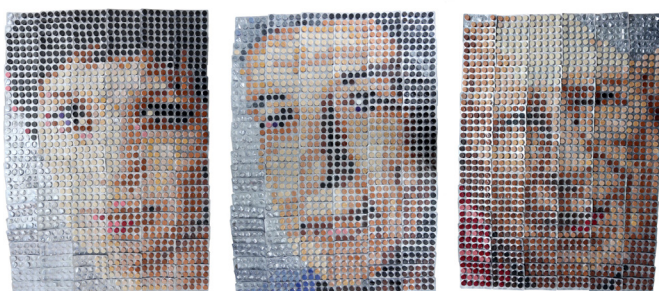
The apps represent an ongoing collaboration between Australia's major natural history museums:

- Museum Victoria
- Australian Museum
- Museum & Art Gallery of Northern Territory
- Queensland Museum
- South Australian Museum
- Tasmanian Museum & Art Gallery
- Western Australian Museum

Insight Radical: revealing science through art – \$44 980

The project used art as a basis for science engagement with the arts community and arts-engaged public. Insight Radical educated the public on the nature and impact of free radicals on health, their contribution to disease, as well as their role in material degradation.

The ARC Centre for Excellence for Free Radical Chemistry and Biotechnology at the University of Melbourne was a grant recipient. In partnership with Winsor and Newton, the project brought together artists and scientists to explore the complex topic of free radicals through residencies in laboratories, art studio visits and public art/science workshops.



Above: Anna Madeleine, *The Pill Portraits* ('Generation 3: Anna', 'Generation 2: Michael', 'Generation 1: Max'), 2013, 3D-printed pills, spray paint and pill packets on alupanel, 74.5 x 53 cm each.

Outreach impacts

The project led to a three year travelling programme through metropolitan, regional and rural communities via exhibitions, workshops, talks, community programmes, meetings, a video and online interactions. It visited six states and territories and even exhibited in London.

Audience impacts

The project has engaged over 10 000 people, directly inspired 27 paintings and 3 animations for exhibition, and generated a beautiful catalogue of works.

Sustainability impacts

"Overall the project has been a fantastic success and has created a legacy of science engagement within many communities that will endure beyond the conclusion of the Inspiring Australia funded project."

— From project report

"Overall the project has been a fantastic success and has created a legacy of science engagement within many communities that will endure beyond the conclusion of the Inspiring Australia funded project."

Stakeholder impacts

Common themes to arise from interviews with the Insight Radical artists were:

- The artists in residence inspired the scientists and reminded them how much they love their research
- The scientists felt they further developed their communication skills in conversing with the artists about their research
- The scientists started to think about their research more broadly and in terms of how it relates to humanity.

Common themes to arise from interviews with the Insight Radical artists were:

- The artists shared a curiosity for science, and the topic of free radical chemistry (about which they knew very little)
- Each artist was excited about the residency, and learnt much about free radicals and the life of a scientist
- The artists felt that the residency experience impacted their work and shared the belief that it would continue to impact their work for many years to come.



Above: Insight Radical: revealing science through art: mages: (Tony Lloyd, *The Style of Elements*, 2012, oil on linen, 92 x 66cm).

Case Study

Opening Doors: Science Engagement Tours for Young Refugee Migrants Residing in Goulburn – \$5000

The Project

Opening Doors was a pioneering project that offered young migrants from refugee backgrounds access to science engagement in Australia. The project, run out of the Centre for the Public Awareness of Science at the Australian National University, offered participants opportunities to access a range of science communication activities that included visits to science centres, museums, and science shows, as well as information about tertiary studies and careers in science.

A focus of the programme was to overcome the belief that migrants had no places in such areas of study – a belief which stems from their experiences in their countries of origin and results in perceptions that they are denied access to science and technology in Australia. For them, science seems an elite and remote study and career pathway.

The project acknowledged the diversity within and among young migrant groups from refugee backgrounds, and evaluated their attitudes and aspirations with regard to Australian scientific culture during their settlement in Australia.

The Challenge

To inspire young refugee migrants about possible opportunities to study and seek careers in science in Australia.

The Outcome

The Opening Doors project proved to be very successful in developing positive attitudes to science (67% developed positive attitudes to science) and enabling participants to see a possible career prospect in science (13%).

It also highlighted a possible need for continuing efforts (like the Inspiring Australia funded phase of the Project) to inspire young refugee migrants about possible opportunities to study and seek careers in science in Australia (as recommended by the Inspiring Australia Expert Working Group Report on Developing an Evidence Base for Science Engagement in Australia.).

The project also built strong links with The Australian National University, Goulburn Multicultural Centre and a number of cultural and science focused attractions in the local area.

One of the participants, Musare Gasirimu entered a university science course in 2013 that may lead to a career in medical research. Originally from the Republic of the Congo, Musare has been passionate ever since he was young about good quality medical support for his community.

“As I grew up, I witnessed unfair treatment of sick people, especially pregnant women and young children. I knew in my heart that when I grew up I wanted to help people in my village with proper scientific medicine.”

When he arrived in Australia, however, Musare feared his dream would not become a reality. He lacked support to access a suitable study pathway that would lead to a career in medicine. As he later said, “As a result of the Opening Doors project, for the first time in a long time I could see a bright future for studying science and medicine.”

The ANU-initiated project pioneered a series of science engagement activities in 2012, with humanitarian migrant youths who had been settled in regional NSW. The participants visited science and technology centres in Canberra, enjoyed first-hand experiences with professionals employed in careers leading from science and technology studies, and participated in science communication programmes which informed about university science courses.

Musare has greater plans for his future and hopes to “work for Medicine Sans Frontiers in the most remote communities”. Opening the door for him towards this goal has been a proud moment for the Opening Doors project, which continues to work to engage more disadvantaged young people with science and technology in Australia and offer them a bright future.



Above: Musare Gasirimu at Questacon, Canberra. (Photo: Sean Perera (CPAS ANU)).

The future

The Opening Doors project has also put in place a number of on-going initiatives these include:

- Offering the participants the opportunity to re-experience (with their families) certain aspects of the programme by donations of return passes to visit Questacon and the Reptile Centre
- Maintaining an online presence through the Opening Doors website for Science Engagement Tour participants to find out about science studies and careers in Australia
- Continuing to share information with the participants (via the Goulburn Multicultural Centre) by presenting show-bags and follow-up information from the science venues visited during the tours, for example, the National Dinosaur Museum's evolutionary timeline information sheet
- Working with the Department of Immigration and Border Protection's Settlement Programme to promote science communication as a settlement strategy for recently arrived young refugee migrants in Australia
- Setting up an Astronomy Club in Goulburn with input from Mount Stromlo Observatory in Canberra, and by advancing further the good working partnership that has been developed with the ANU Student Equity Office and the Student Ambassadors.

The Impact – in their words

One of the strongest indicators of the value of a programme is the impact it has on the participants. The following quote has been taken from a supporting statement for application to study an Associate Degree in Science and Technology at the ANU. The application was made by one of the opening doors participants.

"For the first time in a long time I could see a bright future for studying science and medicine. I feel supported, encouraged and motivated by the staff at the Goulburn Multicultural Centre and ANU, they have been very helpful to me and that is why I would like to study at university in Canberra."

*"For the first time in a long time
I could see a bright future for studying
science and medicine."*

Appendix A

Overview of Successful grants – 63 projects awarded a total of \$5 million

PROJECT TITLE										APPLICANT	IA FUNDING
The New Science and Engineering Challenge										The Uni of Newcastle	\$450 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Field Guide Apps to Australian Fauna - by Museums, for the Community										Museum Victoria	\$390 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
NISEP – Engaging Rural, Regional and Indigenous Communities in Science										Macquarie University	\$390 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
VIZBI+ Visualising the future of biomedicine										Garvan Institute of Medical Research	\$350 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Eyes-on-the-water: REDMAP										University of Tasmania	\$300 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Regioneering Road Show										Engineers Without Borders Aust. Ltd	\$260 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
dLux iStreet Lab										dLux MediaArts	\$236 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Fresh Science										Science in Public	\$210 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
ScienceAlert: Engaging and Inspiring Young Australians on Facebook										ScienceAlert Pty Ltd	\$200 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Promoting the role of Chemistry in day-to-day life										Royal Aust Chemical Institute Inc.	\$190 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Ologism – Science-Inspired Rock Performance										CSIRO	\$180 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Engaging remote Indigenous communities in climate-change science										CSIRO Ecosystem Sciences	\$150 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Ultimo Science Festival										Powerhouse Museum	\$150 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Harvesting Traditional Knowledge										ANKAAA	\$150 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Fireballs in the Sky										Curtin University	\$145 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Apurthele-ileme (bringing together) science and Indigenous ecological knowledge										Akeyulerre Incorporate	\$100 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Hidden National Treasure: Promoting the World's First Animals										Straight Up	\$90 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Poo Power										GreenNation	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Far Out Science										University of New England	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Exploring, understanding and appreciating Tasmanian marine natural values										University of Tasmania	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
The Great Australian Science Byte (formerly The National Science Challenge)										University of Sydney	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Science Fair and Border Stargaze										Astronomical Society Albury/ Wodonga Inc	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			

PROJECT TITLE										APPLICANT	IA FUNDING
Fact or Fiction Roadshow										ANSTO	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
SciWorld Sundays - free family science fairs in regional South Australia										SciWorld	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Sustainable Science Trail										Arid Lands Environment Centre	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Science Centre and Planetarium Outreach Programme										University of Wollongong	\$45 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Insight Radical: revealing science through art										University of Melbourne	\$44 980
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Plant Hunter ... Treasure Hunter!										Royal Tasmanian Botanical Gardens	\$44 960
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Indigenous Rangers Promote Science in their Communities										Tangentyere Council	\$44 930
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Tastes Like Science: Molecular Gastronomy and the Science of Foods Workshop										University of Western Australia	\$44 919
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
The Dream of the Thylacine										Erth Visual & Physical Inc	\$44 880
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
The Science of Ageing – Exploration of life stages birth to old age										RiAus – Royal Institution of Australia	\$43 100
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
East Coast Humpback Whale Watch Catalogue										Southern Cross University	\$42 970
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
3D Modelling of Koonalda Indigenous Art and Mining										South Australian Museum	\$40 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Climate change animations										CSIRO	\$39 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Locating Science: Mapping Ecological Themes in Australian Film and Literature										University of Queensland	\$35 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
From fire-stick farming to the friendly frontier: landscape change at Albany, WA										University of Western Australia	\$30 340
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Parasites in Power										Australian Society for Parasitology Inc.	\$30 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Science Rocks on the Road										Goldfields Education Mining Industry Alliance	\$30 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
UNSW Medicine – Dean's Lecture Series										University of NSW	\$30 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Sea Turtle Co-Management Travelling Roadshow										Sea Turtle Foundation	\$26 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Robogals on Tour										Robogals Inc.	\$20 000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Night Skies on the Eyre Peninsula										SkyWatch Astronomy Education	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Aboriginal Discovery Science at Risdon Cove										Tasmanian Aboriginal Centre	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
It's Not Circus, It's Science										Katherine Barnard	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Perth Zoo mobile outreach Living with Wildlife Programme for newly arrived refugees										Perth Zoo	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Carbon Opportunities in Indigenous Communities										Infinivie	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			

PROJECT TITLE										APPLICANT	IA FUNDING
Ancient Science										WA Gould League Inc	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Solas										David Ryan	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Inspiring Australia – General public learning for involvement in marine science										University of Sydney	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
ACCELERATOR: A collaborative public programme where art and science collide										Culture at Work	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Liddell Education’s “Science on the Road”										Liddell Education	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Mega fauna Makeover – fossil preparation and conservation										South Australian Museum	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Love 2 Read (AKA Read 4 Nature)										Jeanie Clark	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Rocket Girl Rocket Show										Rocket Girl	\$5000
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Talking Water										University of Queensland	\$4971
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Dimensional – a fusion of maths, circus and teenagers										Katherine Barnard	\$4960
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Pedalling Science to the People – Science Busking Bike										Australian National University	\$4935
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Science Across Generations										Scienza Viva	\$4842
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Understanding the wombat by engaging the local agricultural community										Royal Zoological Society of SA – Conservation Ark	\$4750
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Sharing knowledge: Indigenous engagement in climate science										University of NSW	\$4700
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
Science Engagement Camp for Young Refugee Migrants Residing in Goulburn										Australian National University	\$4460
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			
The art and science of mental health – the story of schizophrenia										CRC for Mental Health	\$4303
Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA			

Appendix B

Successful grants – 63 projects awarded a total of \$m

PROJECT TITLE

The New Science and Engineering Challenge

APPLICANT

University of Newcastle

IA FUNDING

\$450 000

2015 will mark the 15th year of the Science and Engineering Challenge and the 10th year in which it has run as a national programme. During 2015 the 200 000th student will pass through the programme.

During the period of the Unlocking Australia's Potential grant, 2012–2014, over seventy thousand people have participated in a Science and Engineering Challenge event. This includes almost twenty nine thousand people from rural and remote locations and almost two and a half thousand people from Aboriginal or Torres Is origins. We have run over four hundred days of events right around Australia with assistance from more than eight thousand (additional) volunteers. Wherever it runs the Challenge enjoys amazing support from local Rotary International clubs and communities.

Ongoing evaluation and research indicate strong satisfaction with the programme and, more importantly, effectiveness. Between 28% and 69% of students are enrolling in the enabling sciences as a result of competing in a Challenge event. Numerous students who competed in a Challenge and are now in STEM careers can be identified and this helps identify ways to be able to better track the programme's effectiveness.

From an operations point of view, the programme has been totally restructured over the last few years. It looks the same, or better, from the outside but internally is much more contemporary and efficient.

