

INSPIRING  
SOUTH  
AUSTRALIA

# Making Science Visible

Highlights of the Inspiring South Australia program  
2015 – 2019



Contributing to a society that values science,  
critically engages with scientific issues, encourages  
young people to pursue STEM careers and attracts  
national and international interest in science

[inspiringsa.org.au](http://inspiringsa.org.au)



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Images courtesy of photographers, participants and volunteers involved in the Inspiring SA program.

# Welcome



**Brian Oldman**  
Director  
South Australian Museum

The South Australian Museum has been proud to host the Inspiring South Australia programme since 2015. The Museum's STEM strategies are stitched into the fabric of the daily work at the Museum and we endeavour to connect across all levels of the State.

Science plays such an important role in all our lives – be it enhancing health, improving the food supply or developing digital technology. We all benefit everyday by the new knowledge that scientists are creating. It is crucial that people not only have the opportunity to engage with science but that we are nurturing the scientists of the future. An important objective for the Museum is to inspire in young people a keen interest in science and for it to be seen as a rewarding career choice.

The Museum is Australia's leading science research Museum annually obtaining more Australian Research Council grant funding than any other Museum in the country. Our galleries and programmes feature the new knowledge that the Museum's researchers are revealing to inform and inspire our visitors.

The Museum is increasingly using technology to reveal and communicate knowledge. This can involve bioinformatics in life sciences or the use of spectrometers in earth sciences. In our galleries we are using apps to enable visitors to access the stories behind our collections and virtual reality to dive around the Great Barrier Reef.

In 2018 the Museum had 825,000 visitors to the Museum's North Terrace site and a further 200,000 saw one of the Museum's many travelling exhibitions or educational programmes in the many locations visited in our 'Out of the Glass Case' outreach activities. Schools find the Museum an invaluable teaching partner and over 40,000 school children come to the Museum to be informed and inspired.

Much has been accomplished since 2015 and this is due to the unique partnership behind Inspiring South Australia involving Federal and State Governments and the Universities of Adelaide, Flinders and South Australia. I would particularly highlight the leadership shown by Dr Leanna Read, Chief Scientist of South Australia in successfully bringing this partnership together and acknowledge the powerful impact that it has made.

# Acknowledgements



**Dr Sheryn Pitman**  
Program Manager  
Inspiring South Australia

I wish to thank the numerous contributors to and supporters of this wonderful program. So many have generously contributed time, knowledge and expertise to ensure that the *Inspiring South Australia* partnership achieves, to the best of its ability, what it set out to do – engage the community in science and improve science literacy. The quality of guidance, support and advice has been extraordinary, and the enthusiasm of everyone involved has been inspirational.

Each of the funding partners has provided unfailing assistance. The *Inspiring Australia* personnel within the Commonwealth Department of Industry, Innovation and Science have been wonderful to work with. The Office of the Chief Scientist within the South Australian Government has always been immensely supportive, as have the many staff within the science portfolio. Our three public universities, the University of Adelaide, the University of South Australia and Flinders University, have all contributed regularly through both the governance structures and generous participation in numerous science-related events and activities. The program host, the South Australian Museum, has provided excellent support in every way and at every stage.

I acknowledge the critical role of the *Inspiring South Australia Steering Group* members in providing conscientious and thoughtful governance.

I also sincerely thank the *Inspiring South Australia Working Group* members who have contributed ideas, guidance, support and much information sharing. In addition to the funding partners, organisations represented include: Royal Institution of Australia (RiAus); Australian Science and Media Centre (AusSMC); SA Department for Industry and Skills; SA Department for Environment and Water; SA Department for Education; National Science Week coordinating committee; Australian Institute of Policy and Science (AIPS); South Australian Health and Medical Research Institute (SAHMRI); TAFE SA; South Australian Science Teachers Association (SASTA); South Australian Citizen Science Association (SACSA); and Australian Science Communicators South Australia (ASCSA).

Many others have also contributed to this program through partnerships of diverse kinds, including in regional South Australia where much of our activity has taken place. Thank you also to Libraries SA and Children's Discovery Museum for a remarkable partnership delivering a wonderful science engagement program involving thousands of library staff, children and their families.

Finally, special thanks and gratitude for support and expertise in assisting with the online communications of *Inspiring South Australia*, along with various other specialist services, go to Dr Erinn Fagan-Jeffries, Dr Noby Leong and Dr Sarah Keenihan.

May 2019



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# Executive Summary

***Inspiring South Australia (ISA)* is the implementation of the national Inspiring Australia strategy to strengthen our society's engagement with the sciences and to improve science literacy.** This highly successful collaborative partnership has, since mid-2015, been supported by the Australian Government through the Department of Industry, Innovation and Science, the South Australian Government, the University of Adelaide, the University of South Australia, Flinders University and the South Australian Museum.

Over its short life, *Inspiring South Australia* has created tremendous value for the wider South Australian community as well as for partners. Guided by a Board chaired by the Chief Scientist for South Australia, the program has inspired and engaged many thousands of people in both rural and metropolitan communities.

**Supporting and guiding National Science Week** is an essential element of the ISA program with the aim of increasing participation in this wonderful national festival of science. During the past four years community participation in National Science Week has increased considerably. This includes audience diversity and numbers as well as event diversity and numbers. Each year many new activities and events are offered by science, research and education organisations including our Universities. For example, the new initiative Big Science Adelaide (commenced in 2017)

has been enthusiastically embraced by metropolitan audiences while the numerous activities coordinated by regional communities have also attracted considerable audiences, many of them new to science. In addition *Science Alive!*, a family event that takes place at the Royal Adelaide Showgrounds each year, is attracting record audiences.

**The success of our 'early childhood' science program** is another achievement of which we are extremely proud. Since 2016 the *Little Bang Discovery Club* has been rolled out through the majority of public and community libraries in the state, using a train-the-trainer model whereby library staff are trained and equipped to deliver a highly engaging four-week program to families in their local communities. Along with excellent feedback from libraries and families, demand for this program is so strong that during 2018 we introduced the extension program, *Little Bang Discovery Plus*, to numerous communities. This too receives overwhelmingly positive feedback.

**We are active in regional areas of the state**, with grant programs targeting regional and remote communities. Since 2015 several regional 'science hubs' have been created, bringing together regional research, industry, education, governance and community organisations to work together to engage local communities in contemporary and relevant science and research. Between

them these collaborative ‘hubs’ have reached many thousands of people in regional areas of the state who would otherwise rarely participate in or contribute to science-related events.

