



# National Grant Recipients Announced for 2019

*National Office*

Congratulations to all of the successful recipients in the 2019 National Science Week grant round. A total of \$723 000 has been awarded to 53 projects.

Can you get a decent cup of coffee in space? What makes a cell turn into cancer? Why are Port Adelaide's dolphins special?

National Science Week grant projects will explore the far reaches of the universe through a travelling observatory, an art exhibition, virtual reality and a multimedia experience of gravitational waves. Sustainability will be a focus for Perth's suburbs, the Indigenous knowledge of Tasmania's midlands will be shared and celebrated, and Rob and Dean from the Curiosity Show will team up with the Victorian Youth Symphony Orchestra.

The projects are listed below in the state or territory where the lead applicant is located.

[ACT](#) | [NSW](#) | [NT](#) | [QLD](#) | [SA](#) | [TAS](#) | [VIC](#) | [WA](#)

## **Australian Capital Territory**

### **The Great Aussie BioQuest 2019**

*KR Consultancy*

Ready to join thousands of players across Australia in a team-based, outdoor game that will help protect our environment? The Great Aussie Bioquest 2019 is an annual competition – played via your smartphone – that gets players outdoors to collect and/or help curate sightings of real wildlife.

Players sign into the free QuestaGame app and then join a science hub 'team' of their choosing. Players submit sightings of wildlife, which they can identify themselves, or wait for an expert to identify. They can also identify the sightings of other players. All sightings are expert-verified and given a remarkability score. Results appear live on the website, displaying the latest finds, as well as the rankings of each science hub team and the top individual players. Prizes are awarded for highest scores in sightings and identifications, as well as active participation. The expert-verified biodiversity data, meanwhile, is shared with the Atlas of Living Australia to help researchers make better decisions about protecting the environment.

### **The Universe in 4 Dimensions – an astronomy/arts collaborative**

*Australian National University*

Astronomers and artists are taking a four-dimensional trip through space and time. ASTRO 3D astronomers, who research the Universe from soon after the Big Bang to the present-day, will work with dance artists Liz Lea and Eric Avery, photographer Jen Brown, and animator James Josephides. They'll create an arts/science performance exploring the key concepts of ASTRO 3D research, including the origin of the Ionised Universe and of the Periodic Table. The aim is to place the human body in space while seeking connections with cultural histories including the Dreamtime and recent discoveries being made by astronomers.

### **Wait Wait... Save our Species!**

*Dr Holly Vuong*

Wait Wait... Save Our Species! takes the hit US news-based radio quiz comedy show Wait Wait... Don't Tell Me! to a live event format in Australia with a focus on biodiversity. Prominent and obscure biodiversity and conservation news stories will be dissected and discussed. Audience members will join the host, expert panellists, a scorekeeper, and a science celebrity guest for jokes, limericks, and fun. This initiative brings laughter and learning together to help save our species.

### **The Science of Star Wars and Sex in Space at GAMMA.CON**

*GAMMA.CON Society*

Science performer extraordinaire David Cannell will be in the GAMMA.CON 2019 program wowing audiences with shows to amaze and engage all ages. The Science of Star Wars explores the science shown in the films and how they compare to reality, he takes a look at what evolution may be like in the Star Wars universe and gives theory on how a lightsaber may be built. Then during GAMMA@Night David explores the very probing question of Sex in Space: Has anyone ever had sex in space? Is it even possible? What about in free fall? David explores the physics, biology and Hollywood depictions of Sex in Space with an open mind a good dash of humour.

### **New South Wales**

#### **The Indigenous Science Experience @ Redfern**

*Macquarie University*

What can Aboriginal astronomy tell us about the night sky? How is our native flora used in bush medicine and soap making? How do Indigenous Australians make axes from stone and other artefacts? What can we learn about sustainable living from 60 000+ years of Indigenous culture?

The Indigenous Science Experience @ Redfern is a celebration of Indigenous and Western science, and Indigenous youth and Elder achievements. Part of the Sydney Science Festival and National Science Week, the four-day event at the Redfern Community Centre will demonstrate the value of traditional and contemporary Indigenous knowledge in science and technology, and the relevance of science to our everyday lives. Indigenous students from National Indigenous Science Education Program (NISEP) partner schools will assist in demonstrating activities.

#### **Science in the Wild – Dinosaurs vs Superpowers**

*Royal Botanic Gardens and Domain Trust*

Batman, Spiderman, Wonder Woman, and Cat Woman have their own sets of superpowers. How do they compare with those of nature's superheroes in our own backyards? Super sight, super hearing, super strength and camouflage are just some of the superpowers in nature.

