

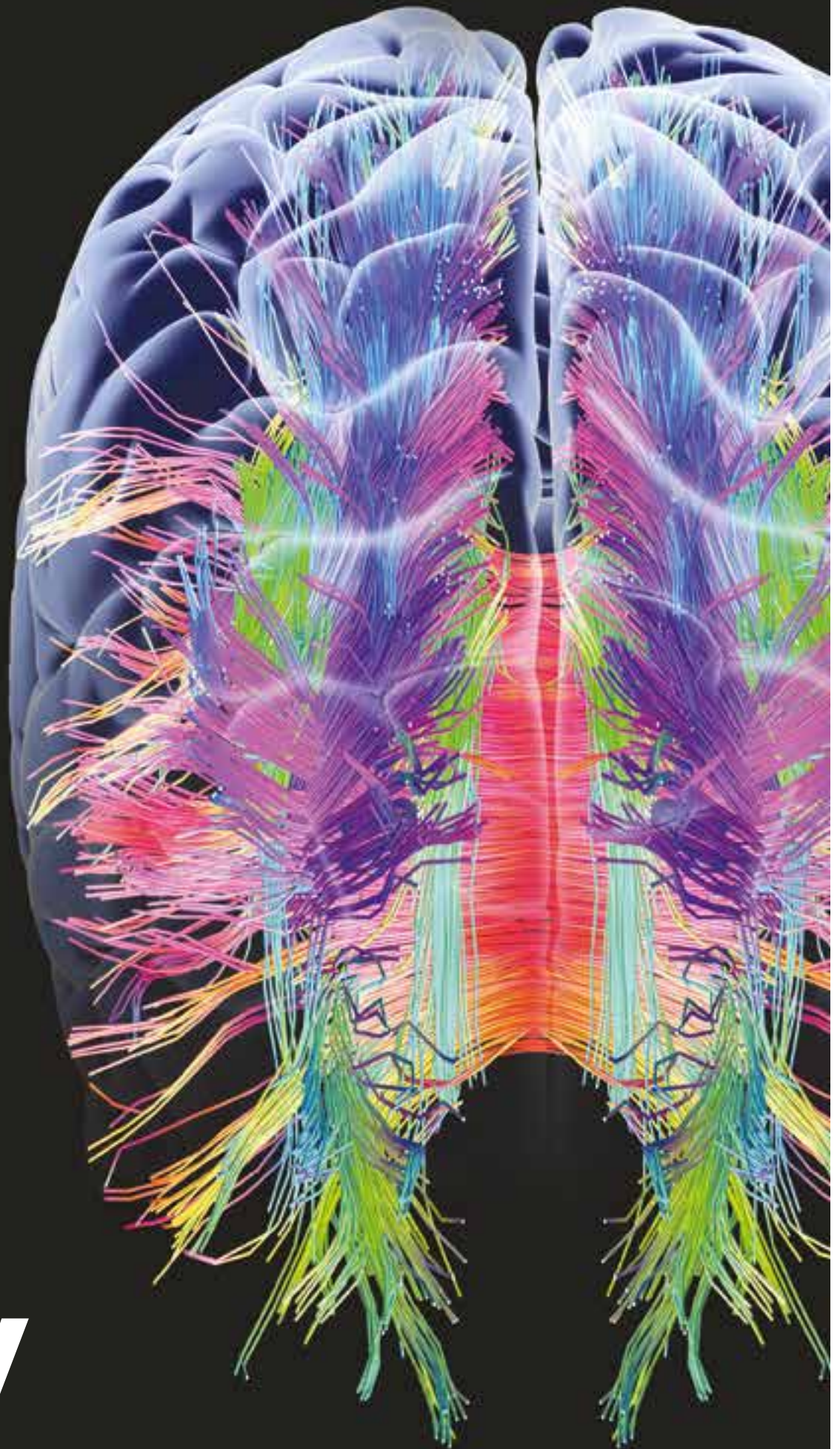
World
Science
Festival
Brisbane

21–25 MARCH 2018

PRESENTED BY QUEENSLAND MUSEUM

**Follow
your
curiosity**

PROGRAM GUIDE



WELCOME



We live in an extraordinary time. Technology has united our world in ways never before seen. We have been witness to unimaginable discoveries about the fabric of the universe, guided spacecraft to other worlds, and explored what makes us human.

This year, Queenslanders will again join with the world's thought leaders to celebrate the contribution science makes to our very existence.