More efficient ways of delivering the program have been trialled, to reduce the time and cost involved in transporting equipment around the country, and several trailers have been built, which will be based in centralised areas across the country. The number of activities available have been reduced, but their diversity increased (a maths-focused activity has been included for example), reliability, and fun factor. Events are run specifically for primary schools and for the general public. Multimedia has been incorporated into some of programmes and new professional development and educational resources have been delivered. A compact "Challenge Lite" kit is being developed to service small or very remote communities as well as additional teacher resources and a new robotics activity.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Field Guide Apps to Australian Fauna – by Museums, for the Community

APPLICANT

Museum Victoria

IA FUNDING

\$390 000

A suite of eight Field Guide apps that showcase Australia's amazing wildlife were produced as a collaboration between museums nationwide. The apps together contain images and descriptions of over 2100 species, across all states and territories. The content was written by museum scientists and covers mammals, birds, fishes, reptiles, frogs and invertebrates from terrestrial, freshwater and marine environments.

The apps are completely free and are available for download from Apple App store and Google Play for Android devices.

Museum Victoria led the technical development of the apps, with Australia's other natural history museums producing content, refining maps and sourcing images and calls. Project partners were Australian Museum, Museum and Art Gallery of the Northern Territory, Queensland Museum, South Australian Museum, Tasmanian Museum and Art Gallery and Western Australian Museum. Partners have described the project as "a best practise model for how Museums need to work together" (Dr Michael Hammer, MAGNT) and "an exemplar for collaboration between the state run Museums of Australia" (Dr Rob Adlard, QM).

Another highlight has been feedback from users: "best app on my phone", "an amazing gift" and, our favourite, "400+ MB of awesomeness". We were thrilled to be able to deliver the apps users had asked for, and to hear how much they like them. The apps and the project collaboration has been recognised with a number of awards:

- In 2014, the Northern Territory app won an NT Chief Minister's Award for Excellence in the category *Enhancing our Culture and Lifestyle*.
- During 2015, the Field Guide apps have been recognised internationally and nationally, winning two prestigious international awards and Australia's most highly-regarded museums award.
- The [Best of the Web](#) awards, announced at the 2015 Museums and the Web Conference in Chicago, recognise outstanding museum technology projects and is judged by a committee of museum peers. The Field Guide apps received the award for the best mobile application.
- The [Muse Awards](#), announced at the 2015 American Alliance of Museums Annual Meeting in Atlanta, recognise outstanding achievement in Galleries, Libraries, Archives or Museums (GLAM) media. The Field Guide apps won bronze in the mobile category.
- The [Museums and Galleries National Award \(MAGNA\)](#), awarded at the 2015 Museums Australia conference in Sydney, recognise excellent work nationally in the categories of exhibition, public programmes and sustainability projects. The Field Guide apps won the award in the category Interpretation, Learning and Audience Engagement (Level 3 – \$150 000–\$500 000).

Links to download the apps can be found at:

<http://museumvictoria.com.au/national-apps>

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

NISEP – Engaging Rural, Regional and Indigenous Communities in Science

APPLICANT	IA FUNDING
Macquarie University	\$350 000

A series of hands-on science shows conducted in regional and rural NSW, QLD and WA for communities with high Indigenous populations. Events engaged Indigenous youth and elders as ‘teachers’ to communicate science to the communities, allowing for the target audience (particularly youth) to see science as accessible and potentially as a career option. Science topics covered include ‘big picture’ concepts such as climate change, water rights, food security and renewable energy.

One of the outcomes of the project was seven people from Ngukurr in the Northern Territory came to present at the Experience @ Redfern event, which included Aboriginal elders and community members from Yaegl country, Arnhem Land, Wagga Wagga and Perth.

Feedback from participants in that event stated that there was keen interest by young and old people in the Yugul Mangi rangers and their bush medicine and life in Arnhem Land. According to Emilie Ens, from Ngukurr, “It really was empowering for everyone. The young people especially were really proud of their culture, where they came from and that people really wanted to hear their stories and learn from them.”

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

VIZBI+ Visualising the future of biomedicine

APPLICANT	IA FUNDING
Garvan Institute of Medical Research	\$350 000

The programme sought to communicate biomedical research through images, animation and other visual means to young adults, business professionals and art lovers who may not be currently engaged with science.

The project was a collaboration between three of Australia’s leading health and medical research institutions, the Garvan, the Walter and Eliza Hall Institute and CSIRO, and was hosted in Sydney and Melbourne with an online component to make content available nationally.

The project led to the creation of stunning biomedically-accurate animations, that show exactly what actually happens inside our bodies at the micro scale.

The molecular movies have been depicted as bringing to life very complex biological processes that are researched by health researchers and usually only detailed in scientific journals. The molecular movies are available online at: <http://vizbi.org/plus/>

Three of the biomedical animations were even premiered at a red carpet event at Federation Square in Melbourne.

The animations feature:

- the role of the tumour suppressor protein ‘p53’, known as ‘the guardian of the cell’, in the formation of many cancer types.
- how starch gets broken down in the gut, showing how resistant starch, found in foods like beans and legumes, can protect us against one of Australia’s biggest killers – colorectal cancer.
- how diseases associated with inflammation, such as type 2 diabetes, are ‘lifestyle’ diseases that represent some of the greatest health threats of the 21st century.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Eyes-on-the-water: REDMAP

APPLICANT	IA FUNDING
University of Tasmania	\$300 000

A national project using citizen science to map Australia’s marine life is attracting divers, fishers and beach-goers to report unusual sightings in their local seas. The project is helping track changes in the distribution of almost 200 marine species to better understand changes in our ocean environment.

Australian waters are warming at 2-4 times the global average and as they warm, species distributions shift in response. Redmap (Range Extension Database and Mapping project, www.redmap.org.au) is an online citizen science project that harnesses the knowledge and experience of the community to help monitor and understand these changes. Long-term large-scale scientific monitoring of our entire coastline is costly, however, there are millions of fishers, boaters, divers, and beachcombers throughout the country equipped with recording devices, such as smartphones with cameras and GPS, that are able to contribute important information on what they observe whilst out on the water.

The project has been successful on both scientific and engagement fronts. All photographs submitted are verified by one of an expert panel of over 80 scientists around Australia, leading to high quality observational data. Important sightings have been recorded across the country and these have been used in multiple publications in high impact journals and to highlight new avenues for productive research projects. Redmap has also been an extremely successful community engagement tool, helping increase understanding of participation in science within the general community as clearly demonstrated by a successful website page (with over 650 000 web pages downloaded from 150 000 users; over 5400 Facebook ‘likes’ and over 1400 newsletter subscribers). Redmap reporting efficiency was increased in 2013 with the launch of the Redmap phone application – increasing ease of submitting information and improving location accuracy of submitted data.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Regioneering Road Show

APPLICANT	IA FUNDING
Engineers Without Borders Australia LTD	\$260 000

Our grant from Inspiring Australia allowed Engineers Without Borders Australia to expand our high school outreach programme effectively to regional and remote areas of Australia. In the two years of the grant, we reached 8133 extra students from West Victoria, through Alice Springs, up into the Pilbara in Western Australia.

Our programme is now receiving interest from corporate supporters so that we can continue our regional engagement. It has been fantastic that over the last two years we have been able to build a profile for the programme that can attract additional support.

A real highlight of the last two years has been participation in the Alice Springs DesertSmart EcoFair which happens in August each year. We have volunteers who are able to engage students from the heart of Central Australia, as well as deliver material over the School of the Air to students who are learning out on the stations. You can find a short video on the EcoFair (with appearances from our volunteers) at: <http://youtu.be/J2bGY-8azVg>

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

The dLab National Programme

APPLICANT	IA FUNDING
dLux MediaArts	\$236 000

The dLab National Programme has been engaging young people across regional and rural Australia in creative programmes across the intersection of art, science and technology.

Since 2011, dLux MediaArts have delivered hands-on skills development workshops in Wagga Wagga, Wilcannia, Kempsey, Dubbo, Warren and Katherine and the surrounds integrating computer science, the science of light, electronics, audio engineering, environmental science and traditional sciences with local cultural stories and their surroundings. Using modular learning structures allows the dLab National Programme to respond to the varying needs and contexts of the different communities.

The dLab National Programme works collaboratively with schools and colleges, arts organisations, councils, local practitioners, leading Australian and international artists as well as cultural groups and Elders to produce outcomes for public presentations. Over the course of the Inspiring Australia Initiative dLux MediaArts and dLab Partners have worked with participants to build and showcase large scale architectural projections, a retrospective exhibition, a mobile app 'Wilcannia Sites and Places', installations of synthesisers that respond to botanicals as well as videos and animations presented at community festivals including Youth Week, Science Week, Fusion13 (Multicultural Festival), Walking with Spirits, Salt Water Fresh Water, The River Festival and Australian Indigenous Fashion Week. dLux programme manager, Alexia Estrellado was able to present the success of the dLab methodology to others working and teaching in the arts at the annual International Teaching Artist Conference early July in Brisbane.

The achievements of the dLab National Programme has received the support of Australia Council through the Creative Community Partnerships Initiative and will continue to 2017 and has also attracted new partners to expand across the Central West Slopes and Plains in 2015.

The Inspiring Australia Grant has allowed dLux to continually support and grow projects and encourage new initiatives such as:

- Indonesian artist Andreas Siagian was hosted for six weeks during which time he engaged with artists, participants and collaborators in Sydney and regionally in Wagga Wagga and Kempsey.
- The [Macleay River Festival](#) will showcase a synthesiser installation that local Kempsey facilitator Sam has been working on with the continued distant support from Andreas.
- Through the success of the CATCH Grant, Macquarie 2100 and River Smart brought Augmented Reality Artist, Warren Armstrong worked collaboratively with the dLab facilitator, Yenny Huber using the dLab methodology, to deliver a week of workshops to high school students in Warren Central High School that discussed the environmental science of the Macquarie Marshes and Tiger Bay
- In the Northern Territory, the dLab team is working with local communities and elders to develop a field guide app about local fauna that integrates local, scientific and traditional knowledge for young people.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Fresh Science

APPLICANT	IA FUNDING
Science in Public	\$210 000

The “Fresh Science” programme targets young early-career science researchers to give them public speaking experience and media opportunities that have had outstanding results in furthering their careers.

“Fresh Science was a game changer because it opened the biggest career door for me... and I owe it to you guys!!!” wrote newly-appointed Research Fellow, Dr Anneline Padayachee.

Fresh Science is a national competition that selects and trains top early-career science researchers from around Australia to present their work for the first time to the media and the public. In Anneline’s case, her presentations at ‘Fresh Science at the Pub’ and the ‘Fresh Science Dinner’ led to the offer of a position with the University of Melbourne where she now pursues her own research.

Anneline had just graduated from the University of Queensland with her PhD in Nutritional Food Science, when her supervisor nominated her for the Fresh Science competition in 2012. After participating in the two-day State Final with associated media training she was selected to be one of 12 national finalists in an annual five-day event in Melbourne. There the young researchers were further trained to tell their stories of discovery to the media and public. They practiced radio and TV interviews, polished up their ‘elevator pitch’, entertained a crowd over a glass of wine and practiced answering tricky questions.

Anneline used her newly-acquired media skills at the Fresh Science-organised press conference. “It was one of the most challenging things I’ve ever done. It can be extremely daunting to get out of your comfort zone and put yourself in front of a room full of strangers.

“Learning to do that was really good for me then, and in all sorts of situations now. I also realised that if you explain your work very clearly in ways that are relevant there will be less chance of errors in their understanding and media reporting.”

The finalists were helped to write their own press releases and Anneline’s story about the role of fruit and vegetable fibre in transporting anti-oxidant compounds through the human digestive system generated more than 40 media stories and attracted national and international attention. As a direct result of the media coverage she was contacted by organisations and researchers from Canada, India, Spain and the USA seeking copies of her thesis and papers, and further contact and collaboration.

The media and other public exposure provided by Fresh Science for Dr Anneline Padayachee and her research changed her life. Not only was the value of her human nutrition and food science research communicated more effectively to many more audiences than would have otherwise occurred, she now has a job pursuing her own research.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

ScienceAlert: Engaging and Inspiring Young Australians on Facebook

APPLICANT	IA FUNDING
ScienceAlert Pty Ltd	\$200 000

ScienceAlert is pleased to announce that we have successfully completed our Inspiring Australia grant project. We set out with the aim of achieving 250 000 Australian fans on the ScienceAlert Facebook page, and now have more than 320 000 fans. This translates to more than 4 million Australians seeing content from ScienceAlert on Facebook each week, in addition to 10 million people around the world.

“ScienceAlert is providing a platform to inspire young Australians with engaging science content,” said Managing Director Chris Cassella. “Every day millions of people are finding out about breakthroughs in Australian science and the opportunities that exist in STEM in Australia.”

In addition, the Inspiring Australia project created more than 60 regional and national radio science segments with local talent, and a couple of hours of high-profile science TV content with astronaut Chris Hadfield during Science Week 2014. While this portion of the project will not continue, it demonstrated the potential for leveraging social media platforms to produce science content for regional radio.

With the support of the grant, ScienceAlert has now established a sustainable business model.

“Without the financial support and association with Inspiring Australia community, ScienceAlert would not be where it is today,” added Cassella.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Promoting the Role of Chemistry in day-to-day life

APPLICANT	IA FUNDING
Royal Australian Chemical Institute Inc. (RACI)	\$190 000

The RACI have had 5 travelling exhibitions and three periodic tables moving around the country for 4 years with the Inspiring Australia’s valuable support for the last two and a half years.

The object was to try and change the very negative perceptions held by the general public about chemicals by showing them, in a visual form, how chemistry and chemicals underpinned many of the basic necessities they took for granted in their everyday lives, from medicines to food, fibre optics to building materials.

During their working lives each of the five traveling exhibitions visited 36 venues in four states, staying in each an average of four weeks. They reached the more out of the way places like Albany, Port Pirie, Alice Springs, Darwin, Hobart and Mackay as well as the regular urban centres. During the period of Inspiring Australia support over 900 venues were visited where it’s estimated that over 500,000 viewed the exhibitions.