Science in the Wild is a free, outdoor family and community event at The Australian Botanic Garden Mount Annan. Join into the activities the scientists have prepped for you and find out about those amazing superpowers.

The incredible roving dinosaur will be coming back as well and show you a bit of pre-historic fauna.

### **The Innovation Games**

*Sydney Olympic Park Authority*

Can you kick the physics out of a footy? How fast can you run in a sprint test? How far can you throw a spear? Or a boomerang? How much energy can you generate on a skate ramp?

The Innovation Games is a free family fun day full of sporting, science and technology action at the town centre of Sydney Olympic Park.

Activities include drone simulators, virtual reality gaming, a scooter and skate challenge, BYO-device augmented reality treasure hunt, Australian wildlife shows, sports and fitness challenges, wellbeing talks, participatory Indigenous art, chemistry shows, films, and social media live streaming throughout the day. The event brings science to sports fans attending the AFL game at Spotless Stadium.

### **Super Science Weekend**

*Australian Museum Trust*

The Australian Museum presents Super Science Weekend, two days of interactive fun for families featuring Sydney's largest science expo, science shows, roving scientists, Australian wildlife shows, and hands-on workshops exploring the latest in scientific research and discovery.

### **Science in the Swamp – Dinosaurs vs Superpowers**

*Centennial Park Trust*

Carpe diem: seize the day and meet the Fish Whisperer's carp and turtles, try daytime astronomy, ID a frog, and meet the rock stars of the NSW Geological Society. Science in the Swamp returns to Centennial Parklands for a free, outdoor family and community event celebrating science and providing a range of diverse and exciting hands-on science activities accessible for all ages.

Science in the Swamp is a partnership between Centennial Parklands and a series of science exhibition providers.

### **Riverina Science Festival**

*Wagga Wagga City Council*

Chemistry in the kitchen, Indigenous science, gaming technologies, and FUTURE WORLD are just some of the activities planned across Wagga Wagga for the Riverina Science Festival.

This week-long festival includes many interactive science-based programs spread across a number of venues for all age groups. The highlight in 2019 will be FUTURE WORLD where creative industries intersect with science: the science of gaming, data visualisation for agriculture, technology and entrepreneurship, virtual reality; and the role of science edutainment. The National Indigenous Science Education Program (NISEP) community day embraces both modern chemistry and ancient Indigenous science of stone tools and weaving. Kitchen Science Storytime and the levee environmental walk will complete the week of activities.

### **Sea Skills: Ocean navigation, safety & survival**

*Australian National Maritime Museum*

What can Indigenous science and navigation and Western wayfinding teach us about survival at sea? This National Science Week program coincides with and complements the Australian National Maritime Museum's winter exhibitions Elysium Arctic and Bligh: Hero or Villain? with a series of events on maritime science, skills and safety in ocean exploration.

The museum will partner with Tribal Warrior to deliver the science of Traditional and Western navigation through interpretive on-water events, maritime skills and safety learning programs. Explorer Justin Jones will present a public lecture and workshop on the science and survival skills needed in his epic crossing of the Tasman in a kayak. Other activities will focus on the science in sea skills, astronomy, marine technology, mathematics and safety.

### **Patterson Allyn Williams Festival of Science Stuff**

*Dungog Information & Neighbourhood Service*

A day of science in a paddock with farm robotics, ecological walks and talks, and a look at local farm inventions. Drone challenges, planting with drones, a look at future farming, and a science film night at the historic James Theatre. Guerrilla science in the street, and the science of fermentation and a science trivia night at the Tinshed Brewery.

These are all part of the Paterson Allyn Williams Festival of Science Stuff—a lively four-day array of demonstrations, lectures, discussions, happenings and shows across multiple venues that will bring science to life that's relevant to both locals and visitors.

## **Northern Territory**

### **desertSMART EcoFair**

*Arid Lands Environment Centre*

*Gardening Australia's* Costa Georgiadis, and the *War on Waste's* Craig Reucassel and a host of other activities will descend on Alice Springs for the desertSMART EcoFair, Central Australia's premiere science and sustainability event.

In 2019 the event will feature keynote science communicators, desert scientists, Indigenous educators, renewable energy professionals and health experts in a series of community events

encouraging discussions about science and sustainability. The program also includes an ABC Radio outside broadcast featuring the Great Science Quiz, documentary screenings from the Transitions Film Festival, and the Eco-Science Schools Day for local students.