It's an honour to present the 3rd World Science Festival Brisbane program as Queensland Museum marks 156 years of sharing the stories of Queensland through collections, research, outreach and science communication. In 2018, we welcome pioneers in science and explore technological advancements as we investigate our humanity.

From 21 to 25 March 2018, world-leading scientists, communicators and performers from across the globe will delve into what makes us human, how humanity has advanced, and try to answer the immortal question of how we can all live better for longer.

The 2018 Festival features five days of spectacular science in Brisbane, in addition to events in Ipswich, Toowoomba, Townsville, Chinchilla and Gladstone – all designed to feed curious minds and challenge our views of what it means to be human. Crowd favourites include Street Science! the return of the turtle hatchlings, vibrant conversations and iconic films.

We'll hear from world-renowned physicist Professor Brian Greene, Australians of the Year Professor Fiona Wood and Professor Alan Mackay-Sim and have our questions answered by Dr Karl Kruszelnicki.

At the foundation of World Science Festival Brisbane is a general public, informed by science, inspired by its wonder, convinced of its value and prepared to engage with its implications for the future. Ground-breaking discoveries will be examined, experiments will be demonstrated and knowledge will be shared. I encourage you to follow your curiosity and be part of something spectacular.

Dr Jim Thompson
Acting CEO and Director
Queensland Museum



Welcome to World Science Festival Brisbane 2018, where science and the arts collide in a thrilling celebration of innovation and creativity.

This year Queensland is again front and centre on the international stage, with the festival putting the spotlight on Brisbane and our regional communities in March, followed by a worldwide audience for the Gold Coast 2018 Commonwealth Games in April.

These events reinforce Queensland's reputation as an exciting, vibrant and innovative state – the perfect place to work, study, visit, invest and live.

The festival highlights the intersection of the arts and science with the world premiere of Close Encounters of the Third Kind in Concert, celebrating the 40th anniversary of Steven Spielberg's classic sci-fi cinema masterpiece. This event will showcase John Williams' magnificent score performed by an 84-piece orchestra and 80-voice choir live in sync with this extraordinary film.

Inspired by the Commonwealth Games, World Science Festival Brisbane's 2018 program also examines the interplay between health, humanity and science with an extensive program of events, talks and discussions covering everything from how far elite athletes can push the human body, to how science looks to improve neurological disorders.

The festival is an important catalyst for conversations about science and our economy. We know skills in science, technology, engineering and maths (STEM) are vital for our ongoing prosperity and the collision between science and the arts is the place where some of the greatest inspiration can be found.

By bringing together some of the greatest minds in these fields, World Science Festival Brisbane creates an event unparalleled in the Southern Hemisphere.

This year we are pleased the festival will deliver another strong program of events in Townsville, Chinchilla, Gladstone, Toowoomba and for the first time Ipswich, bringing the wonders of science to our regional areas.

The Queensland Government is proud to support World Science Festival Brisbane alongside Queensland Museum Network and partners in academia and industry.

With free and ticketed events, there is something to inspire and engage everyone.

We welcome the many visitors joining us for this amazing event. Please enjoy your time here and we invite you to stay on to explore the many other exciting experiences and destinations Queensland offers.

The Hon Anastacia Palaszczuk
Premier and Minister for Trade

The Hon Leeanne Enoch
Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts

The Hon Kate Jones
Minister for Innovation and Tourism Industry Development and Minister for the Commonwealth Games

Welcome to Brisbane - Australia's New World City, and to the World Science Festival Brisbane.

By celebrating the marriage of art and science, World Science Festival Brisbane better connects the city with ideas, technology and thought leaders of the future. From tech start-ups to life-changing biomedical advancements, Brisbane's appetite for science and track record in innovation makes our city the perfect host for this exciting festival. Staged in New York for more than a decade, Brisbane is very proud to be the only global extension of the event. I encourage you to explore the Festival's exciting events and experience the full breadth of the program, including thought-provoking debates, interactive experiments, cinema and major exhibitions. Enjoy World Science Festival Brisbane and I invite you to explore all that our wonderful city has to offer.

Graham Quirk
Lord Mayor of Brisbane

WORLD PREMIERE |

**84-piece orchestra
80-voice choir**



Queensland Museum presents:

CLOSE ENCOUNTERS OF THE THIRD KIND IN CONCERT

Performed at QPAC by Queensland Festival Philharmonic and Voices of Birralee
Produced by World Science Festival Brisbane and Film Concerts Live!

The stars will shine bright on Saturday evening when World Science Festival Brisbane takes the human experience into the realms of science fiction with the world premiere performance of *Close Encounters of the Third Kind in Concert*.