Many positive comments were made in the accompanying visitors books and it appears that some progress in the education of the general population that all chemicals are not bad was made.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Ologism – Science-Inspired Rock Performance

APPLICANT	IA FUNDING
CSIRO	\$180 000

The band Ologism, performs science-inspired rock songs and undertakes live science demonstrations on stage to promote Australian scientific research and innovation.

The show grew out of nearly 10 years of the 'Great Big Science Gig', Australia's first and most successful science rock show.

The Ologism team has since toured Australia many times with a constantly growing and evolving repertoire and a wide range of musical styles including rock, punk, pop and soul, and they have performed to youth and general public audiences in each capital city, as well as suburban and regional areas.

Ologism is the collaborative effort of Marty Lubran (*Crackpot, Inverto*), Chris Krishna-Pillay (*Pre-Coital, Somnium, Dante's Laboratory*) and Darren Vogrig (*Jumpin' Jack's Back*).

An online component was also included to further the reach of the programme.

<http://www.ologism.com/>

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Engaging Remote Indigenous Communities in Climate Change Science

APPLICANT	IA FUNDING
CSIRO Ecosystem Sciences	\$150 000

Many Indigenous communities across northern Australia are located in regions which are particularly susceptible to projected sea-level rise from climate change, and the resulting impacts on coastal ecosystems and natural resources.

Engagement of Indigenous Australians in discussions about climate change has been generally low, resulting in poor awareness and understanding of climate change and its implications.

As part of the Inspiring Australia: Unlocking Australia's Potential Programme, CSIRO worked in partnership with Tiwi Islanders in the Northern Territory to develop a range of climate science communication tools. These tools included:

- the production of a plain-English climate science information booklet for Indigenous people;
- creating a large 3-dimensional model of the Tiwi Islands for natural and cultural resource management planning, including impacts from sea-level rise on coastal areas;
- the delivery of a climate science programme to Tiwi students;
- monitoring environmental change by Tiwi Land Rangers and Tiwi College students using key Tiwi plant species;
- production by Tiwi College students of a music video about climate change;
- development of a highly-visual Tiwi Seasonal Calendar with key Tiwi knowledge holders; and
- the production of a DVD for Tiwi community members highlighting the range of climate change project activities.

The music video can be viewed at:

<https://www.youtube.com/watch?v=chwU6DLQdrk&feature=youtu.be>

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Ultimo Science Festival

APPLICANT	IA FUNDING
Powerhouse Museum	\$150 000

The annual 10-day Science Festival was held in Ultimo, Sydney, in partnership with the University of Technology Sydney, TAFE Ultimo and the Powerhouse Museum, targeting the general public.

The Festival featured talks by researchers, hands-on workshops, opportunities to chat with scientists, science- comedy shows, children's activities and panel discussions where you can have your say alongside celebrity science speakers. The Festival showcases the science credentials and interests of the partner organisations, bringing an exciting range of technology, design, education, communication and entertainment events.

The Festival attracted over 15,000 people and evaluations showed that of those attendees who considered themselves uninterested in science, 95% left the event more engaged as a direct result of the Festival.

The Festival was funded for three years.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Harvesting Traditional Knowledge

APPLICANT	IA FUNDING
ANKAAA	\$150 000

The Harvesting Traditional Knowledge project is a two-way learning opportunity bringing together Indigenous traditional knowledge masters, conservators from Australian cultural institutions and other Indigenous and non-Indigenous audiences to share different approaches to materials conservation. It aims to engage local Indigenous communities in the sciences through sharing of conservation science and Indigenous traditional knowledge – another form of 'science'. The project included four workshops held at remote Aboriginal community Art Centres and the production of a documentary about the project by the Mulka Project, an Indigenous film crew.

While the outcomes of the project were primarily focused on engaging artists, conservators and the general public in debate around different types of materials science, a value added that is emerging is that the project is building a strong network of Indigenous artists from remote communities and key conservation professionals from Australia's most prestigious urban museums and galleries. This has promoted knowledge sharing about how cultural objects are made, what they mean to the artists and their communities, and how to best care for them and make them to a high quality standard. In the long-run, ANKAAA hopes that this will contribute to an increase in quality of products, and also provide career opportunities for artists from Northern Australia in museums and galleries across Australia.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Fireballs in the Sky (FITS)

APPLICANT	IA FUNDING
Curtin University	\$145 000

See a shooting star, make a wish, then tell someone about it!

[Fireballs in the Sky](#) is a citizen science programme that encourages community engagement with planetary science. Through the innovative smartphone app, via social media, by phone or catching the team at a local event, Australians contribute their skyward observations and get involved in “real science research”.

The [free smartphone app](#) enables fireball (bright meteor) observers to create a simulation of what they witnessed to submit to the Fireballs database. This valuable data contributes to the Desert Fireball Network led by [ARC Laureate Fellow Professor Phil Bland](#). Curtin scientists calculate where in the Solar System meteors originate and where (if not burnt up) they land, in order to study meteorites. Over thirty custom-made, skyward-facing cameras are dotted across the Australian outback from [Badgingarra to Wilpoorinna](#) and the network continues to grow.

Since launching in October 2013, the app has been downloaded by over 12700 individuals in more than 80 countries and facilitated the submission of 926 sightings. Through presentations, hands-on activities, demonstrations and events, the Fireballs in the Sky team have interacted with over 34,000 people in the past 18 months and the project has received significant media coverage.

The future of the *Fireballs in the Sky* programme is bright. Curtin University continues to financially support the programme post Inspiring Australia funding. On the horizon are plans to further develop the app software to incorporate web-based reports, tour a mini-exhibition, create cameras for backyards and increase our resource offerings to schools.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Apurthle-ileme (Bringing Together) Science and Indigenous Ecological Knowledge

APPLICANT	IA FUNDING
Akeyulere Incorporate	\$100 000

The programme sought to engage Aboriginal youth in horticultural science activities as part of the practical application of Indigenous Ecological Knowledge (IEK) in furthering the resources of an existing traditional medicine enterprise.

The purpose of Apurthle-ileme was to engage Arrernte young people in an initiative that brought together Indigenous Ecological Knowledge (IEK) with horticulture, in order to propagate and grow bush medicine plant species. It also aimed to engage the senior knowledge holders by encouraging the intergenerational transfer of knowledge through regular trips to traditional country.

The long-term benefits of this project stem from the fact that the plants propagated will ultimately supply the raw material to supply Akeyulere’s social enterprise, which involves the production and sale of bush medicines to the community and public. To expand the enterprise, there is a need to limit the reliance on harvesting solely from wild populations, so important populations can be conserved for future generations.

The first half of the year involved developing the nursery, signing the work agreement with the Arid Zone Research Institute (AZRI) (on whose land the nursery is located), finding suitable candidates for the trainee positions and talking to the elders about appropriate cultural plant collection methods.

The second half of the year saw an investigation into the most suitable option for clonal and seed propagation for three bush medicine species, the establishment of a vegetable garden, and a native tobacco and lemon grass crop, as well as conducting number of bush trips.

Mentoring young people played a significant part of the project. The aim was to create a team environment, where each could contribute and acquire ownership.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Hidden National Treasure: Promoting the World's First Animals

APPLICANT	IA FUNDING
Straight Up	\$90 000

This project has turned Flinders Ranges locals into science communicators, and the project team worked with them to develop Ediacara fossil tourism 'experiences' in the region. These fossils are from the geological Ediacaran Period, named after the Ediacara Hills of South Australia.

[Fossils from the Ediacaran Period](#) have been hiding like buried treasure for 550 million years under ancient sea floors in the outback.

The natural, breath-taking beauty of the Flinders Ranges, where the fossils are found, attracts hundreds of thousands of visitors each year.

The people who live there, running cattle stations and tour operations, are not geologists or palaeontologists, but they're very hungry for information about these topics and Indigenous history. They love it! They want to talk about it and share what they know with visitors.

The beauty of this project is that by concentrating on 15 tour guides, up-skilling them to become knowledgeable 'hobby geologists', the Ediacara story now reaches thousands of people each year during guided tours.

Also, a Hidden Treasure Development Group now sits under the [Flinders Ranges Tourism Operators Association](#). The group actively seeks opportunities to further develop Ediacara experiences whilst making sure these precious fossils are protected.

Dr Jim Gehling from the South Australian Museum was instrumental in delivering the course and preparing all materials associated with the project.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Poo Power

APPLICANT	IA FUNDING
GreenNation	\$45 000

A series of anaerobic methane digesters were planned to be built and installed in Melbourne to process dog waste as provided by members of the community, demonstrating how waste products can be processed to produce biogases and explaining the potential use of such by-products in generating renewable energy. Displays also engaged audiences on the issue of 'what is waste', and the potential opportunities posed by reassessing waste management practices.

Poo Power has been an incredibly successful project by so many measures. It has captured the community's imagination in what is possible regarding waste to energy generation and the creative use of our resources. It has engaged with a huge range of people from across parts of the community, however, primarily due to financial barriers and disincentives, the project was not able to move beyond engagement through to the building and implementation of a working prototype.

The feedback from local governments and commercial businesses is largely consistent with the view that the Yarra Energy Foundation has arrived at in the past six months. The opportunity cost to the organisation and our broader goal of building a zero carbon community in the City of Yarra, is too great to continue pursuing the construction and operation of a prototype.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Far Out Science

APPLICANT	IA FUNDING
University of New England	\$45 000

Far Out Science comprised two events available to communities across New South Wales. The 'Science in the Bush' event brought students and families to the University of New England Armidale campus to participate in hands-on science activities over three days.

In 'Consumer Science', scientists from UNE visited local shopping centres to offer people fun and simple hands-on science experiments.

Science in the Bush involved bringing students onto the UNE campus for a day of fun, interactive activities that showcase a wide range of science disciplines. It ran over two days, one for Year 7–9 students and a second day for Year 5 & 6, a public day was also introduced during the course of the project.

Consumer Science events were held in Armidale Centro (x2), Tamworth Shopping World (x2) and Toorminah Centro (x1). These were advertised via posters sent to shopping centres, social media, on the radio and on the University's website. Whilst promotion of the events was helpful the audience was generally non-targeted and consisted of people who happened to be in the shopping centres many of whom would not ordinarily have attended a science outreach event. Busy shopping centres on Saturdays were chosen for this reason. Activities showcased the relevance and importance of science and how it is involved in so many aspects of everyday life, ranging from plastics and polymers to pH, emulsions and electricity.

In addition a competition was run each year, these were open to all school-aged students in NSW and were advertised on our website, via emails to schools and science clubs and through social media.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Exploring, Understanding and Appreciating Tasmanian Marine Natural Values

APPLICANT	IA FUNDING
University of Tasmania	\$45 000

Tasmania is a small island state where no one lives more than 110km from the water but where only 15% of Tasmanian adults had undertaken a marine science tour. The IA Grant (Exploring, understanding and appreciating Tasmania marine natural values) has been amazingly successful - with total marine tour numbers expected to exceed initial targets by 50%, and with local funds provided to extend the project to the end of 2014.

Subsidised marine tour costs allowed both secondary students and Tasmanian adults to discover more about Tasmania's unique marine environment – and substantially boosted out-of-season business for marine tour operators. Public "Expert Days" involving marine scientists from CSIRO and the University of Tasmania (including the Institute of Marine & Antarctic Studies) presenting short talks aboard tours were highly successful. Feedback from secondary school teachers taking their classes on tours was overwhelmingly positive, with students also learning about related marine topics such as marine history, geological formations, seafood, life at sea, and tourism. The engagement of the Marine Tourism providers with both students and adults was outstanding, and this was acknowledged by our marine experts.

The Unlocking Australia's Potential grant has enabled many thousands of Tasmanians to increase their knowledge of the marine natural values that surround them. Many schools are now planning and budgeting marine tours with their science classes and a network of expert marine scientists has established strong relationships with schools and marine tourism providers.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

The Great Australian Science Byte (formerly The National Science Challenge)

APPLICANT	IA FUNDING
University of Sydney	\$45 000

The Science Byte was an online science competition unlike any other. Rather than simply answering questions that test science knowledge, participants learned how to explore and investigate real scientific data.

The competition ran for five weeks from National Science Week 2013, and again in 2014. It was aimed at year 9-10 students and schools could register entire classes, though the Science Byte was open to anyone to enrol individually. In 2013 just over 1000 people registered for the competition, and this grew to 1200 in 2014.

Each week, new challenges were put online for participants to complete, with scientific data to investigate, manipulate and explore, and problems to solve. Topics across the five weeks were:

- Investigating Australian society through Census data
- Uncontrolled growth of cancer cells
- The Fosbury flop and high jump world records
- Flu epidemics, zombie viruses and population dynamics
- Changing temperature and global warming

Students explored the topics by manipulating data in an online spreadsheet environment, and they developed skills in working with data, making calculations, reading and interpreting graphs and testing models. Their answers were run through an automated online marking system to give feedback and hints, and help was available through online forums moderated by expert tutors. Participants earned points and badges as they master new ideas, which they could share online through the Science Byte forums, or on Facebook or Twitter.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Science Fair and Border Stargaze

APPLICANT	IA FUNDING
Astronomical Society Albury/ Wodonga Inc (ASAW)	\$45 000

This project was expanding an existing annual seven-day science fair involving science stalls, activities, workshops, demonstrations, presentations, meet a scientist/s etc. Activities included static and working displays in addition to sidewalk astronomy where passers-by were invited to view the moon and other spectacular night sky objects through a range of telescopes.

With a mix of debates, interactive science activities and popular night-time sky tours, the Border Stargaze attracted participation by Nobel Prize winner for physics, Dr Brian Schmidt AC, as a guest speaker in 2012.