### **HealthLAB: Science on Wheels**

*Menzies School of Health Research*

What does the world look like through ‘beer goggles’ when you’re stone cold sober? How good is your health? And how do your lifestyle choices affect the health of your body? HealthLAB is a health education clinic on wheels—offering an interactive science education experience that helps people answer these questions. Participants assess their own health in a pop-up laboratory, learn about healthy lifestyle choices, and find out about careers in health science-related fields.

During National Science Week 2019, HealthLAB will travel to popular locations around Darwin and to the remote Milingimbi community in North East Arnhem Land to work with trainee Aboriginal Health Practitioners on country. The people they visit will see ultrasounds of their heart and kidneys, hear their heart beating, see how the heart changes after exercise, and try on ‘alcohol goggles’ that mimic raised blood alcohol levels. Interactive displays and demonstrations will cover topics of preconception health, nutrition, the amount of sugar in soft drinks, poisons in cigarettes and other health topics.

## **Queensland**

### **Brisbane Science Festival**

*Steven Liddell*

Smoke cannons, liquid nitrogen, flame tests, explosions, and cool chemistry experiments are headed for Brisbane central. Brisbane Science Festival will bring science to life using a range of interactive activities, guest presentations, and captivating science demonstrations to show the relevance of science in everyday life. Produced and presented by Street Science, these engaging and interactive hands-on activities are designed to spark and encourage interest in the sciences. Through partnerships with government, universities, research organisations, leading Queensland businesses and science institutes, this festival will allow audiences of all ages to engage with science and scientists like never before.

### **Coral Reefs – Immerse, Learn and Act**

*University of Queensland*

Reefs are in trouble worldwide, and the Great Barrier Reef has lost half of its coral cover since 1985. People are often unaware of both the magnitude of this problem and what they can do to help save reefs from afar.

CoralWatch, a global citizen science program based at The University of Queensland, will visit several regional Queensland coastal communities, presenting the latest reef science, creating reef awareness and providing suggestions on how they can help through presentations, displays, outdoor field science activities, and workshops. Virtual reality will provide a realistic reef experience, connecting participants with the reef sometimes hundreds of kilometres away.

## **City Libraries Science Spectacular**

*Gold Coast City Council*

Meet scientists, do science and play with new technologies—all at your local library. Science Spectacular will be a week-long program of free, hands-on science, engineering and technology workshops and events, held across City of Gold Coast Libraries during National Science Week. Science Spectacular will provide opportunities for the wider Gold Coast community to engage in interactive science and technology workshops, experience emerging technologies, and learn about cutting-edge scientific research. Science Spectacular programs will engage the community with guest speakers and science educators through a combination of exhibitions, workshops, presentations, and immersive activities. The event will include two Luminary Lectures featuring high-profile scientists or innovators.

## **Makings of a Malignancy: The journey of a cancer cell**

*Dr Kenneth Dutton-Regester*

Have you wondered what cancer is, how it develops, and why some cancers are curable while others are not? *Makings of a Malignancy: The journey of a cancer cell* is an immersive experience to see the journey of a cancer cell first-hand. As the world's first cancer-themed escape room, participants have to solve a series of puzzles based on the underlying principles of cancer biology. Participants will take part in an engaging physical experience, learning about the complexities of cancer while breaking down misconceptions surrounding the disease.

## **National Science Week at The Tanks: Science goes troppo!**

*James Cook University*

Meet the scientists researching hot topics in Australia's tropics at the Tanks Arts Centre in the Cairns Botanical Gardens. National Science Week at the Tanks: Science Goes Troppo! will feature a PechaKucha Night, where local scientists will share their research in a fast-paced, engaging and entertaining format. The PechaKucha presentation style is short, sharp and snappy with each presenter telling their science story with 20 slides shown for 20 seconds each. This event will bring together scientists, musicians and the community to explore and celebrate science in the Tropics.

## **South Australia**

### **SCINEMA International Science Film Festival Community Screenings**

*The Royal Institution of Australia*

SCINEMA International Science Film Festival 2019 showcases a selection of science features, shorts, documentaries, animated and experimental films from filmmakers around the world.

In early 2019, the hunt for the best science on screen began, with filmmakers submitting their films. After a judging process in autumn, the selection of finalists premieres in major cities across Australia.