**We continue to investigate innovative ways to tell the stories of science.** Another successful regional initiative has been the *Science and Arts Working Together* project, whereby science and arts organisations are invited to collaborate to tell local science stories through the arts. As a result four exciting projects completed in 2018 and another four in 2019, each demonstrating remarkable spin-off community engagement. All projects have involved collaborations between diverse scientific, cultural, community, education and indigenous organisations and groups, as well as individual scientists and artists.

**We are delighted with the uptake of our *Science at the Fringe* guide, developed in collaboration with the Adelaide Fringe.** During the 2018 and 2019 Fringe festivals we highlighted many science-themed shows and events for both adults and children, once again showcasing the fun and diversity of science.

**Our role is also to support live science events** and these have been numerous and diverse including lectures, forums, challenges, fairs, panels and

conferences, all engaging different audiences. A series of live events such as *The Tree of Life – A Night of Science* (2018), *Ocean Essence – A Night of Science* (2017) and *PechaKucha – A Night of Science* (2016) held at the SA Museum and featuring prominent scientists and science communicators have been very well-received indeed.

**Our communications with stakeholders, supporters and our various audiences** are partly managed through a website [www.inspiringsa.org.au](http://www.inspiringsa.org.au), social media and a regular eNewsletter. We share many science-related events and activities, research and discoveries, achievements and awards, grants and opportunities.

**While our funding partners provide invaluable guidance, we have also built strong relationships** with a range of industry, research, government and community stakeholders, some of whom are represented on our governance and advisory bodies. In addition to these however, we work closely with many other groups and organisations in delivery of our program such as: Children’s University (University of Adelaide); Libraries SA; Children’s Discovery Museum; Arid Recovery; NRM Boards and Water Sensitive SA. Through our various programs and projects we also often collaborate with local government, community arts organisations, education and research centres,

schools, societies and associations, industry and business organisations, professional and non-government science-based groups, as well as with individual scientists and artists.

**Inspiring South Australia has focussed on attracting less-engaged audiences** into science-related activity, events, learning and programs. We have an innovative approach and appreciate the enthusiasm of partner organisations in contributing expertise, advice and ideas. We regularly involve our partners in programs and events designed to inspire greater community interest and engagement with science. Together we are cultivating a community with growing access to and understanding of science from an early age, a community where whole families are becoming engaged in science related activities, a community where STEM skills are becoming recognised as essential for careers of the future, and a community where the work of our science professionals is increasingly valued and appreciated.

Above all, we are proud of the way our science engagement and science communication activity contributes to better-informed decision-making, to enriching the lives of all who participate, and to inspiring delight in discovery about the world we inhabit.



# Governance

*The Inspiring Australia – Science Engagement Program* is an initiative of the Commonwealth of Australia as represented by the Department of Industry, Innovation and Science. The program is implemented in each state and territory in collaborative arrangements with state institutions.

In South Australia the program is supported by the Government of South Australia, the University of Adelaide, the University of South Australia, Flinders University and the South Australian Museum.

Inspiring South Australia (ISA) has two primary levels of state-based governance.

**The ISA Steering Group** is chaired by the Chief Scientist for South Australia and comprises leading science and science communication personnel from key stakeholder organisations. This group has met three times each year to provide oversight, guidance and governance of the program. During program establishment in 2015 this group was formed with representatives from the funding partners. In 2016 the membership was revised to include key sector stakeholders.

During 2016 –2019 members included:

- > Prof. Caroline McMillen: Chief Scientist for South Australia
- > Dr Leanna Read: Former Chief Scientist for South Australia
- > Dr Bobby Cerini: Questacon and Inspiring Australia
- > Tamara Niznik: Questacon and Inspiring Australia
- > Dr Kristin Alford: MOD., University of South Australia
- > Dr Meera Verma: BioInnovations SA

- > Dr Susannah Eliot: Australian Science Media Centre
- > Bradley Abraham: Royal Institution of Australia
- > Assoc. Prof. Paul Willis: Media Engagement Services
- > Sarah Mortellaro: CSIRO
- > Heather Croall: Adelaide Fringe
- > Dr Matthew Chong: SA Department of Industry and Skills
- > Katrina Nitcshke: South Australian Museum
- > Dr Sheryn Pitman: Inspiring South Australia

**The ISA Working Group** is chaired by the Inspiring SA Program Manager and comprises representatives from key science, science communications and education organisations in the state including representatives from: University of Adelaide; University of South Australia; Flinders University; TAFE SA; RiAus; AusSMC; SA Department for Industry and Skills; SA Department for Environment and Water; National Science Week coordinating committee; Australian Institute of Policy and Science (AIPS); South Australian Health and Medical Research Institute (SAHMRI); South Australian Science Teachers Association (SASTA); South Australian Citizen Science Association (SACSA); Australian Science Communicators South Australia (ASCSA). This group has met quarterly to provide advice, support and to facilitate networks.

**The national *Inspiring Australia* network**, consisting of state-based Inspiring Australia managers as well as key stakeholders and service providers, meets both face-to-face and through regular teleconferences throughout each year.



# Science Engagement Priorities

## Summary of Science Engagement Priorities

Developed by the Inspiring South Australia Steering Group 2016–2018

The *Inspiring South Australia* Program will work towards the objectives of the national *Inspiring Australia* Strategy and its four specific outcomes:

- > A society that is inspired by and values scientific endeavour;
- > A society that attracts increasing national and international interest in its science;
- > A society that critically engages with key scientific issues; and
- > A society that encourages young people to pursue scientific studies and careers.

**A society that critically engages with, and is literate in, key scientific issues** is the priority for South Australia, and an outcome that will have influence across the other outcomes listed above.

To deliver on this priority outcome, three key principles will guide investment and oversight of activities aligned with *Inspiring South Australia*.

### 1. Personal Engagement with the Process of Science

Scientifically sound activities that illuminate the processes of discovery on topics that are personally challenging and relevant for the local context, delivered in a way that has impact for that audience.

### 2. Building Capability through Collaboration

Initiatives that build capability and collaboration in and across communities so that, as a state, we can deliver outstanding activities by optimising our existing strengths and resources.

### 3. Imagination and Innovation

Approaches and activities that are imaginative, innovative and allow for the exploration of new possibilities.

*Inspiring South Australia* will apply these principles as a lens to guide delivery of its program plan, including:

- > To support the operations of National Science Week;
- > To build upon existing and establish new regional hubs; and
- > To develop and coordinate a science engagement program of activity in the capital city and in the regional hubs that promotes a year-round “pathways” program.