One of the founders of the Border Stargaze, Dave Thurley, has said that its success was due to passion, enthusiasm and close collaboration of amateur astronomers with professional scientists from Charles Sturt University. They also receive strong support from councils in both Albury and Wodonga, and the participation of many other community groups who host satellite events.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Fact or Fiction Roadshow

APPLICANT	IA FUNDING
ANSTO	\$45 000

Is it possible to fight the dark side with a light sabre? Could you make yourself disappear with an invisible cloak? Can bacteria be teleported from one place to the other? Can you tell the difference between fascinating science and science fiction?

The Fact or Fiction Roadshow hosted 12 cinema-style events across Australia in 2013, using clips of science-fiction movies to engage attendees on questions of science and technology. A critique of the science-related cinematic content was then delivered by qualified ANSTO scientists.

The 90 minute show allowed audiences to watch clips of classic sci-fi hits before individually voting, with hand held devices, on whether they thought that the technology featured was actual science fact or pure science fiction.

Once the audience voting had been locked in, an ANSTO scientist critiqued the science featured in the film and provided the correct answer to the audience.

Fact or Fiction was designed to be highly-entertaining and educational and to attract young people that weren't necessarily interested in science, by providing them with a big dose of pop-culture. Science areas that were explored included Teleporting, Time Travel, Invisibility, Immortality, Light Sabres, Intelligent Metals, Terraforming Climates and Telekinesis.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

SciWorld Sundays – Free Family Science Fairs in Regional South Australia

APPLICANT	IA FUNDING
SciWorld	\$45 000

The project funding expanded an existing Whyalla event, to a series of free family science fairs run in regional SA designed to expose participants to, and encourage careers in, science. The events aimed to attract 2500 people and involved shows, workshops facilitated by a science communicator, self-guided hands-on activities, science role-play, industry displays, career and educational institution information.

Estimated attendance at each of the four events were 800 in Roxby Downs (of a population of 2500 residents), 3000 in Whyalla, 2000 in Port Augusta and 3000 in Mount Gambier. In all cases these met or exceeded targets.

Visitor surveys were undertaken at each event with average scores by visitors exceeding 8/10 for all events.

Delivered In **ACT** **NSW** **NT** **QLD** **SA** **TAS** **VIC** **WA**

PROJECT TITLE

Sustainable Science Trail

APPLICANT	IA FUNDING
Arid Lands Environment Centre	\$45 000

The Sustainable Science Trail is an integrated tourism trail combining the design, development and erection of five interpretative signs at sites associated with science and sustainability around Alice Springs. The signs will be directly connected to a website through QR codes and a downloadable Android and Apple app. The participating sites include Alice Springs Desert Park, Olive Pink Botanic Gardens, Adelaide House, the Alice Springs Community Garden and the Desert Knowledge Solar Centre.

Participants on the trail can use a web-based trail map which can be accessed on any smart phone or device. A hard copy trail map has also been developed to assist visitors to learn more about the area. The programme will primarily target family groups with school-aged children, with the intention of capitalising on common family tourism routes, routines and attractions by offering an opportunity to engage deeper than the average visitor experience.

The programme will be launched mid-2015.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
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PROJECT TITLE

Science Centre and Planetarium Outreach Programme

APPLICANT	IA FUNDING
University of Wollongong	\$45 000

The programme tour presented astronomy science shows using a portable dome theatre and presenters. It visited regional NSW, using venues such as school and town halls and the target audience included over 1000 members of the public, school children and teachers in regional areas.

The workshops have also been extensively featured in every addition of the Wollongong Science Centre and Planetarium Newsletter with a circulation of around 1500 for every addition.

Postcards advertising the programme were sent to all schools in the State with an appropriate acknowledgment of the programme and its funders.

Ongoing feedback from the schools has reinforced the programme's value to increasing the region's understanding of Science, Engineering and Technology.

A new sponsorship was also achieved with Illawarra Coal, who contributed an additional \$15000, funded over a three year period to specifically assist with the continuation of the Outreach programme. This commitment and the increasing interest in the Outreach programme provide evidence that this is a much required service delivered through the Science Centre.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
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PROJECT TITLE

Insight Radical: Revealing Science Through Art

APPLICANT	IA FUNDING
University of Melbourne	\$44 980

The 'Free Radical' ARC Centre of Excellence combines with industry to take their science out to rural practicing artists. The sharing of scientific problems affecting art materials in regional locations has enabled both science and art to benefit from this new and innovative programme. Science research is building on this sharing of knowledge.

Painting in Australia can have unexpected problems. What do you do, for example, if the humidity causes paint spotting on your canvas? Difficulties such as these; that are all about the chemistry of materials, have been shared between artists and scientists through a unique Inspiring Australia project called "Insight Radical: Revealing Science through Art". The ARC Centre of Excellence for Free Radical Chemistry and Biotechnology, with partners Jasco who distribute art materials, have travelled to communities across Australia to share art and science problems such as the longevity of paints and the tendency to give trouble in hot weather.

"The IA grant has enabled our partners to work together to build a very different programme" says Dr Renee Beale, Community Awareness Programme Manager for the Centre. "The workshops are not just about informing the artists about the science. We have been able mutually to share knowledge, because often the artists have solved problems through experiment that have informed our science too. It's a two-way thing."

The Centre of Excellence was established in 2005 with a strong interest in outreach but has only recently expanded from a focus on schools to the broader community. An important aspect of this new initiative has been the introduction of artists in residence, also a part of the IA grant. This has enabled the Centre to have access to art institutions and the art institutions to have access to science and scientists. Science and art are both enriched by this interaction and dialogue. The artists express the concept of free radicals and the effect they have on our lives through different media. Artist Ruth Waller found inspiration in the change from order to disorder when the reaction patterns break down, while Anna Madeleine wanted to 'visualize the invisible,' the scale of tiny molecules.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
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PROJECT TITLE

Plant Hunter ... Treasure Hunter!

APPLICANT	IA FUNDING
Royal Tasmanian Botanical Gardens	\$44 960

The need to value our plant communities and understand their vital significance to our health, wellbeing and basic survival is an issue of global relevance in a world where many people are divorced from the natural environment. *Plant Hunter – Treasure Hunter* is a collaborative project led by the Royal Tasmanian Botanical Gardens (RTBG) to raise community awareness of the importance of plants and biodiversity based on the premise that the appeal of ‘treasure hunting’ could be applied to the world of plants.

Through www.planthunter.com.au plant hunters are encouraged to learn about the science of looking for and identifying plants: at the Gardens through interactive plant trails; online in a virtual garden; in their backyard, supported by an online community of interest, and in the wild by “hooking up” with *Head Hunters* when they go into some of the special wild Tasmanian and International habitats in search of rare and endangered plants. *Plant Hunter* has engaged a wide range of people at home, nationally and internationally, developing a life of its own, attracting new partners with their own ideas of where and how *Plant Hunters* might be encouraged to explore. QR coded *Plant Hunter trails* have caught the imagination of the wider community who want to incorporate them in their own developments, while the *Virtual Garden* entices individuals to explore the Royal Tasmanian Botanical Gardens online and learn about the endemic flora of Tasmania from anywhere in the world!

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Indigenous Rangers Promote Science in their Communities

APPLICANT	IA FUNDING
Tangentyere Council	\$44 930

The project developed the skills of at least two Central Land Council Indigenous community ranger groups to discuss and promote local natural science issues and activities, most of which they are directly involved in.

The community ranger groups then provided presentations and field trips to a range of local community groups/gatherings, including elders, youth groups and schools. This led to opportunities to share developed strategies with other ranger programmes, and the ongoing use of training, presentation and booklet materials that were developed.

It also led to increased ongoing interactions by Indigenous rangers in their communities, leading to more field trips, presentations, workshops and the development of more resources.

In the short term both ranger groups improved their engagement of elders and schoolchildren, and extensive dialogue based on applied science and culture resulted. This effectively created two-way learning environments for the young people, where elders’ traditional and scientific knowledge were valued and explained.

In the longer term a number of projects that have simultaneously developed with carriage by the ranger groups are set to continue the two-way science dialogue. For example, the Ltyentye Apurte bush medicine and springs monitoring projects involving elders and schoolchildren are now ongoing annual projects with new developments planned for each.

The experience of the Inspiring Australia Project has also stimulated the Ltyentye Apurte ranger group to begin negotiations to work with CSIRO and others on a climate adaptation project. Again the thrust is about rangers developing materials and presenting two-way science ideas to community members and groups, with confidence both culturally and professionally.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Tastes Like Science: Molecular Gastronomy and the Science of Foods Workshop

APPLICANT	IA FUNDING
University of Western Australia	\$44 919

The Taste Like Science project was a workshop developed to encourage adults with no or little scientific training to take an interest in science. Activities were developed that focused on food and cooking, as these are items and tasks that we come into contact with or perform everyday. They are also high profile driven by the popularity of high rating television programmes and celebrity Chefs. Food and cooking provide an engaging, appealing and highly comfortable entry point for scientific explorations by everyone regardless of their backgrounds. The overarching aim of the Taste Like Science workshops was to induce attitudinal and behavioural changes in adults towards the perception and acceptability of science.

Eleven Taste Like Science workshops for adults and 4 specifically designed for children were conducted. In addition, segments and activities from the Taste Like Science workshops were presented at 8 other science-related events at the request of the organisers of these events. Four of these 8 events were also part of the "Inspiring Australia" programme. The Taste Like Science workshops utilised interactive hands-on activities, cooking demonstrations, breakout groups and inquiry approaches to engage the audience. A scientist together with a chef or chocolatier presented the workshops backed by a team consisting of young teachers, students and industry personnel.

The success of the workshop can be measured by the huge interest generated from attendees. Initially only 5 workshops were planned, however, due to popular demand 26 workshops and presentations in total were conducted. In addition, at least 3 other "Taste Like Science" events have been planned for the coming year.

The performance of the Taste Like Science Workshops were assessed by surveys handed out at the beginning of each workshop. Attendee's who completed surveys rated the "Taste Like Science" workshops out of a scale of 5. The workshops scored an average of 4.88 out of 5 for entertainment and 4.8 for educational value. All attendees who completed the surveys said that they would recommend the workshop to others.

The most highly rated audience engagement element of the workshop was it's 'hands-on nature' and the fact that "everyone got involved". Other aspects of the show that interested the participants included the gourmet food, humor and chemistry between the presenters and the audience. It was also found that using stories and anecdotes was highly popular and broke down any preconceived barriers.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

The Dream of the Thylacine

APPLICANT	IA FUNDING
Erth Visual & Physical Inc	\$44 880

A live show for children and families based on the thylacine. The shows used animated life-sized custom-made puppets, detailed narration incorporating myth and fact, projected images and live footage. It focuses on themes such as biology, ecology, environmental science and the social sciences. The show featured at the 2013 international arts festival Ten Days On The Island, at the Tasmanian Museum & Art Gallery (TMAG) in Hobart and the Queen Victoria Museum & Art Gallery (QVMAG) in Launceston. The show is available for national and international touring in museums where thylacine exhibits are housed and/or research is carried out.

The initial season of performances led to a further season of the show being performed at Carriageworks, Sydney from 25 September through 5 October 2013. A film of the show was also used as part of an educational case study through the Tasmanian Museum and Art Gallery in Hobart and the Queen Victorian Museum and Art Gallery in Launceston.

The project also led to the building of a second thylacine puppet to further develop audience engagement with puppet construction and the biology/anatomy of the animal. The show will also tour regional areas of Tasmania and in 2014-15 will be touring elsewhere, including to the South Australian Museum.

"I thought the show quite remarkable. To myself, a non-puppeteer but one with much curiosity who has studied what is known of thylacine and other marsupial carnivore behaviour, and locomotion with the view to 'filling' some gaps in knowledge, it was evocative and informative. Evocative because the history represented was real... Informative since the models were remarkably accurate given the lighting and viewing conditions and their movement conducted by people who understood animals... The 'reclining' thylacine, with its subtle body movements and haunting stare, was a particular bridge with the past. I could have watched it for ages, as could the kids, those with the finest imaginations and least inhibitions. Even the gradually imposing presence of the puppeteers was relevant to the changes in superiority felt by early Europeans as they dominated the land. The aboriginal voice behind it all was a most relevant constant, something suggested that old knowledge will outlast 'it all'. The author of the inspiring book should be pleased."

Nick Mooney – Conservationist, biologist, writer, wildlife expert and ecological educator.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

The Science of Ageing – Exploration of life stages birth to old age

APPLICANT	IA FUNDING
RiAus – Royal Institution of Australia	\$43 100

“There are living things that do not age. They exist, of course, like us in time. The clock ticks. But it doesn’t tick inside of them like it ticks inside us.”

This theatre production focused on ageing, and was adapted for audiences, followed by a Q&A session. The performance visited three towns in regional South Australia, Mount Gambier, Victor Harbor and Port Augusta, and there were also activities in community centres, local libraries and schools in towns surrounding these regional centres.

Free Range Science and ActNow Theatre presented the play, *The Clock*, which was written by Emily Steel. The play was interactive theatre that explored both the biological and social aspects of ageing.

The Q&A sessions were broadcast live on the internet, allowing viewers to interact in the discussions via web, phone, email and text.

Evaluation of the project was conducted in collaboration with Jo Elliot from the University of Western Australia, with the project forming a case study as part of the Inspiring Australia priority for ‘developing an evidence base for science communication’.

Audience members were asked to complete an evaluation form and in total 253 responses were received. A detailed case-study will be prepared by the University of Western Australia but summary results showed that “The Clock” was very well-received by audiences, with 89 percent of respondents indicating that they enjoyed the experience. Additionally, 71 percent of respondents thought that “The Clock” was a good way to learn about science and 85 percent indicated that they would recommend “The Clock” to others.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

East Coast Humpback Whale Watch Catalogue

APPLICANT	IA FUNDING
Southern Cross University	\$42 970

Inspiring Australia funding enabled a substantial expansion of the project’s scope. Increased contact with whale watch operators and wide media coverage resulted in humpback whale fluke photos being received from areas along the east coast that were not covered prior to the start of this project. Hundreds of scientifically useful images have been uploaded to the website by whale watch tour operators and passengers from Mooloolaba (Qld Sunshine Coast) to Eden (southern NSW).