SCINEMA culminates in a Community Screening Program during National Science Week, where schools, councils and community groups anywhere—from a school gym in Geraldton

to a library in Lismore—can register to host their own free screening of a curated SCINEMA film playlist.

### **Kids Navigate Neuroscience**

*University of Adelaide*

Why doesn't food taste as good when we have a cold? How do neurons communicate? What does the brain look like up close? In this fun and interactive children's event, kids aged 6 to 11 will explore how the brain and nervous system work by participating in a series of neuroscience exhibits, created by faculty and students at the Adelaide Medical School at the University of Adelaide.

Examine how information moves between neurons by playing a game of Synaptic Ping Pong, build layers (meninges) around an egg to see what types of protection are best for the brain, explore how optical illusions work, look at human brains up close, and more. At each station, children can collect a stamp in their 'Passport to the Brain', and work towards earning an official 'Brain in Training' certificate. At the end of the event, all children will come together to compete in a quiz for prizes.

### **Southern Cross Outreach Observatory Project**

*Muhammad Hussain*

An observatory on wheels will head to regional South Australia in August.

Southern Cross Outreach Observatory Project is a mobile astronomical observatory taking science engagement to regional communities. This mobile observatory is designed to travel far and wide, and is equipped with computerised telescopes for solar viewing and night-time astronomy.

### **The Port Adelaide Dolphins**

*History Trust of South Australia*

Meet Port Adelaide's local dolphins and a man who knows all about them and is on a mission to save them. Chair of the Adelaide Dolphin Sanctuary Dr Mike Bossley will deliver a special presentation about dolphins and the history and purpose of the Adelaide Dolphin Sanctuary where he will draw upon his 25 years' experience in studying the wild dolphin population in the area. In 2005, Bossley's ongoing study of dolphins in Adelaide's Port River estuary was the basis for the SA Government declaring the area a dolphin sanctuary.

The presentation is free to the general public. In addition the South Australian Maritime Museum will offer special dolphin search cruises in National Science Week 2019.

### **Clare Valley Science Spectacular**

*Clare & Gilbert Valleys Council*

The Clare Valley Science Spectacular is a week-long festival of science, featuring science shows, exhibits from local industry, demonstrations and competitions, culminating in a two-day science fair. Environmental activities will help visitors understand the world around them, including building and designing with the principles of reuse, remake and recycle.

This initiative brings a regional version of Adelaide's Science Alive! Festival to the Clare and Gilbert Valleys community and extends Clare Library's significant STEM program.

## **Tasmania**

### **Young Tassie Scientists: Sharing local science in our local community**

*University of Tasmania*

A geologist who blasts rocks with lasers, a brainy researcher studying our super senses, Tasmania's own BugGirl, and an Antarctic expeditioner with a passion for Pokémon.

These are just a few of the past Young Tassie Scientists—early career researchers who become the state's ambassadors for National Science Week. The new recruits for 2019 will go through a science communication bootcamp, then go out to share their science stories through inspiring and interactive presentations at schools and events around Tasmania.

### **BeakerStreet@TMAG, a pop-up science bar**

*Dr Margo Adler*

Interactive science/art installations and performances, engaging talks and hands-on workshops by world-leading scientists, the Science Photography Prize, live music in the Speakeasy Bar, Tassie food and drink, and 100+ roving scientists to chat with—these are all on the menu at BeakerStreet@TMAG, a pop-up science bar at the Tasmanian Museum and Art Gallery. BeakerStreet@TMAG is a scientific wonderland for adults, running over two nights.

Open to everyone and accessible to all, this one-of-a-kind festival returns in 2019 with an all-new line-up, an Invasive Species Cocktail Bar by Mona (Museum of Old and New Art), and much more. Come along to quench your thirst... for knowledge.

### **TastroFest – Tasmania's astronomy festival**

*Brittany Trubody*

TastroFest—Tasmania's Astronomy Festival—kicks off National Science Week in the Apple Isle with planetarium shows, Aboriginal Astronomy, solar observing, telescope workshops, the latest Hubble images, droid building displays, 3D printing displays, movies, aurora, and astrophotography workshops, guest lectures, beginners astronomy, kids workshops, a photographic art gallery, live science demonstrations, night sky viewing sessions, virtual reality experiences, cosplay, Lego displays, brain-games, pop up science toy shops, author talks, a giant inflatable replica of the Space Shuttle Discovery and more.