# National Science Week

National Science Week is an annual celebration of science and takes place across Australia mainly during the month of August. It is Australia's largest national festival which aims to raise the profile and increase public awareness of the importance of science, technology and innovation in our society. It engages about 1.2 million people each year. In 2018 National Science Week celebrated its 21st birthday.

Community participation in National Science Week in South Australia has increased significantly in recent years with many new opportunities and events being offered by science, research and education organisations including our Universities. The new initiative Big Science Adelaide, which commenced in 2017, comprises more than 20 events throughout the CBD coordinated by our scientific and cultural institutions and sharing the latest research and

discoveries in all realms of science. The numerous activities coordinated by regional communities have attracted considerable audiences throughout the state, many of them new to science. In addition *Science Alive!*, SA's premier three-day science showcase for families and students, has continued to grow and now attracts record visitation.

The National Science Week Coordinating Committee, chaired by Rona Sakko, has a steady membership of 20-25 representing all major science and research institutions, education institutions, science communicators, government, national grant-winners, industry and individual science experts and enthusiasts. This group meets monthly to ensure national and state alignment, to manage the Community Grants Program, to arrange programming, to coordinate communications and promotions, to monitor feedback

and to ensure quality control. This committee also organises the Unsung Hero Awards for Science and Science Communication.

The official launch of National Science Week in SA has been incorporated, as of 2017, into the SA Science Excellence Awards Gala Dinner function convened by the Government of South Australia. In addition, the presentation of the Unsung Hero of Science and Science Communication Awards also now take place at this event. This has proved to be most successful in raising the profile of both National Science Week and the Unsung Hero Awards finalists and winners

In 2018 the Chief Scientist for South Australia was confirmed as the ongoing Patron of National Science Week, ensuring high level support for the National Science Week program.



Limestone Coast STEM Summit





# Regional Engagement

## Regional Science Hubs

Since 2015, nine regional 'science hubs' have been established, with four concluding at the end of 2017 as their funding contracts ended. At the end of 2018 five hubs remained including two new Hubs established during 2018. These hubs bring together regional research, industry, education, governance and community organisations to work together to engage local communities in contemporary and relevant science and research. Between them the hubs have reached many thousands of people in regional and remote areas of the state who would rarely participate in or contribute to science-related events.

The 'science hub' model for regional engagement has been revised into a model that better suits some South Australian geographic and demographic circumstances. A small grants program awards grants to regional organisations and groups for diverse community science engagement activities.

Regional participation in science-related activity and events has increased significantly during the Inspiring SA program. Communities have coordinated and participated in record numbers of events and activities, while engagement in National Science Week activity has also grown in regional areas as a consequence.

### **Kangaroo Island Regional Science Hub: 2017 – continuing**

- > Lead organisation: KI NRM Board
- > Partner organisations: Agriculture Kangaroo Island (AgKI); Kangaroo Island Community Education

(KICE); Kangaroo Island Industry & Brand Alliance; and the Pelican Lagoon Research and Wildlife Centre.

- > Affiliated organisations: Victor Harbor Dolphin Watch; Hanson Bay Wildlife Park; KI Land for Wildlife program; Dr Diego Garcia-Bellido (University of Adelaide with connections to a significant Cambrian fossil site at Emu Bay); Friends of Parks Cape Gantheaume; Dudley and Western Districts; KI Council; and Office of the Commissioner for Kangaroo Island.

### **Far North Regional Science Hub: 2016 – continuing**

- > Lead organisation: Arid Recovery
- > Partner organisations: Regional Development Australia Far North; Department of Education and Child Development/Department for Education; SA Arid Lands NRM; University of Adelaide; BHP; Arid Lands Botanic Garden; Roxby Downs Area School; Andamooka Primary School; Roxby Downs Council and Environment Forum.

### **Barossa and Light Regional Science Hub: 2018 – continuing**

- > Lead organisation: Light Regional Council
- > Partner organisations: Rural Directions; Natural Resource Management; Kapunda High School; Greenock Brewers – 'Science in the Brewery'; Jersey Fresh – 'Science in the Dairy'; Think Digital – 'Immersive Technologies' with Tim Gentle.

### **Adelaide Hills Science Hub: 2018 – continuing**

- > Lead Organisation: Sustainable Communities
- > Partner organisations: Bridgewater Primary School & Kindergarten; Burnside Council; Frogwatch SA; Fungimap, NRM Education/Natural Resources Adelaide Mount Lofty Ranges; Department for Environment & Water; St Catherine's Primary School; Natural Resource Centre Norton Summit; and the University of Adelaide.
- > Affiliated organisations: Adelaide Fungal Studies Group; Adelaide Hills Council (Positive Aging Centre and Torrens Valley Community Centre); Australian Citizen Science Association South Australia; Astrological Society of South Australia; Forestry SA; Friends of Mylor Hall; Friends of Scott Creek Conservation Park; Mount Pleasant Natural Resource Centre; Mylor Progress Association; Naturally Smart Coffee group; Bill Giles; Natural Resources SA Murray Darling Basin; Department for Environment & Water; Renew Uraidla; and Scott Creek Primary School.

### **Murray Mallee Regional Science Hub: 2015 – continuing**

- > Lead organisation: Natural Resources SA Murray-Darling Basin
- > Partner organisations: Renmark Paringa Council; Renmark Paringa Landcare; Primary Industry Centre for Science Education; Australian Landscape Trust; and Country Arts SA.





Adelaide Hills Hub: Fungi Day



Eyre & Western Regional Hub: Salt Marshes



Murray & Mallee Regional Hub: award presentation

#### **Fleurieu Regional Science Hub: 2015 – 2017**

- > Lead Organisation: Victor Harbor High School
- > Partner organisations: Victor Harbor High School; Flinders University; Department of Education and Child Development; Australian Science and Maths School; Alexandrina Council; Regional Development Australia; Department of State Development; Natural Resource Management Board

#### **Limestone Coast Regional Science Hub: 2015 – 2017**

- > Lead Organisation: Department of Education and Child Development
- > Partner organisations: Department of Education and Child Development, Mount Gambier City Council, Primary Industries and Regions SA, The University of Adelaide, Natural Resources South East.