Over 900 individually identified humpback whales have been catalogued and entered into the Fluke Matcher programme. Public “citizen scientist” contributions from whale watch tour operators, passengers and recreational fishers now make up half of that catalogue.

To date, a total of 15 whales have been seen on more than one occasion; 12 whales were seen in different years and three whales were seen in the same season at different points along the migration path. Many whales in the catalogue also show evidence of scarring from encounters with vessels and fishing gear.

Analysis of the photos is continuing and will contribute to understanding east coast humpback whale migration patterns as well as anthropogenic impacts such as vessel strike and entanglement.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

3D Modelling of Koonalda Indigenous Art and Mining

APPLICANT	IA FUNDING
South Australian Museum	\$40 000

This programme engaged the local Indigenous community to work with researchers towards the virtual recording of the heritage-listed Koonalda Cave and its associated Indigenous artwork. This project offered a means for Indigenous communities to engage with innovative science; to share knowledge with other Indigenous people and the general public; and to secure long term and effective site protection.

Major project outcomes included:

- Completed pre workshop with Mirning representatives and scientists, technologists to explain technology and plan field trip
- Completed site visit and 3D scan recording, both laser scanning and photogrammetry, and indigenous consultation on cultural content
- Completed post workshop to reveal 3D model (digital and printed). Audience included Mirning people, project scientists and approx. 15 other scientists not involved in the project (not a public event)
- Significant research opportunities resulting from scan and photogrammetry data
- Project and associated research analytical investigations will be presented as a session at Australian Archaeology Conference in December 2013, including one paper on Indigenous cultural and scientific connection with the site.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Climate Change Animations

APPLICANT	IA FUNDING
CSIRO	\$39 000

Climate change remains an issue of keen scientific, environmental, economic and cultural interest in Australia.

In 2015 a new set of Climate Change in Australia projections were released by CSIRO and the Australian Bureau of Meteorology and the projections represent a new scientific benchmark for climate change information in Australia, providing a comprehensive summary of changes we have already experienced and a explanation about what changes are plausible in the future.

Accompanying the climate change projections is a series of user-friendly data exploration tools presented on a comprehensive new website www.climatechangeinaustralia.gov.au/en/. The website also hosts a suite of learning and education resources including a Climate Campus for building knowledge on the fundamentals of climate change science.

Inspiring Australia provided a huge boost to additional CSIRO efforts of communicating the science of climate change. Through an *Unlocking Australia’s Potential* grant, CSIRO produced a series of [five animations](#) explaining the science of climate projections, how climate modelling works, the science of changing climate extremes and the importance of rigorous climate impact assessments.

The animations can now be used in future climate change outreach and education across a diverse Australian audience, from school children to rural communities, and from industry to government decision-makers.

During the release of the Climate Change in Australia projections, the animations were used as the primary digital asset for communication of the work. They were used in [online articles](#) and [blog posts](#), as well as extensively on social media.

The animations are already highly regarded for their quality, accuracy and usability, and are available online for use by the entire Australian community.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Locating Science: Mapping Ecological Themes in Australian Film and Literature

APPLICANT	IA FUNDING
University of Queensland	\$35 000

The project aimed to “locate” ecological issues in the narrative landscapes of acclaimed Australian books and films that foreground eco-cultural themes. Using the enduring appeal of storytelling, it engaged people’s interest in such landscapes and fostered debate regarding the environmental concerns Australia faces.

The Locating Science project targeted members of the public who would not typically engage with science, and might not otherwise actively search for science information. These include:

- Cultural tourists, backpackers and retirees travelling in the areas identified in the project,
- Film and literature enthusiasts who seek further engagement with the issues and locations featured in the films and books identified in the project, and
- Secondary and tertiary students who are studying Australian film and literature.

Located within the larger Cultural Atlas of Australia, Locating Science is an interactive digital map that has plotted more than 300 locations depicted in over 150 texts. The app version of the larger Cultural Atlas of Australia resource can be found as CultureMap.

The Locating Science project sought to reframe understandings of environmental science, drawn from cultural texts, and to engage with members of the public for whom film and literature could open a window onto eco-cultural issues, whether in the desert regions, tropical zones, coastal ecosystems, or Indigenous communities where Australian narratives take place. It features six fact sheets on the films or books:

- *Red Dog* and *Japanese Story*, looking at mining in the Pilbara
- *Dirt Music*, looking at asbestos and tides in Western Australia
- *Dirt Music*, looking at commercial fishing in Western Australia
- *The Hunter*, looking at Biodiversity in Tasmania
- *Australia*, looking at water and extensive farming in Northern Australia
- *The Man from Snowy River*, looking at hydroelectricity and grazing in the Victorian high country

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

From fire-stick farming to the friendly frontier: landscape change at Albany, WA

APPLICANT	IA FUNDING
University of Western Australia	\$30 340

This University of Western Australia archaeology field-school programme for students involved Noongar community representatives, archaeologists, and scientists in allied fields of geochronology and palaeontology.

The project features on-going community engagement at two archaeological sites, Kalgan Hall and Old Farm Strawberry Hill.

Kalgan Hall, occupied from at least 19 000 years ago, is the oldest archaeological site in the Great Southern region and Old Farm is the oldest farm in Western Australia, established at the British outpost on King George Sound, now Albany, in 1827.

The project aimed to chart the transition in local environments from fire-stick farming during Aboriginal occupation to European-style farming, and outline European and Aboriginal responses to natural and anthropogenic environmental changes.

The intended audience was the non-Noongar and Noongar/Menang communities of Albany. Both communities were engaged throughout fieldwork and in subsequent spoken presentations. Fieldwork was attended by more than 500 visitors from the general community and some 20 Menang visitors, and another 30 Menang people were involved in the excavations. In addition to visitors radio listeners of the Great Southern and country Western Australia and the readership of the Albany Advertiser heard about the project.

It engaged, and continues to engage, local community members in this research.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Parasites in Power

APPLICANT	IA FUNDING
Australian Society for Parasitology Inc.	\$30 000

Parasites in Power delivered 12 events held in Launceston, Perth, Canberra and Cairns with our “Parasites in Focus” exhibition and hands-on activities for children, teenagers and adults; with the popular *Look-at-me-I’m-a-parasite* mask-making activity; displayed parasites on colourful flags on Commonwealth bridge leading up to Parliament House in Canberra; declared *War on Parasites* with events at the Australian War Memorial; had a special guest appearance of a Tasmanian Devil from Trowunna Wildlife Park in Launceston; ran “*Profs, Pints and Parasites. Friends Without Benefits.*” with Scitech in a Perth pub; combined a “parasite talk and free head lice comb with screening of the 1979 cult American science fiction horror movie *Alien* at the National Film and Sound Archives; featured parasites at PechaKucha night Cairns; and collaborated with an indigenous artist Bernard Singleton and Tai Inoue to commission a painting and digital art piece of “Parasites, Art and People”.

Parasites in Power allowed collaborators to explore and experiment to deliver some unique and wonderful programmes communicating science of parasites to the public and we were able to reach new audiences of over 3000 across four states in four years.

To ensure the sustainability of “Parasites in Power” the Society has produced a “toolbox” of workshop ideas and resources including the popular “*Who poohed in my food?*” workshop. This toolbox enables scientists to run their own events, anywhere, in the future and is a permanent, living legacy of the “*Inspiring Australia*” strategy to translate and communicate parasitology research to Australians. (www.parasite.org.au)

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Science Rocks on the Road

APPLICANT	IA FUNDING
Goldfields Education Mining Industry Alliance	\$30 000

The Science Rocks project is designed to introduce people in the Goldfields to geology and mining science. With a special focus on young women and Indigenous Australians, the project showcases careers in the mining sector through a variety of science-based opportunities.

"A career as a geologist is akin to being a detective". This was the message from Mining Manager Darren Cooke to hundreds of students in the Western Australian mining regions of Esperance during an innovative programme to inspire local students. "Science Rocks on the Road" is an Inspiring Australia project designed by the collaborative Goldfields Education Mining Industry Alliance (GEMIA Inc.) to raise awareness of the science of mining and its importance to the community. It also offers insights into careers in science and opportunities to be employed in the sector in a variety of jobs. The project has a special focus on young women and Indigenous Australians.

Through hands-on activities and educational resources, geologists and mining scientists have toured the region encouraging students to look at gold under a microscope, make model volcanoes and attend a mining forum. The "Read the rocks" activity enables participants to deduce what Kalgoorlie was like 2.7 billion years ago – it was surrounded by massive volcanoes and was underwater – rather different from today!

An important aspect of the programme is the careers roadshow. Going underground gives a first-hand experience of working on some of Australia's most important mines. Evaluations show that 73% of students learnt about careers of which they had previously been unaware. A similar number want to learn more.

The programme is targeting a range of age groups, including primary students, and is building a trailer to travel to remote locations. Over 5000 people so far have participated in the Rocks on the Road Programme, in an area of the Goldfields spanning over 500 kilometres.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
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PROJECT TITLE

UNSW Medicine – Dean's Lecture Series

APPLICANT	IA FUNDING
University of New South Wales	\$30 000

The annual UNSW Medicine 'Dean's Lecture Series' involved a panel of highly-acclaimed experts debating topical issues in health and science.

The event is high profile and typically receives good media attention. The lectures are promoted to a broad range of stakeholder groups including the UNSW community (staff, students, alumni, donors and friends) the medical and research community, government and the general public.

The primary objectives of the Dean's Lecture Series are to:

- Provide a continuing education experience to a wide variety of stakeholders
- provide an entertaining forum that is informative and inspiring
- Be non-averse to controversial topics
- Concentrate on current and emerging issues
- Promote constructive, rational debate

The third UNSW Medicine Dean's Lecture, hosted Professor Peter Smith, Dean of UNSW Medicine was entitled "The Science of Ageing: The discoveries that are enabling us to live a longer and healthier life". Held on Monday 3 November 2014 at UNSW Kensington campus, the lecture featured two world-leading researchers in ageing: Professor David Sinclair, Co-Director of the Paul F. Glenn Laboratories for the Biological Mechanisms of Ageing at Harvard and Head of UNSW Laboratory for Ageing Research; and Professor Stephen Simpson, Academic Director of the Charles Perkins Centre at the University of Sydney. Professor Michael Farrell, Director UNSW National Drug and Alcohol Research Centre facilitated the lecture.

A variety of communications methods were used to market the event including email and print invitations, posters, website promotions, social media and targeted advertising online.

1008 people registered to attend the event with 851 attending on the night. A further 58 unique email addresses were registered to watch the event live online. The lecture was posted on the UNSW YouTube channel a week after the event with 1258 views at 11 December, 2014.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
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PROJECT TITLE

Sea Turtle Co-Management Travelling Roadshow

APPLICANT	IA FUNDING
Sea Turtle Foundation	\$26 000

The project supported a road show in which scientists and Indigenous representatives hosted educational talks about sea turtle biology, facilitate community meetings about how to address threats to sea turtles, and involved community members in sea turtle and marine debris monitoring in their own communities. The project targeted school-age children, the general community, and in particular, young hunters.

A Marine Turtle and Dugong Awareness Training programme, supported by GoPro cameras (with hard Pelican cases and 32GB memory cards) were distributed to communities that were deemed to have a "high" or "medium" degree of engagement with the programme, or that had established Indigenous ranger programmes.

The purpose of the cameras was to record what a community was doing to promote sea turtle and dugong conservation, and then to share that information amongst other communities in the region without the need for travel or negotiating groups to visit other groups' Country.

The training provided covered turtle and dugong biology, threats, current management actions, and stranding response, as well as practical training in data collection, active scenario practice, and field necropsy techniques. The ranger groups receiving this training are community leaders and provided a central place to store the GoPro equipment and accountability for the equipment, as well as having influence over the turtle and dugong interactions in their Sea Country, so it made sense to give the GoPros to ranger groups as an entry point for the entire community.

For some of the participants, the equipment was mailed with a letter explaining the programme and the purpose of the camera, as well as a phone call to discuss the programme and answer any questions. For other groups, staff were able to travel to communities with staff and deliver the equipment in person.

The final phase of the project is the collection of GoPro footage and have it professionally edited into a DVD to share amongst the communities.

The project has been successful in achieving the overall outcomes of the project:

- An increase in the engagement of Indigenous Australians in sea turtle biology and marine ecology,
- Improvements in the larger body of knowledge about Australian sea turtle populations, and
- An increase in community involvement in scientific monitoring programmes.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Robogals on Tour

APPLICANT	IA FUNDING
Robogals Inc.	\$20 000

This project of hands-on robotic workshops travelling through remote areas of Queensland. These tours introduce communities to a type of science and technology they would not normally get to experience and foster student's thinking about the possibilities available to them in tertiary education.

Many schools visited which did not have robotics programmes attributed the lack of such courses to being financially unable to support such a programme. This meant they were very excited to have Robogals hold a workshop for their students.

It seemed for younger children much of the interest in the activity was interacting with the robot as it moved. The older students and adults were much more focused on the programming and trying to achieve the task set for them.

Adults were always more difficult to engage with. Many of the adults Robogals was successful in reaching out to were the parents of the children involved in workshops.

More success engaging adults might come from using different robots (as opposed to Lego robots) and having older volunteers the adults can relate too as opposed to 18–21 year old university students who appeal much more to the younger students.

Parents of children consistently gave positive feedback about the workshops run as the students showed-off what they had created.

Almost 2000 people took part in the workshops that were held in Roma, Toowoomba, Logan, Cairns, Nanango, Maleny, Gladstone and the far north of Queensland.