2019 marks the 50th anniversary of the Moon landing, one of the greatest achievements in history. This year's TastroFest will feature livestreamed Q&A sessions with NASA astronauts and staff (both past and present) celebrating in Houston. Patrons will be able to ask live questions and will hear from those who were part of the space program 50 years ago. They will learn how it was then, and what it's like for today's astronauts who were inspired by these events, and what training they go through in order to be a part of the space program.

Tasmania is the only state with regular auroras and has some of the clearest skies in the world, making it a hot spot for the art and science of the night sky. TastroFest is held over three days in Ulverstone.

### **Science Open Season**

*Launceston City Council*

Dinosaurs, science shows, Moon-landing memories, and make your own lunar vehicle are among the highlights of the seven days of Science Open Season at Launceston's Queen Victoria Museum & Art Gallery.

The program includes a Saturday expo-style Big Day of Science, showcasing everyday science taking place in the region; Sunday Science with a focus on feathered dinosaurs and a dinosaur themed exhibition, with activities exploring evolution, extinction and climate change; a Night at the Museum for adults, and another for young families; a schools' program; public lectures; 'PODS' (Professionals Out Demonstrating Science); and the Crazy Scientist science shows.

### **More Science, More Awareness at Elizabeth College**

*Department of Education, Tasmania*

This year's program at Elizabeth College involves community science events that inspire public interest in science and celebrate the International Year of Indigenous Languages and the 50th anniversary of the Moon landing. Events will involve local scientists and scientific organisations, focusing on astronomy and Indigenous language.

Participants will be able to learn about gravity, lift, drag, thrust and aerodynamics through the science of paper aeroplanes in the Paper Pilots Flight School. The community of southern Tasmania will have the opportunity to hear from Indigenous scientists, enjoy an Indigenous film night, and learn about the Moon landing.

The program includes a Government House Reception, the 19th Annual Elizabeth College Workshops, a Mini Conference focusing on the value of independent research, and 'More Science, More Awareness', the Minister's Celebration Luncheon and Poster Competition.

### **Curious Climate: Asking Tasmania what it wants to know about climate**

*University of Tasmania*

What is a polar vortex? Will there be enough rain for the Tasmanian giant freshwater crayfish? Is Melbourne's weird weather headed south? Are last summer's bushfires the new normal? If you could ask a climate change scientist anything, what would it be?

Curious Climate aims to develop public-powered scientific engagement, bridging the gap between experts and audiences with credible, relevant information about climate change. Radio segments and Facebook promotion will encourage the Tasmanian public to lodge their Curious Climate questions online. People in each of four regions can then vote for their top 10 questions about climate change (local and general), which will then be presented in a series of public Q&A sessions in each region. Local (and mostly younger) scientists from across Tasmania will answer each of the top questions in a short, sharp, and visually appealing five-minute presentation, before a panel.

Curious Climate is an IMAS, UTAS, TIA, CSIRO and ABC supported collaboration, with a team of engaging scientists across Tasmania telling people what they really want to know rather than what scientists think they want to know.

### **Maker Exhibition**

*University of Tasmania*

A one-day exhibition at the Burnie Arts and Function Centre will showcase the region's STEAM (Science, Technology, Engineering, Arts and Mathematics) activities ranging from our unique and impressive local engineering and advanced manufacturing to mini drones and the virtual reality of our digital future. The event will involve local industries, schools, community groups and individuals running exhibits, workshops, activities and public lectures. Local musicians and food producers will provide a festival atmosphere for this community-based learning event.

### **NEON**

*DRILL Performance Company*

Three choreographers, three composers, four Young Tassie Scientists, seven activities, and 30 local young dancers join forces to explore science through music and movement.

In 2019 Hobart's youth dance company DRILL will present NEON, a performance that fuses artistic practice and STEM engagement for audiences and young participants. Three choreographers and three composers will create contemporary dance works with a cast of 30 young local dancers, responding to the chemical elements and exploring their forms, behaviours and uses.

In partnership with the Young Tassie Scientists, audiences will first learn about the elements through hands-on experiments and activities, which all include an artistic and scientific component, encouraging creative experimenting and play while learning. They then experience the dance works in a free-roaming and interactive experience, seeing some of their experiments in action.

## **Victoria**

### **Immersive Science III: Astronomy for all Australians**

*Swinburne University of Technology*

Realise the power of stars, delve into the latest gravitational wave research, and explore the Universe—all without leaving town. Science communicators and researchers Associate Professor Alan Duffy and Dr Rebecca Allen return to share the latest wonders of Australian-led research in Astronomy through SciVR; an immersive astronomy experience enabled by a virtual reality (VR) smartphone app.