- > Affiliated organisations: AusIndustry Regional Manager Southern SA; Department of State Development Regional Manager; Flinders University; South East Coast and Vines Education Partnership; Bluelake Education Partnership; Limestone Coast Economic Development Group; South East Local Government Association; Regional Development Australia; Wattle Range Council; Naracoorte & Lucindale Council

#### **Eyre & Western Regional Science Hub: 2015 – 2017**

- > Lead Organisation: Department of Education and Child Development
- > Partner organisations: Department of Education and Child Development, Natural Resources Management (Eyre Peninsula), Pt Lincoln Junior Primary, UniSA, EP Analysis, Pt Lincoln City Council, Whyalla High School, Edward John Eyre High School

#### **Mid North Regional Science Hub: 2015 – 2017**

- > Lead organisation: Department of Education and Child Development – Jamestown Community School
- > Partner organisations: Port Pirie Regional Council; Mid North Knowledge Partnership; Upper Spencer Gulf Common Purpose Group
- > Affiliated organisations: Flinders University; Regional Development Australia (Yorke and Mid North); Goyder's Line Sustainability Hub (members of this include the MNKP, Flinders University, UniSA, Adelaide University, Upper Spencer Gulf Common Purpose Group, AgExcellence Alliance, Northern and Yorke Regional Alliance, University College London); Pt Pirie GP Plus Teaching, Learning and Research Committee

# Regional Engagement

## Regional Small Grants Program 2018

During 2018 Inspiring SA developed a grant program that was open to regional community groups, organisations and businesses to help bring the celebration of science to an increasing number of South Australians. Grants were used to support the hosting of community events during National Science Week 2018 as well as year-round science engagement activities. Examples include:

### **The Nature Conservancy Australia: Windara Reef, Yorke Peninsula – How will the newly restored shellfish develop?**

This project has developed an illustrated conceptual diagram of the expected ecological succession changes of the reef as it develops from years 0–7. It is being transformed into an interactive animation where viewers will be able to slide a tab along a time scale and the image reflects the reef's key functional changes as it matures. The viewer clicks the animation and a pop up box displays the latest actual reef images, videos and statistics from the scientific monitoring program. The science behind the diagram is a collaboration between The Nature Conservancy Australia, The University of Adelaide, Dept. of Environment and Primary Industries and Regions SA. The aim is to influence community beliefs and knowledge about the sustainable and perpetual growth of restored shellfish reefs and associated biodiversity progression.

### **Fleurieu STEM Expo: Creating Sustainable Communities**

Students from Port Elliot Primary School, Victor Harbor R–7 School and Goolwa Primary School took part in a STEM expo competition with the theme 'sustainable communities' during National Science Week 2018. Over 130 students entered the competition, either with individual entries or as part of a class project. Students were encouraged to use design thinking to create solutions to environmental issues, and the entries were showcased at an afternoon public STEM expo at a local surf lifesaving club.

### **Children's University: Science Workshops across the Eyre Peninsula**

This program provided four interactive science workshops to children (and parents/caregivers) across the Eyre Peninsula, including: Amazing Astronomy workshops in Whyalla and Port Pirie; Mallee Fowl workshop at the Whyalla Public Library; and Animals Anonymous workshops. All activities were designed to raise awareness of opportunities in studying and embracing science, and had over 200 participants across the events.

### **Mount Gambier Library: STEAM into Science Week**

Mount Gambier library offered five free LittleBits electrical component sessions for the community throughout National Science Week 2018. LittleBits is a brand of magnetic, modular, colour coded electronic 'bits' that snap together in different orders to create

a range of small inventions, enabling young children to learn about electrical engineering. The program reached 130 children and 10 adults, with the reported 'best part' being when children had free time to use their new knowledge coupled with their imagination to design and build their own inventions.

### **Eyre Peninsula NRM Board: UneARTH Whyalla Fringe Festival**

Natural Resources Eyre Peninsula hosted a Pop-up Marine Discovery display and two 'Coast Creations' workshops at Whyalla's UneARTH Festival 30–31 March 2018. The festival event started in 2017 and continues to grow with more than 15,000 people attending the two-day festival in 2018. The Marine Discovery Display reached over 5000 people, with 120 participants in the Coast Creations workshops.

### **Eyre Peninsula NRM Board: Immerse yourself in a Marine Park – Community Guided Snorkels**

This is the fourth year that these snorkels have been run on the Eyre Peninsula with the aim being ocean advocacy through experience. The snorkels allow people to have a safe and supervised snorkel with a knowledgeable guide which enhances their learning experience. It opens up a whole new world to first time snorkelers, whilst others join in each year. People experience firsthand how amazing our marine environment and learn to identify species and the importance of the different habitat types seen throughout the snorkels.





Whyalla: UnEARTH Festival



Sorting waterbugs at the Riverland Bioblitz



Windara Reef: restoration vision for 7 years from now

# Inspiring South Australia from mid-2015 to mid-2019

## Infographic

*Inspiring South Australia* has many stories to tell about the impact of the program on the ways in which our communities have engaged with science over the past four years. Most of our stories tend to be qualitative and describe the ways in which communities have become involved. These may include coordinating and delivering activities and events, providing science or science communication expertise, participating as audiences or visitors, experiencing or learning, governing or guiding.

However, we also have some interesting numbers that tell the stories in a different way. It is worth reflecting on just how many individuals, groups and organisations have taken part in this four-year chapter of the South Australian program, once again in diverse ways.

Some numbers are just too difficult calculate. The number of volunteers and volunteer hours dedicated to the numerous activities and events is vast indeed, and these contributions have undoubtedly driven the program's achievements and successes.

 **national science week**



**OVER  
850  
EVENTS**

**OVER  
400,000**  
participants/audiences

**REGIONAL SCIENCE  
COLLABORATIONS**

**OVER  
100,000**  
participants/audiences



**SCIENCE & THE ARTS  
COLLABORATIONS**

**OVER  
40,000**  
participants/audiences





OTHER LIVE  
SCIENCE  
EVENTS

OVER  
**10,000**  
participants/audiences

PREMIERS READING  
CHALLENGE **STEM**

OVER  
**1500**  
students

PARTNERSHIPS



OVER  
**350**

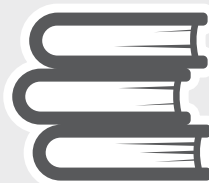
partnering groups and  
organisations

## SCIENCE FOR EARLY CHILDHOOD: **LITTLE BANG PROGRAM**



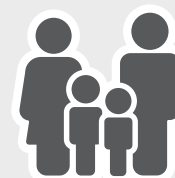
OVER  
**190**

librarians trained



OVER  
**100**

libraries equipped



OVER  
**30000**

children and family  
member participants

# Science for Early Childhood



## Little Bang Discovery Club

During 2016 Inspiring South Australia formed a partnership with Libraries SA and the Children's Discovery Museum. Together we have delivered our 'early childhood' science program, the *Little Bang Discovery Club*, to over 90 public and community libraries across the state. Through a train-the-trainer model, more than 150 library staff have been trained and equipped to offer the program to their local communities.