Marita Cheng, the founder of Robogals, was named Young Australian of the Year in 2012.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Night Skies on the Eyre Peninsula

APPLICANT	IA FUNDING
SkyWatch Astronomy Education	\$5000

The project brought the resources of SkyWatch Astronomy Education to the Eyre Peninsula to provide high-interest astronomy engagement programmes, open to all members of the community. The programmes included provision and staffing of a portable, fully functional planetarium and 360 degree movie theatre, as well as computerised telescopes to deliver night-sky observing experiences.

Significant support was received from librarians at locations who were very enthusiastic. Librarians personally advertised, organized venues and supported events such as a public BBQ at Cummins. An evening star-gazing session was held at Lock and Cummins, with 60 attending at Lock and 130 attending at Cummins.

The public response was universally enthusiastic with people of all ages reporting high engagement and asking many questions of the presenters. Many participants even commented that they would be paying a lot more attention to the night sky in future.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Aboriginal Discovery Science at Risdon Cove

APPLICANT	IA FUNDING
Tasmanian Aboriginal Centre	\$5000

The programme sought to engage Aboriginal youth and the wider Risdon Cove community in a scientific and cultural appreciation of local geographical features, as relayed through video and podcasts by Aboriginal elders.

This is the first time representatives of the whole Aboriginal community, ie leaders, children, youth and elders, have been involved in science on our own land, fostering indigenous science knowledge and presenting outcomes to families. Inspiring young Aborigines to take an early interest in natural sciences using innovative approaches will assist in achieving a scientifically engaged Aboriginal community. The Tasmanian Aboriginal Centre is showing leadership in science with this project and it is expected that on-going engagement by young Aborigines with scientific studies will result and continue to strengthen.

The focus on science, using the language of science, enhancing our usual focus on the cultural aspects of the site is innovative and has emphasised to children, youth and their families that the Tasmanian Aboriginal Centre is a strong supporter of a deeper community involvement in science as valuable to our future.

The Inspiring Australia grant has initiated a focus on science at the Centre which is being followed up with further professional development sessions for early childhood educators from the broader educational community. The Risdon Cove site is being promoted as a valuable area in Hobart to involve educators, students and the Aboriginal Community in natural science activities.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

It's Not Circus, It's Science

APPLICANT	IA FUNDING
Katherine Barnard	\$5000

It's Not Circus, It's Science and marble run workshops at Warrnambool Fun4Kids Festival

Teacup Tumble performed It's Not Circus It's Science shows at the Warrnambool Fun4Kids Festival exploring concepts of physics and neuroscience through the use of circus skills such as acrobatics, whip cracking and equilibristics (balancing on objects). Audiences laughed, clapped and enthusiastically volunteered to come up on stage. Many audience members sought out Teacup Tumble performers to express their appreciation for the show.

Prior to and during the show period, Teacup Tumble facilitated a workshop zone where participants generated marble runs, enabling them to problem solve and explore physics concepts. More than 4000 people participated in these workshops and 1200 attended the shows.

The marble runs were highly successful at engaging a wide range of ages. Two year-olds practiced their pincer-grip and were enthralled to place marbles and watch them go! Primary aged children collaborated with their parents to build runs. Teenagers teamed up together to create ambitious runs and cheer the marbles on. Several children returned day after day and spent hours each time building marble runs.

Teacup Tumble now owns the infrastructure and has the experience to facilitate Marble Run workshops in the future.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Perth Zoo Mobile Outreach Living with Wildlife Programme for Newly-Arrived Refugees

APPLICANT	IA FUNDING
Perth Zoo	\$5000

This outreach programme delivered wildlife education, including a focus on conservation, to newly-arrived refugee families and children. The programme provided its audience with an understanding and appreciation of native wildlife, the need for conservation, as well as the skills and knowledge to respond appropriately to native species.

During the course of this project a pre- and post-activity survey was delivered to the students participating in Save the Children's Live and Learn programme. Preliminary analysis of the data (30 participants for the pre-activity survey, 25 participants for the post-activity survey) has shown positive changes in attitudes towards the value of native animals and the ways to respond to encounters with wildlife.

Participants named a broad range of animals from around the world as well as Australia (many Australian animals listed were iconic Australian animals) in the pre-activity survey. Animals named in the post-activity survey were only Australian animals. Interestingly none of the global species identified in the pre-activity survey were named in the post-activity survey.

13% of pre-activity survey participants indicated a confrontational response to the situation, i.e. essentially kill it or catch it. During the Perth Zoo facilitated sessions, participants were told to leave the snake alone, back away quietly and tell an adult so everyone knows that a snake is in the area and it should be left alone. The option of calling a professional person to remove the snake if necessary. There were zero instances of confrontational responses in the post-activity.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Carbon Opportunities in Indigenous Communities

APPLICANT	IA FUNDING
Infinivie	\$5000

The project worked with remote Indigenous communities in Western Australia to research and model the connections between carbon management programmes and development of livelihood assets. The project was centred on a series of four workshops in each of the two communities. Residents from a third community also attended one series of workshops.

Topics discussed included community assets and goals, climate change impacts and carbon cycles, and suitable carbon management programmes. Relating carbon management programmes to existing assets in communities enables valuable expertise, such as traditional ecological knowledge, to be identified for future employment and business opportunities in climate change mitigation projects. Discussing carbon cycles in the community provided a basis for exploring suitable carbon management programmes that met with community objectives. Programmes discussed included those related to seven carbon emission and removal sources: building materials, construction processes, stationary energy, transport, water systems, waste and land management activities.

The final workshops were designed to allow the communities to select a suite of carbon management programmes that matched their future community goals, and provided direction for future investment that generates several co-benefits.

The programme can be adapted and designed for implementation across remote communities, rural towns and urban municipalities.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Ancient Science

APPLICANT	IA FUNDING
WA Gould League Inc	\$5000

This project was based around a series of workshops delivering a range of hands-on biological and environmental science learning experiences for Aboriginal participants and people with work with Aboriginal communities. Two types of workshops were conducted. The first were hands-on workshops that targeted young school-aged Aboriginal people and the second was a development workshop that targeted the wider adult community and general public, including those that work with Aboriginal people. The project goal was to have 500–1000 youth and 20–30 adults attending the workshops.

Since the start of the project in May 2012, a total of 1295 school-aged participants, and approximately 260 adult teachers and parents attended over 30 workshops for school-aged students. In addition, a total of 55 adults who work with Aboriginal people participated in two adult workshops. The first adult workshop was held at the Perth Zoo on 22 November 2012, with 20 educators of Aboriginal Education participating in an Ancient Science presentation. The presentation demonstrated how the Ancient Science project could assist Aboriginal educators in addressing the engagement of Aboriginal students in the Science Learning Area.

The second Adult workshop, held at Herdsman Lake Wildlife Centre, on 30 November 2012, had 35 Aboriginal educators and administrators who work with Aboriginal youth taking part. Participants experienced best-practice examples of how to engage Aboriginal youth in environmental science and how to provide skills and principles in engaging Aboriginal youth in Science.

This surpassed the original goal of the project to conduct at least 17 workshops and up to 1000 youth and 30 adults attending.

The post-project survey questionnaire was completed by about 10 per cent of adult attendees, and there was a 99% response that in their opinion the Ancient Science programme was highly effective in engaging students, particularly Aboriginal students, in environmental science.

Also, 97% of the adult workshop participants who completed an evaluation survey indicated that the workshop provided them with strategies, principles and knowledge to assist them in engaging Aboriginal youth in environmental science.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Solas

APPLICANT	IA FUNDING
David Ryan	\$5000

An interactive, pedal-powered light-and-sound installation was showcased at non-science events, e.g. local music events, in Western Sydney and the Blue Mountains. The programme engaged audiences on the science surrounding clean energy and sustainability. Audience members were able to interact with the installation through pedalling the bike-generator or operating the sound system.

Ten artists were recruited and learned how to integrate low-voltage electrics into their practice, and also witnessed how the bike generators could provide power.

Audiences were encouraged to interact with the installation by pedal powering the light and sonic sculptures, singing or playing music amplified by the pedal powered PA system or simply watching or listening.

As sufficient power generation was achieved each separate light component within a sculpture would switch on. For example the bike powered a 'Neon Steeple' made from reused PET bottles arching three meters high. This individual sculpture comprise of three different-coloured light elements. Each individual element would light in series until the completed steeple fully glowed.

As more power was produced the next light sculpture in the series switched on until all sculptures were alight. As peddlers varied rotation speed and cadence the amount of light was varied accordingly.

Using the same principle another bike-generator was dedicated to power a PA system and microphone. At the Blue Mountains Music Festival the curious audience observed the spectacle of impromptu performances powered by furiously pedalling cyclists.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

General Public Learning for Involvement in Marine Science

APPLICANT	IA FUNDING
University of Sydney	\$5000

A series of seminars, which were tailored in terms of depth and detail according to audience, were designed to generate community interest in marine science and associated local activities.

The programme was a partnership between the University of Sydney and the Marine Education Society of Australia (MESA). On completion of the programme, a suite of five modules that can be used to guide seminars for the general public about Australia's amazing marine life were developed and made available to Marine Discovery Centres and other local education providers around Australia.

Modules were distributed for use in: Tasmania, Victoria, South Australia, Western Australia, New South Wales and Queensland.

The five modules in the Marine Science series 'Marine Science for Me' include:

- Beach science for grown-ups with little ones!
- Fish pieces – fishy facts you might like to know
- Shark Bytes – Shark science scintillating not scary
- Seaweed science – for those curious about sea life
- Marine macro marvels – zooming in on marine invertebrates

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

ACCELERATOR: A Collaborative Public Programme where Art and Science Collide

APPLICANT	IA FUNDING
Culture at Work	\$5000

Ten presentations were developed and presented jointly by scientists and artists, covering science topics such as climate science, physics, neuroscience and cancer research and microscopy. These were presented to the community of Jackson's Landing in Pyrmont with some additional post-presentation events to allow audience members to directly interact with scientists.

Examples of the art developed were Fiona Davies' Blood on Silk, which was a multi-panel woven work, installed in the foyer of the Science Building at Macquarie University. The work referenced the predominance of code as the preferred way of seeing or understanding, with a diagonal red and white strips of the Barber's pole indicating the location of a surgeon. Bandages red with blood were wrapped around the white pole to form the market of the trade in leech craft and bloodletting.

Another example was the work of Rachel Park that investigated the elements of wind, and light through robotics in work using jumbo roll toilet paper.

A third artist, Laura Jade's work White Parazoa III consisted of a series of small sculptures inspired by Victorian neck ruffs, fossils, micro-organisms, cabinets of curious, the rise of scientific discoveries in the 17th–19th century, and biologist Ernest Haeckel's illustrations of Art Formes in Nature, focussing on sea creatures and the geometrical and symmetrical patterns found in living organisms.

Other art works were based around animating solar technology and what a changing climate will mean in the role of oceanic diatoms.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Liddell Education's "Science on the Road"

APPLICANT	IA FUNDING
Liddell Education	\$5000

This science show/workshop was hosted at community-based vacation care programmes in Queensland and targeted students aged 6 to 14.

The science content was delivered on-stage and through hands-on experiences combined web 2.0 interactive activities and promoted by digital media.

Liddell's Education had been a part-time science communication operation run on the side by Steve Liddell, a Queensland high school science teacher. He received a small grant through the Unlocking Australia's Potential programme to run science shows and workshops around regional Queensland.

The grant allowed for the establishment of physical resources that were used for the performances. It also allowed for the establishment of a successful business run by Liddell Education, whereby Steve Liddell now travels to schools, and vacation care facilities engaging kids in quality science experiences.

The relationships built and contacts made during this project have proven vital in promoting this business and establishing a strong network base. Liddell Education has now been able to take these shows and workshops to a wide range of geographic locations including Gladstone, Kingaroy, Hervey Bay and Gympie.

The flow on effect of this grant has now provided quality science engagement activities for tens of thousands of Queenslanders since the grant was awarded, with more being added every week.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Megafauna Makeover – fossil preparation and conservation

APPLICANT	IA FUNDING
South Australian Museum	\$5000

The South Australian Museum, in conjunction with Flinders University and financial support from the Australian Government Inspiring Australia programme, enlisted the help of the local community from Burra and its surroundings to prepare and conserve megafauna fossils for the South Australian Museum's Megafauna Gallery.

Volunteers eight-years-old and over were involved in hands-on activities on preparing and conserving fossils. Participants also visited the fossil excavation site. This workshop provided a rare opportunity for participants from non-scientific backgrounds to learn and experience an aspect of Palaeontology.

As well they were able to rub shoulders with the scientists who are at the forefront of researching the Australian megafaunal extinction. Youth offenders also participated in these workshops. In addition, several workshops designed for junior primary students toured far western South Australia bringing stories about megafauna to life through songs and model making.

Overall, participants encountered a range of positive experiences from these workshops, such as "this was an incredible experience ...it inspired me further into paleontology (sic)..."; "didn't even know what Megafauna was before today"; "totally hands on and mega-interesting". Future workshops based on these innovative sessions will be an integral part of the South Australian Museum's outreach and community engagement programmes.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Love 2 Read (AKA Read 4 Nature)

APPLICANT	IA FUNDING
Jeanie Clark	\$5000

The project was based around a series of two workshops per town in eight towns, to support the 2012 National Year of Reading. Libraries that hosted the activities were: the Wimmera Regional Library Corporation, St Arnaud Horsham, Warracknabeal, Dimboola, Nhill, Edenhope, Stawell and Birchip. Together they attracted about 50 adults, and 100 children.

The purpose of the first workshop was to training participants to take part in the second workshop. People who enjoy reading to children (mainly parents and grandparents), learned how to discover and share knowledge of environmental science found in picture story books. They filled in survey sheets about farm books (the theme chosen to tie in with the 2012 Australian Year of the Farmer) and planned science activities that could complement the books.