Alan and Rebecca share the science of astronomy through a more inclusive experience with an updated app, special close-captioned studio live-stream, and social media Q&A to regional groups and grassroots-organised viewing parties in libraries and other venues across the country. Finally, SciVR will enthuse local audiences with a Melbourne-based talk where guests can engage with the speakers and learn about these exciting topics.

## **Sounds a lot Like Science with The Curiosity Show and VYSO**

*Victorian Youth Symphony Orchestra*

The Victorian Youth Symphony Orchestra (VYSO) and their conductor Dr Ingrid Martin join forces with iconic science communicators for *Sounds a lot Like Science*.

Using the 70 piece symphony orchestra as live laboratory, the scientists and Ingrid will explore and explain the science of sounds and musical instruments. This fun, interactive performance introduces children to science, using do-it-yourself experiments with household items like straws, rubber bands and cardboard.

Hosted in Melbourne, the performance will be held during National Science Week and recorded for future broadcast.

Ever wondered how much water it takes to fill up a tuba or how to play a Mozart concerto on the garden hose? “Well, I’m glad you asked...”

## **Science in the Park**

*Swinburne University of Technology*

Care for a spot of frog calling, water bug identification, bird watching, or koala spotting? Meet NASA Scientist Dr Darlene Lim to learn about life in extreme Earth habitats and beyond!

Science in the Park at the Coolart Wetlands and Homestead Reserve in Somers will be the focus of free science activities on the Mornington Peninsula catering for all ages. PrimeSCI!, along with universities, state and local organisations and volunteer groups, will host a day of science presentations, eco-tours, science displays and hands-on activities, wildlife monitoring, and education on sustainable practices in the unique wetland environments of the Coolart Reserve.

The event will run in parallel with an astronomy art/science exhibition ‘The Apollo Parkes Project’ at the Coolart Homestead, to compliment the National Science Week Schools theme of *Destination Moon*.

## **The Art of Science: Maths, music and me**

*University of Melbourne*

Is science creative? Can you hear the maths in music? In The Art of Science: Maths, Music and Me, mathematician, teacher and music lover Professor Arun Ram will tell a series of stories, interweaving mathematics, music and the creativity of science. The show will breakdown stereotypes of mathematicians and challenge misconceptions that maths isn’t present in our everyday lives, nor in the arts. These events will include live music and audio-visual elements.

In eight performances across regional and metropolitan areas, the audience will be taken on a journey through captivating music, revealing the rich mathematics behind it. The finale will also be recorded and streamed live via Facebook to reach broader audiences throughout Australia.

## **Coffee in Space**

*La Trobe University*

Ground Control to Major Tom: what does it take to turn an astronaut into a barista? In a fishbowl-style public forum, research scientists will roleplay how they would roast, grind and extract quality coffee in the extremes of space. In a hands-on activity the public tastes and rates coffee with systematically varying particle size distributions, viewed through provided microscopes. Public lectures by scientists summarise and extend the science behind coffee. This will be offered at regional venues in Bendigo, Mildura and Shepparton, where some of these activities will be combined.

This project uses the light-hearted premise of making coffee in space to engage the public in the serious science and technology around space travel.

## **Celebrating Aboriginal Science in the Tasmanian Midlands Hotspot**

*Greening Australia*

What can we learn about the science and sustainability of Australia from the people of its First Nations? Environment group Greening Australia and the Tasmanian Aboriginal community are joining forces to celebrate traditional and contemporary knowledge in science and technology in the Tasmanian Midlands Biodiversity Hotspot. This initiative includes four training days, two National Science Week Expos and an exhibition, a field day, and a community symposium. The project will train 53 Aboriginal youth at Oatlands and Campbell Town Schools, empowering them to communicate to families, farmers and the wider community at the two science Expos.

These events share the learnings from more than 60 000 years of Indigenous culture and sustainable land management, including biodiversity of native flora as bush food and medicine.

## **Maker Workshops For All: including people with disabilities**

*Monash University*

All Australians deserve the opportunity to participate in science activities including people with disabilities. This project will develop and deliver modified maker activities that meet the requirements of people with different abilities. Maker workshops provide opportunities for engagement with scientific principles in a creative and hands-on manner. The activities will be custom-designed to engage participants that have sensory disabilities, significant motor disabilities and/or cognitive disabilities. The focus will be on engaging participants in the scientific activities focused on what they are able to achieve rather than any limitations.