*Little Bang Discovery Club* is a highly engaging four-week program for children aged from 3–6 and their adult collaborators (parent, grandparent, carer, guardian). Through a series of experiences and activities using everyday objects, children learn the basics of science such as collecting, classifying, measuring and experimenting. Each week the children take home a Discovery Box to continue their investigations. In the final week, children take part in a mini Science Fair, showcasing and sharing their new discoveries.

Demand for this program has been so strong that during 2018 we introduced the extension program, *Little Bang Discovery Plus*, for libraries that had run the original program a number of times. The *Plus* program builds on the skills and knowledge already developed by children and families. *Little Bang Discovery Plus* training has, to date, been delivered to 39 librarians from 21 libraries.

The feedback from both libraries and participating families has been excellent. As both programs continue to extend their reach into our regional and metropolitan communities, increasing numbers of young children are delighting in their discoveries about the world they live in.

South Australia is the only state to roll out this program on a state-wide basis and the impact is extraordinary.

## Finding our way with STEM through Creativity and Discovery

In 2018, Inspiring SA partnered with the Children's Discovery Museum and Libraries SA to present a professional development forum for library staff, early childhood educators, practitioners and students. This forum explored questions about early childhood, learning and play. It looked at how libraries and early learning centres can better bring together the sciences and the arts, literacy and creativity to enhance understanding of and engagement with the world we live in.

### Library feedback

*'We had a hugely successful Little Bang Discovery Club last term at the Cummins Library; we are running another one this term, and have a waiting list of people wanting to join! It's pretty amazing for a small community like ours, and we are so happy about not just the interest in Little Bang, but the great conversations that are now taking place and being promoted within our younger patrons. Many, many thanks for making this opportunity available! It really is such a fantastic program.'*

**Program Facilitator, Cummins Library**



LBDC: young families participating



LBDC: training with librarians



# Science for Early Childhood

## Where we have delivered

The *Little Bang Discovery Club* and the follow-up extension program, *Little Bang Discovery Plus*, have been made available to thousands of young children and their families across South Australia.

Over 150 librarians in 90 libraries have been trained and equipped to deliver the original program with another 39 librarians from 22 libraries trained and equipped to deliver the extension program.

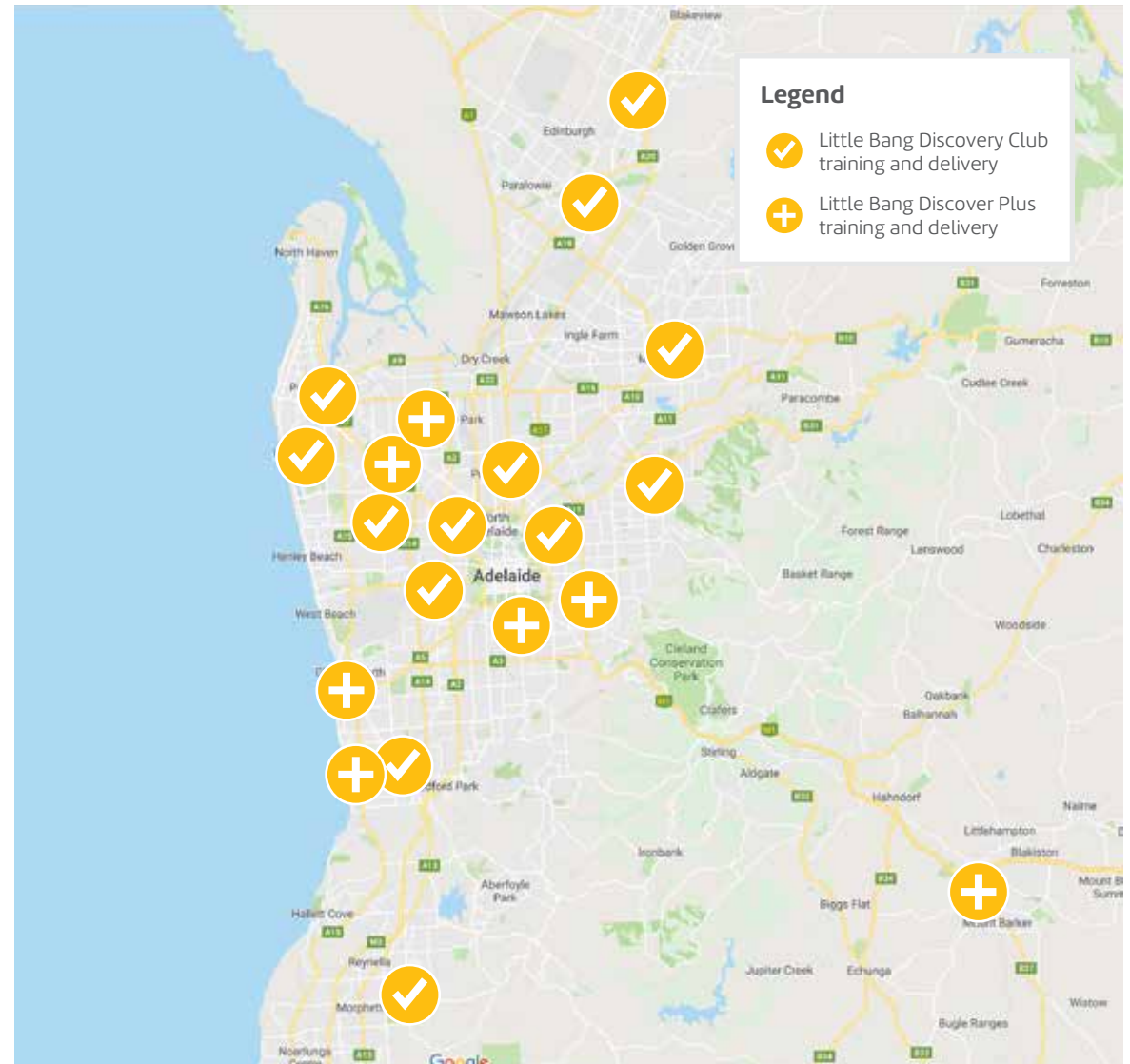
Family feedback indicates that the program is very well received by children and adults alike, and that it continues to deliver highly successful science engagement for early childhood audiences.

Family feedback on this program can be found on the back cover of this document.