At the second workshop, the participants delivered their reading and activities to small groups of children invited to the library for a National Science Week event in August 2012. The libraries were filled with a wonderful buzz of reading and more noise for the activities! It was great! Librarians enjoyed it, readers and children did too!

Find out more about this project, and its links, and follow-up here <http://enviroed4all.com.au/read4nature-2/ia-wrlc/>.

As an unfunded follow-up to the IA funded project, the facilitator created resource sheets for their bush-themed picture books and some board books. All these resource sheets were collated in to a folder of resources specific to each library's books. Later, these eight folders of resources were photographed so that they could be collated as jpgs on-line into one resource. These can be found at <http://enviroed4all.com.au/read4nature-2/ia-wrlc/>.

In a linked project funded under National Science Week in schools, Jeparit Primary School children similarly reviewed the shared school library resources of the MARC van (a mobile library for 18 smaller schools of the Wimmera), all of which do not have a WRLC branch in their small town. The older children reviewed the books and prepared an activities session for younger children for National Science Week. The incredible excitement in the room as the older children read and shared the pictures in the books was fantastic by all a party to it.

The project was featured at the 7th World Environmental Educators Congress at Marrakesh in Morocco in 2013.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Rocket Girl Rocket Shows

APPLICANT	IA FUNDING
Rocket Girl	\$5000

This two person show provides a combination of entertainment and education to excite primary school aged children and improve the 'image' of science for the younger generation. It was performed nine times over two years at a range of venues in metro and regional WA, including Karratha, Leonora, and the Perth Cultural Centre.

Newton's 3rd law of Motion states: When one body exerts a force on a second body, the second body simultaneously exerts a force equal in magnitude and opposite in direction on the first body.

This law of motion was demonstrated through the use of balloon rockets, water rockets, and solid fuel rockets. Eg 'The water is under pressure. It is released downwards forcing the rocket up! For every action there is an equal and opposite reaction!'

'Conservation of momentum' was also explained (in simple terms) and demonstrated: 'Air is really light, but the Balloons are really light too, so the air was able to move the balloon! But with the next rockets, they are heavier. So it's going to take something heavier than air to lift it. Momentum equals Mass x Velocity. The principle of 'Conservation of Momentum' states that the momentum in Idirection must equal the momentum in the opposite direction.'

The Rocket Girl Rocket Show humorously juxtaposed the histrionic 'super hero' (Rocket Girl), who knew very little about science, with the 'assistant' (Sally Science) who, with serious passion, explained the workings of the rockets, the science behind the rockets, and set the rockets up. Rocket Girl repeated the explanations, simplifying the scientific jargon into a single word and action.

Sally (As an aside to RG) The propellant will deflagrate causing ignited gas to escape downward. Blank look from RG. SS hands RG the fire prop, RG has an 'ahha moment'. RG puts at the bottom of the rocket and moves it sharply downwards.

Rocket Girl FIRE!

The show was entertaining for all ages and educational for kids from about six years and up as the same concept of Newton's 3rd law of motion was repeated verbally and demonstrated in three different ways.

Review From: Kerry Mazzotti of Scitech

The Rocket Girl Show was performed as part of the National Science Week Festival in the Perth Cultural Centre on Saturday 10 August. It was the first show of the day and attracted an audience of over 50 people, with families and small children lured in by the bright colours and energetic performance. After only a short while, audiences were immersed not only in colour and theatrics but also the science of rocket flight and the scientific method. The presenters quickly built a rapport with the audience and led them through a rocket-fuelled science adventure. The show really set the scene for the entire day, with families then excited about science and heading into the stalls for some hands on activities. Rocket Girl also set the bar for a high calibre of performances on the stage.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Talking Water

APPLICANT	IA FUNDING
University of Queensland	\$4971

Talking Water: Experts and Everyday Experience was a one-day interactive forum exploring how water science is communicated. It was held at the State Library of Queensland and involved organisation across several institutions including the University of Oxford, the State Library of Queensland, the Queensland University of Technology, Griffith University, the University of Queensland, and the Australian Broadcasting Corporation.

The format for the day was three panel sessions and two 'breakout' interactive sessions. The forum centred on public involvement in and understanding of water science and encouraged public involvement in the creation of science and scientific solutions.

An overarching themes was the role of controversy and debate around established science.

The panel topics were:

- Popular engagement with water science,
- Selling water science, and
- Backyard arts and sciences of water.

Speakers covered areas as diverse as water bottles, flood mitigation, iceberg towing and film-making. There was also a lively discussion after all three sessions that was recorded for ABC Radio National's Big Ideas programme.

In the interactive session, participants created their own advertising campaigns for a water issue. They were provided with collage materials focussing on water, and relevant words and phrases printed out for cutting and pasting.

Participants recorded their collages on a mobile phone app that allowed them to caption the collage. These were uploaded to a Twitter account.

In the second interactive session participants created their own water science cartoon using a template that was provided.

The event attracted an audience of about 150 people, and was composed of university students, government employees working in water-related areas, flood victims, and water activists, as well as interested members of the general public.

Numbers varied for each session, with a minimum of around 50 and a maximum of around 100, and evaluations were very positive.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Dimensional – Fusion of Maths, Circus and Teenagers

APPLICANT	IA FUNDING
Katherine Barnard	\$4960

Dimensional is half-hour physical theatre work inspired by the year 3/4 geometry curriculum, created by Teacup Tumble in collaboration with a small group of teenagers. After the show audiences are invited to participate in creating a large collaborative artwork, based on tangram silhouettes. This takes up to half an hour and is a chaotic, joyous element to the Dimensional experience. During the IA project, 370 audience members watched the show.

Creating Dimensional was outstandingly a positive experience for the teenagers involved. One student told of visualising a scene from the show when working on an exam about angles and two of the participants will work on Dimensional during its National Science Week Season.

39 of 41 Dimensional audience survey respondents either agreed or strongly agreed that they enjoyed the show. A large portion said that that they felt more inspired about geometry after the show.

Teacup Tumble now has a strong relationship with the Bendigo Discovery Centre who partnered in the project. Dimensional went on to tour during National Science Week 2014 and has had a flood of enquiries for future touring.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Pedalling Science to the People – Science Busking Bike

APPLICANT	IA FUNDING
Australian National University	\$4935

Enabling outreach – a scientist takes exciting demonstrations to hard-to-reach people and places through a custom-designed busking bike.

Science in a tent in the middle of a forest? Taking science to hard-to-reach people and places has been made much easier through a small Inspiring Australia grant for a 'busking bike'. The Scicycle has all you need to show science anywhere, including a solar panel and a battery powered PA system. Once it is set up in a city square or a football arena, the crowds gather to watch the science and join in the fun. The audiences are often not the usual candidates for a science presentation, just passers-by who stop to listen and learn as Dr. Graham Walker, Scientist and Science Communicator, shows off the spectacular and the extraordinary.

"The Scicycle – the ANU science delivery bike – has really changed the places I can take science and the people I can reach – it's literally science engagement on wheels. One of the big problems with science engagement is that people usually have to actively seek it out; the Scicycle turns the tables and seeks out the audience instead. I've taken science shows and activities from the streets to Canberra, to bushland arts festivals and even the rugby! The IA support to get the bike has encouraged me to try many venues I wouldn't have before."

Who could predict that young teenage skateboarders would become so enthusiastic that they would stay back to try out hands-on science for themselves? That the forest audience who were at a folk festival would become hooked on science? So far a total of 2500–3500 people have been directly engaged by Dr. Walker and the bike, with several thousand more having a passing exposure.

Currently, the Scicycle is going through an exciting evolution as new features are added including a portable 'vertical wind tunnel' where people can make and test their own flying contraptions from everyday items, and the bike itself is being integrated into experiments – such as adding a series of pictures to the wheel covers that become animated as the wheel spins.

"The Scicycle has been used regularly since its inception" says Dr. Walker. "As word gets around I'm getting asked to come to all sorts of places – I'm trying for the Deniliquin Ute Muster at the moment. It's a top quality delivery bike, so it will keep rolling on for years after the official IA project."

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Science Across Generations

APPLICANT	IA FUNDING
Scienza Viva	\$4842

This project particularly aimed to engage parents and carers in the process of science education through a series of hands-on science workshops for children with accompanying adults, which offered ideas for accessible follow-up activities using readily available, inexpensive materials.

Let's Have Fun with Science was a series of hands-on activities for Stage 2 primary students. The accompanying adults were given ideas on how to use the inexpensive, readily available materials used for these and other experiments with their children.

Forensic Flying Squad poses a puzzle in the form of a murder mystery, designed at Stage 3 primary to stage 4 secondary level. The adult participant led the accompanying children through the activities, and helped them to assemble an organised case. Kits of materials and information were provided to support further activities.

Local government in Wagga Wagga and Griffith, NSW, helped identify groups that may participate. Both facilitated access to community groups and assisted in scheduling sessions in a variety of localities for the regional community.

Thirteen workshops were held over five days, two in a summer school for African refugee and immigrant families at Mount Austin Public School and two more at Tolland Community Centre and serving indigenous families.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Understanding the wombat by engaging the local agricultural community

APPLICANT	IA FUNDING
Royal Zoological Society of SA – Conservation Ark	\$4750

Conservation Ark is working with farmers to devise effective management strategies to conserve the southern hairy-nosed wombat. The burrows that this wombat makes in open arid farmland cause conflict with rural landowners.

The life of a farmer whose land is occupied by wombats can be difficult. If the wombat happens to be a southern hairy nosed one, it can be expensive and sometimes dangerous. This wombat, unlike its more common cousins, makes its burrow in open land rather than forested areas. When that burrow is under a fence post or a water tank, trouble inevitably follows. “Even when the burrows are in the paddocks, machinery can collapse a burrow and fall in” says Dr Elisa Sparrow, Conservation Biologist with Conservation Ark, whose mission is to save animals from extinction.

The *Unlocking Australia’s Potential* grant to Conservation Ark has opened up collaboration between farmers and conservationists to conserve the wombat. Conservation Ark is part of the programmes of the Royal Zoological Society of South Australia, designed to integrate science, education, sustainable practices and conservation programmes in order to achieve on-ground conservation. Following a 2012 survey of landholders about the wombat problem, the IA grant has enabled Elisa to hold workshops for members of the community in agricultural areas to brainstorm and plan for effective management of the wombat. “The grant enabled us to inform the participants about the results of the survey and enlist their help in keeping wombats away from fences and water tanks” says Elisa. “Many of these farms are very large and the destruction of fences and the collapse of water tanks are very frustrating for the farmers.”

The solution is an integrated management approach. Elisa is experimenting with sensory deterrents to keep the wombats away from tanks and fences. “Farmers are the keepers of the southern hairy-nosed wombat” she says – and the collaboration is essential to save this highly iconic little inhabitant of our arid and semi-arid parts of Australia.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Sharing knowledge: Indigenous engagement in climate science

APPLICANT	IA FUNDING
University of New South Wales	\$4700

Two on-Country workshops were run in an Indigenous community near Alice Springs. These workshops focussed on both scientific projections of climate change and Indigenous understandings of environmental change.

The objective of this project is to (1) pursue an innovative approach to communicating climate science in a local context; and (2) to identify priority concerns related to climate change in a remote Aboriginal Australian community.

These objectives address the Inspiring Australia Outcomes and Principles through:

- (1) facilitating engagement with a key scientific issue in a community with limited access to relevant resources (Principle 12);
- (2) facilitating engagement with a key scientific issue (Outcome 3); and
- (3) empowering community members through knowledge exchange to critically engage in decision-making (Principle 7). These objectives will be achieved using a combination of workshops, public meetings and online communications (blog, and media).

Project deliverables included:

- Workshops in collaboration with local partners and CCRC scientists.
- Public meeting upon completion of the workshops, including a presentation to discuss what was learned from the workshops with a wider audience.
- Blog/media dissemination of the workshop and public meeting outcomes that will circulate amongst partner networks.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

Science Engagement Camp for Young Refugee Migrants Residing in Goulburn

APPLICANT	IA FUNDING
The Australian National University	\$4460

Science experiences enable young migrants with little science background to see taking up a career in science for themselves.

From the war-ravaged Congo to a degree in science – this was the prospect offered to a young African migrant through a small *Inspiring Australia* grant. The “Opening Doors” project, as its name suggests, gives access to marginalised communities, otherwise unengaged with science and technology in Australia. The focus of the programme is to encourage migrant youths, settled in regional Australia, to become engaged with mathematics and science – areas of study in which they believe they have no place. This belief stems from their experiences in their countries of origin and results in perceptions that they are denied access to science and technology in Australia. For them, science seems an elite and remote study and career pathway.

In 2013, Musare Gasirimu entered a university science course leading to a career in medical research. Originally from the Republic of the Congo, Musare has been passionate ever since he was young about good quality medical support for his community. “As I grew up, I witnessed unfair treatment of sick people, especially pregnant women and young children. I knew in my heart that when I grew up I wanted to help people in my village with proper scientific medicine.”

When he arrived in Australia, however, Musare feared his dream would not become a reality. He lacked support to access a suitable study pathway that would lead to a career in medicine. As he later said, “As a result of the Opening Doors project, for the first time in a long time I could see a bright future for studying science and medicine.”

The ANU-initiated project pioneered a series of science engagement activities in 2012, with humanitarian migrant youths who had been settled in regional NSW. The participants visited science and technology centres in Canberra, enjoyed first-hand experiences with professionals employed in careers leading from science and technology studies, and participated in science communication programmes which informed about university science courses.

Musare has greater plans for his future and hopes to “work for Medicine Sans Frontiers in the most remote communities”. Opening the door for him towards this goal has been a proud moment for the Opening Doors project, which continues to work to engage more disadvantaged young people with science and technology in Australia and offer them a bright future.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

PROJECT TITLE

The Art and Science of Mental Health – the Story of Schizophrenia

APPLICANT	IA FUNDING
CRC for Mental Health	\$4303

A unique collaboration between the CRC for Mental Health, and the Dax Centre for learning about mental illness through art, attracted new audiences in the hard to reach 25–35 year old group.