## **Let's Have Moment of Science: Always question, always wonder**

*Mornington Peninsula Shire Council*

Nobel Laureate of 'killer T-cell' fame Peter Doherty, international guest from NASA Dr Darlene Lim, dinosaurs digs and a walking, talking robot are headed to the libraries of Mornington Peninsula. 'Let's have a moment of science' is a week of free, science, engineering, maths and technology events to inspire the Mornington Peninsula community during National Science Week. Activities include interactive science workshops, emerging technology presentations, and presentations from expert speakers.

## **Launch to the Future! A STEM Story**

*Echelon Productions*

Launch to the Future! A STEM Story is a theatrical performance-based education program exploring Australia's contribution to space science and the 2019 Schools Theme: Destination Moon: more missions, more science. Launch to the Future combines high energy sketch comedy and improvisation to entertain, inspire and educate audiences through a fun and interactive live experience.

Performed by professional actor/educators, the fact-filled program inspires audiences with the astonishing discoveries, innovations and solutions of space science and how these impact our daily lives as well as drive our future. The performance features the work of local Nobel Laureate Brian Schmidt, Ruby Payne-Scott, the Square Kilometre Array and Australia's role in the transmission of the first Moon landing.

Free general public performances will tour major venues in capital cities, and schools in each region.

## **The Hunt for the Plastic Eaters. Challenging Australia to find creative solutions to our plastic waste dilemma**

*University of Melbourne*

The lid has been lifted on human wastefulness, but what next? Science Gallery Melbourne delves into an ever-growing mountain of garbage to find innovative opportunities within our consumerist behaviour, through their third sci-art pop-up season DISPOSABLE.

For National Science Week, Science Gallery Melbourne throws down the gauntlet and sets an ambitious challenge: can we find a new plastic-eating bacteria in Australia? Building on the research of Japanese plastic-eating bacteria expert Dr Shosuke Yoshida, and working with biohacking group BioQuisitive, this project takes Melbourne's new science engagement initiative for young people Australia-wide, asking citizen scientists to culture bacteria in the search for a new species that could solve our plastic waste dilemma.

## **Welcome to Science Week**

*Museums Board of Victoria*

Exploring the wonders of science brings together people of all ages and backgrounds and museums are welcoming, curiosity-driven spaces that support discovery and engagement with science. To celebrate National Science Week, Melbourne Museum and Scienceworks have developed a targeted program for people with young children who have recently arrived in Victoria as refugees, immigrants, and other young families.

Delivered in partnership with community organisations and hosted by a cultural facilitator, this program bridges gaps of understanding, language and tradition. Families meet scientists, try hand-on activities and immerse themselves in museum experiences. The program nurtures each family's sense of comfort and familiarity with museum spaces and builds their confidence to return, to learn and socialise.

## **Small Steps & Giant Leaps – Learning from the Moon**

*Geelong Art Gallery*

Geelong Gallery will present a major exhibition titled *The Moon* to celebrate the 50th anniversary of the first Moon landing. A dynamic and engaging suite of education and public programs will accompany *The Moon*, informed by Earth and Space Sciences, a major strand of the Victorian Curriculum. A mini space theatre with footage from NASA, a pop-up planetarium, and other informative educational activities will provide unique opportunities to engage students, and connect people of all ages to this momentous celebration during National Science Week.

### **Moons to Oceans: Timing the tides marine science expo**

*Deakin University*

How is the Moon connected to the ocean? Through tides! Discover how tides work and how they influence the plants and animals that call the ocean home by visiting the Queenscliff Marine Station Expo during National Science Week. Visitors can learn from marine science experts from Deakin University and the Victorian Fisheries Authority by participating in hands-on activities, mini marine workshops and aquarium exhibits at the Marine and Freshwater Discovery Centre.

Situated on the shores of Swan Bay, the Queenscliff Marine Station is ideally-located for learning about the local marine environment and inspiring community-wide interest in marine science.

### **Particle/Wave: creative multimedia experience of gravitational waves**

*Alicia Sometimes*

Cosmologist Stephen Hawking has said, “gravitational waves provide a completely new way of looking at the Universe”. How do we observe this discovery through the lens of humanity? What stories do gravitational waves tell? Writers, musicians, sound and video artists—alongside internationally-renowned scientists—have collaborated to present a creative glimpse of the story of gravitational waves. Particle/Wave is an immersive creative multimedia exploration of gravitational waves at the point where poetry, video art, music and science intersect. Particle/Wave is our lens to this incredible discovery: it is an exploration of art and science under the spectacular dome of the planetarium. These events include live music and speakers, as well as the show.