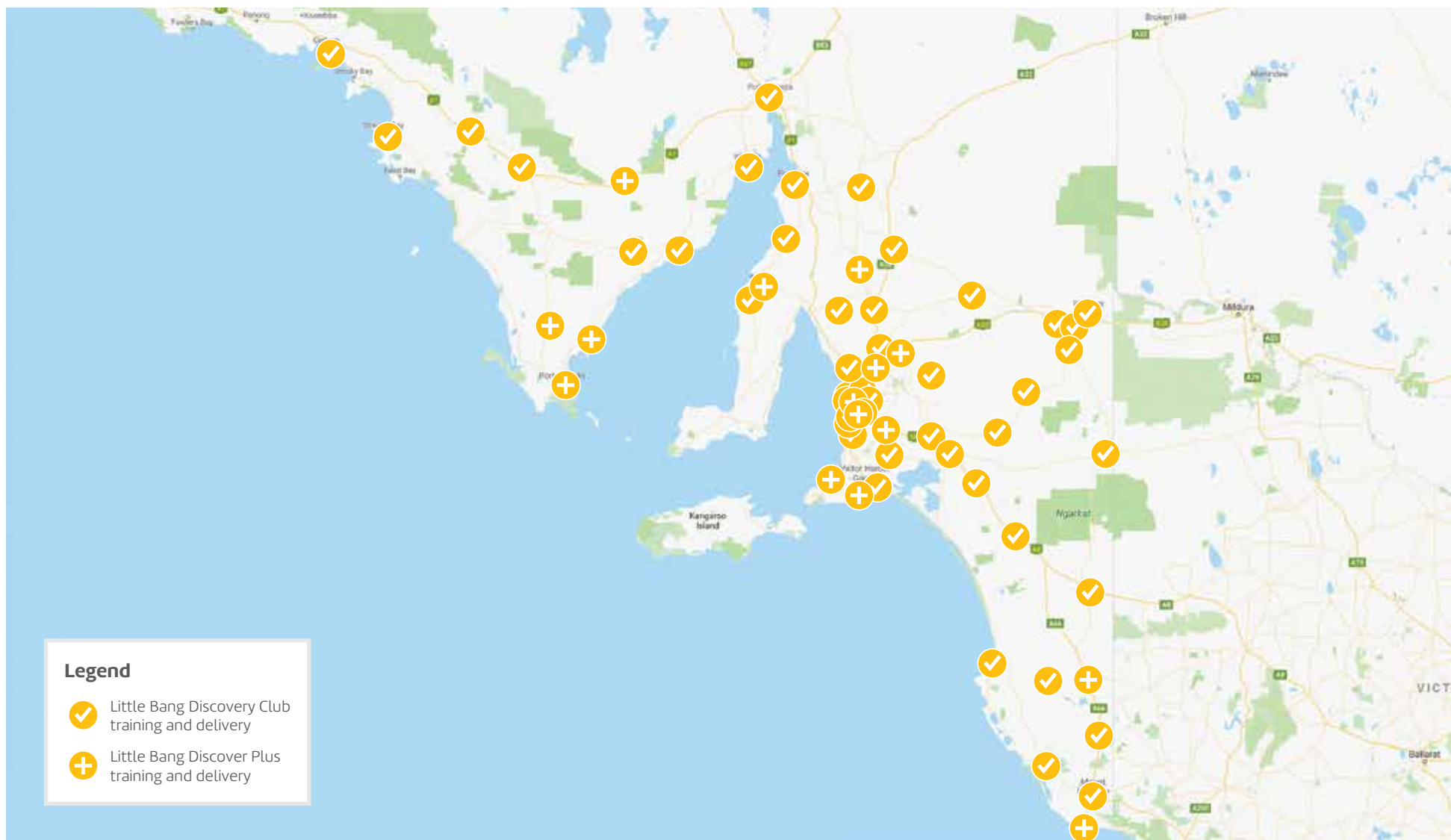
## Library feedback

*'When we got into the experiments the kids absolutely loved trying out all the different things I had set up for them ... I found the program fantastic. It got the kids to think, interact and use their imaginations.'*

**Program Facilitator, Noarlunga Library**







# Science and the Arts

There are many wonderful stories to be told about the scientific research and discoveries in our own backyard. Science-based research and discovery can often be unrecognised, uncelebrated and invisible to local communities.

Inspiring South Australia is enthusiastic about finding innovative ways to tell the stories of science. One highly successful initiative has been the **Science and Arts Working Together** project, whereby science and arts organisations in regional areas are invited to collaborate to tell local science stories through the arts.

In addition we initiated the **Perform your Science** project for early career researchers to tell their research stories in collaboration with a range of artists and through various art forms in a live theatrical setting. From the life-cycle of a parasitic, caterpillar-munching wasp, to an emotional exploration of how humans deal with ageing and frailty, *Perform your Science* brought to life ground-breaking, scientific research in exciting and innovative ways. This experimental project was well-received by scientists, performers and the audience, and resulted in the creation of valuable networks.

We are also proud of our **Science at the Fringe** guide in which, in collaboration with the Adelaide Fringe, we highlighted and promoted science-themed shows and events for both adults and children. This guide was available online and promoted through both organisations to bring science to new audiences in different ways.

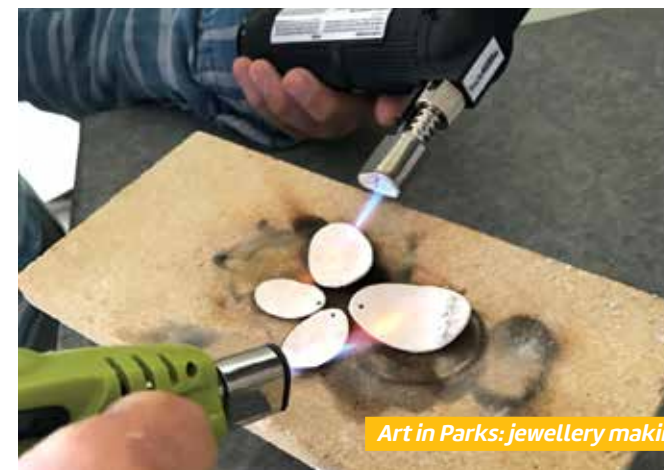
## Regional Science – Arts Collaboration Grants program

This program was designed to assist the sciences and arts in coming together to tell our stories to our people. Four projects were funded in 2017 and another four in 2018.