Mental health issues are often difficult to talk about, both by science researchers (except to each other) and with the public. The CRC for Mental Health and The Dax Centre overcame these barriers with the “Not just one thing – art, science and schizophrenia” project. Supported by an *Inspiring Australia* grant, the project led to excellent outcomes for the CRC, the Dax Centre and for the audiences.

The project combined The Dax Centre’s exhibition of artwork by those experiencing mental illnesses with talks by CRC researchers on the science of schizophrenia.

A mental health advocate with a diagnosis of schizophrenia was also on the panel of speakers.

“The IA grant facilitated this collaboration” said Melanie Carew, Communication and Education Manager of the CRC for Mental Health. “It allowed us to try new approaches to engaging audiences which we wouldn’t have been able to do without the IA funding. We both gained an audience we would not otherwise have had.” The first event was broadcast on ABC Radio National, widening the audience across the nation. The evaluation indicated very positive outcomes for this cross-disciplinary approach. “*The wide variety of perspectives that came together to discuss an issue as complex as schizophrenia is a great thing.*”

The Dax Centre provides an environment for learning about the mind, mental illness, art and creativity. A formal evaluation indicated that 68% of the participants were under 35-years-old, a group notoriously hard to reach with science events. They were not regular attendees at The Dax Centre either, indicating that the events really attracted a new audience.

“Linking personal understandings about mental health conditions to the science behind them helped to break down the barriers attached to conversation and the stigma of mental conditions,” she said. The scientists involved also appreciated the opportunity to talk about their work in its social context, requiring a narrative approach to their story. There have been rewarding follow-ons from this experience for some of these scientists within the CRC. For example, part of the IA grant provided for the creation of short You-tube style videos to use in the CRC and Dax Centre education initiatives. It is anticipated that these will assist in setting the context and providing a new “angle” on mental health conditions, particularly schizophrenia.

In summary, this project has had an impact in both engaging a new audience in science as well as increasing awareness of Australian research success stories. It continues to contribute to public education and awareness of Australian science.

Delivered In	ACT	NSW	NT	QLD	SA	TAS	VIC	WA

Appendix C

Indigenous projects – 22 projects reached Indigenous Australians

Project Title:	NISEP – Engaging Rural, Regional and Indigenous Communities in Science								
Recipient:	Macquarie University						\$350 000		
Description:	A series of hands-on science shows conducted in regional and rural NSW, QLD and WA for communities with high Indigenous populations. Events will engage Indigenous youth and elders as ‘teachers’ to communicate science to the communities, allowing for the target audience (particularly youth) to see science as accessible and potentially as a career option. Science topics to be covered include ‘big picture’ concepts such as climate change, water rights, food security and renewable energy.								
Comment:	<ul style="list-style-type: none"> • taking a positive National Science Week project and expanding it further across Australia 								
Audience	6500								
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT	
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media	

Project Title:	Regioneering Road Show								
Recipient:	Engineers Without Borders Australia Ltd						\$260 000		
Description:	An annual four-week education outreach tour through regional and remote Australia. The Road Show will involve travel across three states and deliver science education outreach activities in more than 30 rural locations. The Regioneering Road Show has the primary goal of engaging the community, and particularly, young Australians in engineering, technology and its underlying science.								
Comment:	<ul style="list-style-type: none"> • Regional and at times Indigenous population 								
Audience	6500								
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT	
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media	

Project Title:	dLux iStreet Lab								
Recipient:	dLux MediaArts						\$236 000		
Description:	The programme will use a portable multimedia station (the dLux iStreet Lab) to engage and educate hard-to-reach youth in remote and regional areas about science in a hands-on situation. The programme has a particular focus on ICT and associated technologies.								
Comment:	<ul style="list-style-type: none"> • Unique engagement method • Reaches regional and Indigenous Australians 								
Audience	6000								
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT	
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media	

Project Title:	Engaging remote Indigenous communities in climate-change science								
Recipient:	CSIRO Ecosystem Sciences						\$150 000		
Description:	The programme will engage Aboriginal Tiwi Islander communities on the issue of climate change, its potential impact and possible adaptation strategies. Impacts to be discussed include changes in sea levels and their impact livelihoods, housing, health and food resources. The programme builds on an existing partnership between CSIRO and the Tiwi Land Council								
Comment:	<ul style="list-style-type: none"> • A project that reaches a community that would generally receive very little science engagement activity. 								
Audience	200								
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT	
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media	

Project Title:	Harvesting Traditional Knowledge (application title: Inspiring Australia Programme)							
Recipient:	ANKAAA						\$150 000	
Description:	This project involves four 2½-day workshops held over three years across the Kimberley, Darwin/Katherine, the Tiwi Islands, and Arnhem Land which focuses on building skills and understanding in environmental and cultural conservation, with a particular focus on traditional Indigenous conservation practices.							
Comment:	<ul style="list-style-type: none"> • Unique delivery format using the link between art and science to learn from the connections between Indigenous knowledge and western science 							
Audience	240							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Fireballs in the Sky (FITS)							
Recipient:	Curtin University						\$145 000	
Description:	A citizen-science initiative in regional and rural WA focusing on improving audiences' understanding of planetary science research. The programme will focus on meteorite activity, with participants across regional communities working with researchers to document meteorites and sharing the information through an online database.							
Comment:	<ul style="list-style-type: none"> • A major programme which could reach a large regional audience 							
Audience	-							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Apurthele-ileme (bringing together) science and Indigenous ecological knowledge							
Recipient:	Akeyulerre Incorporate						\$100 000	
Description:	The programme seeks to engage Aboriginal youth in horticultural science activities as part of the practical application of Indigenous Ecological Knowledge (IEK) in furthering the resources of an existing traditional medicine enterprise.							
Audience	150							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Hidden National Treasure: Promoting the World's First Animals							
Recipient:	Straight Up						\$90 000	
Description:	The programme seeks to engage both local and wider communities in paleontological science through providing a training course to enable Central Flinders Region locals to participate in the recovery and study of Edicaran fossils. The programme will also engage local communities on the fossils with a view to developing tourism opportunities for the area, further expanding the reach of Edicaran palaeontology.							
Comment:	<ul style="list-style-type: none"> • Another unique project in a regional area, looking to engage the community in its local science. 							
Audience	-							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Sustainable Science Trail							
Recipient:	Arid Lands Environment Centre						\$45 000	
Description:	Sustainable Science Trail combines the design, development and erection of up to 10 interpretative signs at sites associated with science and sustainability around Alice Springs. The signs will be directly connected to a website through QR codes. Participants on the trail will use a web-based trail map which can be accessed on a smart phone, or a hard copy trail map to learn more about the area. The programme will primarily target family groups with school-aged children, with the intention of capitalising on common family tourism routes, routines and attractions and offering an enhancement of the average visitor experience. The programme will be launched at the 2013 desertSMART EcoFair during National Science Week.							
Comment:	<ul style="list-style-type: none"> • A project combining science and tourism in Alice Springs with strong local collaboration 							
Audience	–							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Family	Shared Knowledge	General Public	New Media

Project Title:	Indigenous Rangers Promote Science in their Communities							
Recipient:	Tangentyere Council						\$44 930	
Description:	The project will develop the skills of at least two Central Land Council Indigenous community ranger groups to discuss and promote local natural science issues and activities, most of which they are directly involved in. The community ranger groups will then provide presentations and field trips to a range of local community groups/gatherings, including elders, youth groups and schools.							
Comment:	<ul style="list-style-type: none"> • A clear and effective strategy of engagement that focuses on Indigenous and regional components 							
Audience	350							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Community	Shared Knowledge	General Public	New Media

Project Title:	3D Modelling of Koonalda Indigenous Art and Mining							
Recipient:	South Australian Museum						\$40 000	
Description:	This programme will engage the local Indigenous community to work with researchers towards the virtual recording of the heritage-listed Koonalda Cave and its associated Indigenous artwork. This project offers a means for Indigenous communities to engage with innovative science; to share knowledge with other Indigenous people and the general public; and to secure long term and effective site protection.							
Comment:	<ul style="list-style-type: none"> • Addresses IA Indigenous Expert Working Group • Will make a heritage-listed site accessible nationally and internationally 							
Audience	400							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Community	Shared Knowledge	General Public	New Media

Project Title:	Climate Change Animations							
Recipient:	CSIRO						\$39 000	
Description:	A series of animations will be developed to communicate complex climate change science and issues to regional, rural and youth communities across Australia. Concepts and scripts will be developed through face-to-face engagement with users to maximise relevance, accessibility and interest. The animations will be marketed and made available online, within the existing marketing/educational campaigns of contributing agencies, etc.							
Comment:	<ul style="list-style-type: none"> • Capacity for wide dissemination through new media 							
Audience	–							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Locating Science: Mapping Ecological Themes in Australian Film and Literature							
Recipient:	University of Queensland						\$35 000	
Description:	The project aims to “locate” ecological issues in the narrative landscapes of acclaimed Australian books and films that foreground eco-cultural themes. Using the enduring appeal of storytelling, it is proposed to engage people’s interest in such landscapes and foster debate regarding the environmental concerns Australia faces. The project will work with and reframe understandings of the environmental science drawn from cultural texts. It aims to engage members of the public for whom film and literature can open a window onto eco-cultural issues in the desert regions, tropical zones, coastal ecosystems, and Indigenous communities where Australian narratives take place.							
Comment:	<ul style="list-style-type: none"> • Innovative idea engaging a literary audience in science 							
Audience	–							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	From fire-stick farming to the friendly frontier: landscape change at Albany, WA							
Recipient:	The University of Western Australia						\$30 340	
Description:	A UWA archaeology field-school programme for students involving Noongar community representatives, archaeologists, and scientists in allied fields of geochronology and palaeontology. It is aimed to outline how landscapes and human activities have changed over time at Albany’s oldest archaeological site, Kalgan Hall.							
Comment:	<ul style="list-style-type: none"> • A local Indigenous community initiative in Southern WA 							
Audience	400+							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Science Rocks on the Road							
Recipient:	Goldfields Education Mining Industry Alliance (GEMIA) Inc						\$30 000	
Description:	An outreach programme that utilises a trailer equipped with resources for hands-on demonstrations and activities. The programme has been developed by mining volunteers across all science fields with assistance from educators and travels to communities in the Goldfields - Esperance and neighbouring regions delivering targetable education to communities.							
Comment:	<ul style="list-style-type: none"> • Using existing fairs and festivals to engage audiences 							
Audience	–							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Sea Turtle Co-Management Travelling Roadshow							
Recipient:	Sea Turtle Foundation						\$26 000	
Description:	A road show in which scientists and Indigenous representatives host educational talks about sea turtle biology, facilitate community meetings about how to address threats to sea turtles, and involve community members in sea turtle and marine debris monitoring in their own communities. The project will target school-age children, the general community, and in particular, young hunters.							
Comment:	<ul style="list-style-type: none"> • A positive subject for engaging the public with a broad community approach and clear purpose 							
Audience	250							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Night Skies on the Eyre Peninsula							
Recipient:	SkyWatch Astronomy Education						\$5000	
Description:	The project will bring the resources of SkyWatch Astronomy Education to the Eyre Peninsula to provide high-interest astronomy engagement programmes, open to all members of the community. The programmes will include provision and staffing of a portable, fully functional planetarium and 360 degree movie theatre, as well as computerised telescopes to deliver night-sky observing experiences.							
Comment:	<ul style="list-style-type: none"> • Quality project in remote location 							
Audience	-							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Aboriginal Discovery Science at Risdon Cove							
Recipient:	Tasmanian Aboriginal Centre						\$5000	
Description:	The programme seeks to engage Aboriginal youth and the wider Risdon Cove community in a scientific and cultural appreciation of local geographical features, as relayed through video and podcasts by Aboriginal elders.							
Comment:	<ul style="list-style-type: none"> • Strong communications basis • Indigenous community involvement 							
Audience	170							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Carbon Opportunities in Indigenous Communities							
Recipient:	Infinivie						\$5000	
Description:	The programme will work with three Indigenous communities in Western Australia to research and model the connections between carbon management programmes and development of livelihood assets. This is achieved through four workshops in each of the communities. These ascertain the current environmental profiles and best carbon management options for the areas. The communities will become increasingly informed about the energy and carbon cycles so that they may make more educated decisions about their future.							
Audience	100							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Ancient Science							
Recipient:	WA Gould League Inc						\$5000	
Description:	Workshops delivering a range of hands-on biological and environmental science learning experiences will be conducted on the banks of Herdsman Lake for Aboriginal participants and people who work with Aboriginal communities. These workshops will include Dreaming-time stories and cultural history lessons from local Aboriginal Elders and will bring common understanding between ancient and modern thinking.							
Comment:	<ul style="list-style-type: none"> • Focus on Indigenous science engagement 							
Audience	1600							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Megafauna Makeover – fossil preparation and conservation							
Recipient:	South Australian Museum						\$5000	
Description:	A workshop engaging young offenders from Magill Training Centre, as well as local volunteers, in the collection, conservation and preparation of megafaunal fossils for a planned expansion of the South Australian Museum megafauna display.							
Comment:	<ul style="list-style-type: none"> • A unique target audience of young offenders and programme has potential for strong positive impact 							
Audience	–							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

Project Title:	Sharing knowledge: Indigenous engagement in climate science							
Recipient:	The University of New South Wales						\$4700	
Description:	Two on-Country workshops will be run in an Indigenous community near Alice Springs. These workshops will focus on both scientific projections of climate change and Indigenous understandings of environmental change. The outcomes of these workshops will be available as a resource through an online blog.							
Audience	180							
Delivered in	ACT	NSW	VIC	SA	QLD	WA	TAS	NT
Key Impact Groups	Regional	Industry	Youth	Indigenous	Marine	Shared Knowledge	General Public	New Media