## **Western Australia**

### **Perth Science Festival**

*Scitech Discovery Centre*

Biology, technology, expert talks, and explosive science shows are coming to the Claremont Showgrounds! Perth Science Festival is a family-friendly general public event, with more than 60 interactive stalls, experiments, native animals, stage shows, roving performers, and more.

Join scientists and science-enthusiasts from across the state for two days of interactive science covering more than 15 different science fields, from coding to marine conservation, astronomy to geology!

## **Goodness: Science, Sustainability and Innovation Festival**

*Pollinators Inc*

Goodness Festival is the premiere annual science engagement activity in the Mid West, and a leading community event in WA. This year's Festival will include a mix of community science nights, tours, exhibition, open days, in-depth workshops and after-hours events such as sundowners and a women in science breakfast. Events will include a fusion of art, science and Indigenous culture highlighting the science in the every day.

Events will also include a high-profile celebrity guest for broad appeal beyond the science audience. The festival will take place in and around the Museum of Geraldton, Geraldton Regional Trade Training Centre, City Hive and Central Regional TAFE in Geraldton CBD, with behind-the-scenes tours throughout the region.

## **Sustainability in the Suburbs**

*City of Gosnells*

Sustainability in the Suburbs brings the science of sustainability to local communities around Perth through a series of 16 community workshops. Urban resilience, soil microbiology, biodiversity and sustainable home design will be revealed through fun and engaging workshops and library displays. Libraries, cafes and community gardens will host workshops, lectures and hands-on verge gardening activities.

The program will be delivered by Switch Your Thinking working with local governments, experts from Curtin University, the University of Western Australia and local businesses. Sustainability in the Suburbs will offer interactive experiences to demonstrate the vital role suburban communities play in creating a resilient future.

## **National Science Week in the Great Southern**

*City of Albany*

National Science Week in the Great Southern is a week-long opportunity for people to engage with science and technology, and discover the science of south western WA. The program will feature a high profile visiting scientist, the biennial Great Southern, Great Science Symposium, science cafes, workshops and school incursions by the visiting scientist and WA Museum curators and experts, field trips to learn more about traditional Indigenous science, and other activities in surrounding regional locations.

Last year's Tuesday Curatorial 'Fifty Shades of Cray' looked at the reproductive science of the regions' crustaceans. This year's program will bring together visiting and local experts from UWA Albany, Museum of the Great Southern, Noongar elders, Scitech, the Great Southern Science Council, and more.

## **The Nature of Science – Community Expo**

*Australian Association of Environmental Science (WA Chapter)*

Tracking meteor 'fireballs' through the sky, talking trash to cut waste, and finding out how ancient Aboriginal knowledge advances our understanding of Australia's environments. The Nature of Science Community Expo is an interactive one-day event that investigates how we strive to make sense of our natural world and adapt to changes in meaningful ways.

Held on the banks of the Canning River in Perth, the Expo will explore how the union of science, maths, technology and ancient Aboriginal knowledge advances our understanding of local environments, climate, and human impacts on biodiversity. More than 40 different activities are planned, including interactive displays, demonstrations and an open speakers forum.

### **The Innovator's Tea Party**

*The Innovator's Tea Party Inc.*

The Innovators' Tea Party links successful women working in science, technology, engineering and mathematics (STEM) with high school students in speed-networking events. The events are once-off mentoring opportunities that connect passionate and diverse women working in STEM with high-school students looking for more information about career opportunities, career pathways and positive STEM role models. Any student in Years 10 to 12 can register to attend one or more of eight free speed-networking events held on Sunday 11 or Saturday 17 August in the Perth city.

### **Science Behind Bars: Forensics & criminology at Fremantle Prison**

*Murdoch University*

Go behind the bars and delve into the world of forensics and criminology with scientists from Murdoch University at Fremantle Prison, one of Australia's historic prisons. Participants will learn about Murdoch's current research in forensic and crime science, including fingerprinting, IT/cyber forensics, imprints and impressions, blood pattern analysis, DNA profiling, criminology, blood typing and crime scene science. This event is held in partnership with the Fremantle Prison, PathWest, and ChemCentre, and will include talks, interactive displays and activities, and informative tours of the prison.