### 2017 Murray and Mallee Region

**Art in Parks:** Led by Natural Resources Management SA Murray-Darling Basin in partnership with Conservation Volunteers Australia, University of Adelaide, Bio-R, Birds SA, Goolwa to Wellington LAP, Native Orchid Society of South Australia

*Art in Parks was a series of six half-day workshops designed to showcase our local conservation parks through a variety of art and science classes. Each workshop included the scientific information required to effectively manage the park's biodiversity, as well as an art class which was specifically linked to that particular park's importance to our local plants and animals.*



**Art in Parks: jewellery making**



## 2017 Far North Region

**Go Wild:** Led by Arid Recovery in partnership with The Roxby Downs Art and Culture Forum, Travis Hague – Lonely Oak Films and Imaging, Minyma Talk, Emma Cochrane – Cactus Flights, McGregor’s leathercrafts, Rachel Young – Desert Box, The RoxbyLink Art Gallery.

*Go Wild forged a connection between sciences and arts within a remote community. In a series of four workshops, the local community explored the fauna, flora and landscape of Roxby Downs through photography, paintings and leatherwork. The project culminated in an exhibition at RoxbyLink Art Gallery. The project was extremely popular, leading to more workshops in the future.*



**Fossil Tour: Flinders Ranges**



**Primary School students with their megafauna artworks**

## 2017 Eyre Peninsula Region

**Impressions on the Nature of Eyre Peninsula:** Led by Port Lincoln Arts Council in partnership with The Port Lincoln Camera Club, Natural Resources Eyre Peninsula, Karen Carr – artist.

*Impressions on the Nature of Eyre Peninsula explored the natural history of the land with school groups and the broader community. An Artist-in-Schools project saw primary school students learn about dinosaur ants. Described as a ‘living fossil’, dinosaur ants are the most primitive ant alive today. Students created sculptures of the dinosaur ant using recycled material such as mobile phones, and exhibited their works at Coffin Bay.*

*The broader community were involved through a photographic competition. Budding photographers were challenged to capture the macro-world of invertebrates and the natural history of the Eyre Peninsula. Four winning photos were displayed at an exhibition in the Port Lincoln Library. The Nature of Eyre Peninsula culminated in a conference at Coffin Bay, featuring both the dinosaur ant sculptures and winning photos.*

## 2017 Limestone Coast Region

### **Naracoorte Caves – World Heritage on our doorstep:**

Led by Naracoorte Lucindale Council in partnership with Heaps Good Productions, Dr Liz Reed (University of Adelaide), Steve Bourne, Professor Rod Wells, visual artist Karen Burrow, Deborah Kloeden, Marj Haynes, Naracoorte Regional Art Gallery, Naracoorte High School, Naracoorte Caves National Park, Flinders University, CFS.

*The story of South Australia’s only World Heritage listed site was told through Naracoorte Caves – World Heritage on our doorstep. The local community explored the science of the caves through workshops, exhibitions and live performances. A visual arts workshop saw primary school students produce artworks depicting the Caves’ story of mega fauna, fossils, past environments and extinction. The completed works were displayed at the Naracoorte Regional Art Gallery. The story of the Caves was also told through a community-driven live performance. ‘Footsteps around the campfire’ brought together high school students to share the unique prehistoric part of the Naracoorte community.*



**Dinosaur Ant: sculptures made from recycled materials**



# Science and the Arts

## 2018 Limestone Coast & Fleurieu Region

**Out of the Blue:** Led by Niki Sperou – Artist-in-Residence Dept. of Medical Biotechnology Flinders University in partnership with Professor Wei Zhang (Flinders University) and the Centre for Marine Bioproducts Development (CMBD), Linda Cooper – STEM Ambassador, Alexandrina Council, Riddoch Art Galleries – Mt Gambier, The State Herbarium of South Australia, Victor Harbor primary School, Allendale East Primary School, Glenburnie Primary School.

*This project focussed on the production of artwork and critical thinking toward marine algae from South Eastern Australia from the perspectives of*

*environmental science, scientific research and technological innovation.*

*The project used seaweed collected at Beachport in workshops at several Limestone Coast schools to produce cyanotype handmade photographic prints (the process also used to produce blueprints) onto fabric, coupled with creative writing of novel stories and future scenarios for seaweed. The images and creative writing produced by Year 6 and Year 7 students from Victor Harbor Primary School, Allendale East Area School and Glenburnie Primary School, with input from Flinders Biotechnology scientists, were stitched together as a series of collaborative storytelling 'quilts' and exhibited at regional art galleries'*



**Limestone Coast schools: seaweed storytelling quilt**



**Under the Surface: Port Lincoln Jetty**

## 2018 Eyre Peninsula Region

**Under the Surface:** Led by Southern Eyre Arts Inc. in partnership with Kirsten Rough – Research Scientist ASBTIA, Dr Shelley Paull – Marine Parks Coordinator, Port Lincoln High School, Port Lincoln City Council, Missing Link Media, Vanessa Forsyth – Project Coordination.

*The project inspired a collaboration between art and science to showcase life beneath the waves under the Port Lincoln Jetty. The town jetty has a large swimming enclosure installed which has created its own safe habitat for sea creatures under the surface. The project facilitated artists and scientists to work together to explore the world under the Jetty through preparatory workshops. The artists then created their stories in an exhibition exhibited throughout SALT Festival April 19 – 28 2019.*

*The project built on the strong connections between art and science featured throughout the SALT Festival and delivered an innovative way to engage a large-scale audience in understanding and action around science and the environment.*

## 2018 Fleurieu Peninsula Region

**Ageing, frailty and the stories we tell:** Led by Dr. Mandy Archibald – National Health and Medical Research Council (NHMRC) Funded Centre for Research Excellence In Frailty and Healthy Ageing, College of Nursing and Health Sciences, Flinders University in partnership with CRE Investigators, Club Fleurieu – Yankalilla, COTA South Australia, Potential Kinetics – Theatre Company, John Blines – Artist in Residence with the Frailty CRE (2016–2019), Amber Cronin – Artist in Residence with the Frailty CRE at Southern Cross Care (SCC), Praxis ArtSpace.



**Beyond Measure: Opening Night at praxis ARTSPACE**

*The project explored the meanings that people attribute to the concept of frailty, the fears and stigmas surrounding aging, and the meanings that older persons attribute to the objects in their lives. This was a multi-armed project building upon previous scientific and arts-based work in frailty and healthy aging, and involving interdisciplinary art praxis and multiple community level deliverables in regional SA as well as Adelaide. The scientific basis for this work was derived from Dr. Archibald's research in the Centre for Research Excellence in Frailty and Healthy Aging, and strategically leverages previous Inspiring SA supported work to maximize impact of the arts-science across stakeholder groups. This project included performances and an interdisciplinary exhibition.*

## 2018 Murray and Mallee Region

**Ngarrindjeri Seasonal Calendar:** Led by Zoos SA – Monarto Zoo in partnership with Ngarrindjeri Regional Authority, Bureau of Meteorology, Tal-kin-Jeri dance group

*The project focuses on communicating Traditional Ecological Knowledge (TEK), in this case seasonal indicators that can be observed in nature, through an engaging calendar graphic and mural featuring photography and artwork, and through Aboriginal ceremony.*

*The project has brought together a number of organisations and individuals to discuss Ngarrindjeri ecological knowledge and how it could be represented in a calendar wheel, mural and ceremony. The Zoos SA Aboriginal learning on Country Team has facilitated meetings with the Bureau of Meteorology, Ngarrindjeri representatives to discuss elements of the project and discuss calendar content. The ALOC team travelled in*

*early November to the Coorong on a cultural tour and to take photos that may be used in the calendar wheel.*

*Zoos SA has been successful at leveraging the Inspiring SA grant to gain further funding for this project from Country Arts SA, the Rural City Council of Murray Bridge and Zoos SA Volunteer Grants. This project is providing an avenue for our team and Monarto Zoo volunteers to collaborate on a project together, increasing the engagement of the wider zoo community in the project.*



**Ngarrindjeri representatives discuss Seasonal Calendar project**





# Public Science Engagement

## Live Science

Inspiring South Australia has facilitated and supported numerous and diverse live science events, challenges, lectures, forums, conferences and has contributed to the advancement of science communication.

While some of the events we support are through sponsorships, grants, marketing and promotions, we also coordinate special events that seek to engage new audiences with early career researchers as well as with our leading scientists and science communicators.

For example each year Inspiring South Australia has collaborated with the South Australian Museum to coordinate a special event in celebration of National Biodiversity Month in September. In 2016 we experimented with the Japanese PechaKucha concise presentation format of 20 images x 20 seconds each. This event, *PechaKucha – A Night of Science* featured prominent scientists and science communicators from our University partners and was very well-received by a capacity audience. In 2017 we changed the format a little for *Ocean Essence – A Night of Science* and again in 2018 for *The Tree of Life – A Night of Science*. Each live event attracted a capacity audience with excellent feedback.

Examples of other live science programs and events to which Inspiring South Australia has contributed include: Science and Engineering Challenge; Science Alive!; Australian French Entrepreneurship Challenge; Maker Faires; NRM Science Conference; Australian Citizen Science Conference (CitSciOz18); Australian Science Communicators national conference 2018; Tall Poppy Campaign (AIPS); Women in STEM Careers; and the SA Regional Science Hub Leadership Forum.

## Premier's Reading Challenge STEM

Inspiring South Australia has formed a partnership with the Government of South Australia's Premier's Reading Challenge program to establish the STEM Reading and Design Challenge. This program encourages children of all ages to discover science through reading. Students are challenged to read a STEM-themed book and then complete an activity, with a variety of prizes being awarded in each age category. Numbers of students and schools participating in the STEM challenge have increased each year, with over 750 students from 30 schools taking part in 2018.

## Opportunities for SA Scientists

Inspiring South Australia has compiled a comprehensive list of STEM research, teaching and communication awards. The aim of the awards list is to enhance public recognition of South Australian STEM-practitioners by increasing the awareness of awards available and encouraging nomination. In addition a database of SA Awards winners has been developed and is available on the Inspiring SA website.

A state-wide survey of South Australia's science and research community was conducted by Inspiring South Australia in collaboration with the Government of South Australia in order to identify ways to increase the number of South Australian scientists applying or nominating for major science-related awards, and to assess current levels of public engagement by South Australian scientists. This report is also available on the Inspiring SA website.



# Communications

## Website

Inspiring South Australia has established and manages a website to promote science events, National Science Week grants and activities, significant science and science communication awards and South Australian awardees, and a regularly updated news page where stories and updates about science in South Australia are posted. The site is visited by about 900 people a month. As Inspiring SA has become better recognised within the wider community, the website traffic has steadily increased, with 40% more website visits in the month of August 2018 compared with August 2017.

## Social Media

Inspiring South Australia has a presence on Facebook (530 followers) and Twitter (1150 followers). These platforms are used to share information about science events, grants, news and research stories taking place in South Australia. Currently, per month, Facebook posts reach over 1200 people, and have a total of around 300 engagements (likes, comments and shares of posts).

## eNewsletter

A newsletter database of over 700 subscribers is maintained by Inspiring SA, with this number growing substantially each time an Inspiring SA led event is held. Emailed newsletters are sent every few weeks, populated with highlights of blog posts, research stories, grants, news and events.

## Traditional Media

Inspiring South Australia projects have been featured in traditional media on numerous occasions especially in regional areas where local communities are engaged in activities supported by Inspiring SA grants. In addition several feature articles have been published in metropolitan daily newspapers.

## Science at the Fringe guide

Hosted on both the Adelaide Fringe and ISA websites, this guide featured science-themed shows for adults and children during the 2018 and 2019 Adelaide Fringe festivals.



**Feedback from families on our Science for Early Childhood program** – “Siblings were very envious of the ‘special science club’ just for ‘little kids.’” “My son was so excited to come to the library each week”. “She loved it! It was wonderful to have the box to continue exploring at home”. “Excellent resource, good combination of applied and theory for this age group, great facilitation”. “After every session he would always ask questions about things they had discussed”. “She loved it and constantly asked when it was on next”. “It helped fuel an already very curious mind”. “My son is much more aware, constantly referring back to something he learned”. “The children loved being involved, they loved receiving ‘homework’ and presenting what they found. We absolutely enjoyed it”. “We shared most of what we learnt and experienced with our family and extended family”. “Really enjoyed every session, kept entertained the whole time and learnt a lot”. “I now have the ideas and confidence to do science activities at home with my kids”. “My child loves it and has started applying scientific thinking to everyday life”. “He has decided he will be a scientist when he grows up”. “Daddy and daughter had so much fun doing the experiments at home together”. “This program really captured my child’s attention and she in turn captured her siblings’ attention through sharing throughout the 4 weeks”. “It was great to focus on science around the house – participating helped bring our attention to things!”. “At home every member of the family participated”. “It was fun, interesting and an excellent way to introduce the kids to science”. “I love how happy he is with science and we can do it at home even though he is only 3”. “She couldn’t wait to get to each session and talked about it during the week”. “Our little boy now says he is a scientist”. “We have to do more of this! Fantastic program!”.