In a stunning international collaboration between World Science Festival Brisbane, Film Concerts Live! and Columbia Pictures, this world premiere performance brings together cinema, science and live music in one spectacular evening of extra-terrestrial excitement.

Steven Spielberg's 1977 masterpiece, *Close Encounters of the Third Kind*, is widely considered one of the most treasured and influential science fiction films of all time.

Nominated for eight Academy Awards® including Best Original Score, *Close Encounters of the Third Kind* remains as engrossing and inspiring today as it was forty years ago.

Now for the first time ever, audiences will be able to experience John Williams' magnificent score, performed in its entirety live and in sync with this extraordinary film. The concert will be conducted by Nicholas Buc and will feature an 84-piece Queensland Festival Philharmonic orchestra with the 80-voice Resonance of Birralee choir.

Close Encounters of the Third Kind © 1977, renewed 2005, Columbia Pictures Industries, Inc. All Rights Reserved.

ONE NIGHT ONLY

**Saturday 24 March 2018
7:00pm – 10:00pm
Concert Hall, QPAC**

A Reserve	\$95 (Adult) \$75 (Conc/QM Member) \$45 (Student)
B Reserve	\$75 (Adult) \$55 (Conc/QM Member) \$45 (Student)
C Reserve	\$65 (Adult) \$45 (Conc/QM Member/Student)

Book now at worldsciencefestival.com.au

THE HATCHERY: TURTLE CONSERVATION EXPERIENCE

The annual hatching of turtles at World Science Festival Brisbane is one of our most popular activities, providing a rare opportunity to experience nature's miracle up close and personal.

Designed in collaboration with internationally renowned herpetologist Colin Limpus, this extraordinary conservation initiative follows the initial stages of life, from incubation to hatching live at the Festival.

The new born turtles will then be transported to the Sunshine Coast and released 20km off shore along with other hatchlings fitted with transmitters to help track their early life movements.

**Thursday 22 – Sunday 25 March 2018
9:30am – 5:00pm
Last entry 4:30pm**

Level 2, Queensland Museum | Entry via the Whale Mall.

**The Hatchery is a free, ticketed event.
Please visit website for full details.**



IT'S LIVE! *in Queensland*

Just the place to
experience the world's
best live events



2018 is shaping up to be a massive year for Queensland. Not only is the state playing host to a raft of unmissable events, from gourmet food festivals and blockbuster sporting events to endurance races and culturally immersive Indigenous experiences, in April all eyes will be on the Gold Coast when the XXI Commonwealth Games take over Queensland for 11 action-packed days.



GOLD COAST
Gold Coast 2018
Commonwealth Games
4 - 15 Apr



GOLD COAST
Blues on Broadbeach
Music Festival
17 - 20 May



GOLD COAST
Bleach* Festival
29 Mar - 15 Apr



OUTBACK QUEENSLAND
Winton's Way
Out West Fest
19 - 22 Apr



SUNSHINE COAST
Noosa Food
& Wine Festival
17 - 20 May



FREUD'S DIVIDE: Bridging the Brain-Mind Gap

Explore the nexus of neuroscience and psychiatry

In the early 20th century, the Freud-inspired distinction between brain and mind generated two approaches to understanding the human brain: neuroscience and psychiatry. Recent advances in medical research and scientific technologies have identified common features across neurological disorders that challenge Freud's divide.

FREUD'S DIVIDE: Bridging the Brain-Mind Gap is presented in conjunction with The University of Queensland.

PARTICIPANTS

Alan Finkel
Ian Hickie
Joel Pearson
Linda Richards
Bruno Van Swinderen

Wednesday 21 March 2018

7:30pm – 9:00pm

Concert Hall, QPAC

\$35/\$30/\$10

Associated Event – PROBING THE
ETERNAL SUNSHINE: Memories and Fears



BESPOKE BODIES: The Path to Human Regeneration

Uncover the science of self-renewal

Since the first successful organ transplants in the 1950s, science has made significant inroads into regrowing, replacing and regenerating human cells, organs and limbs.

ABC science journalist and broadcaster **Robyn Williams** leads a group of experts in regenerative medicine through the pros and cons of these scientific discoveries as we pursue a life that balances quality and quantity.

BESPOKE BODIES: The Path to Human Regeneration is presented in conjunction with QUT.

PARTICIPANTS

Robyn Williams
David Franklin
Damien Harkin
Gordon Wallace
Fiona Wood

Thursday 22 March 2018

7:00pm – 8:30pm

Concert Hall, QPAC

\$35/\$30/\$10

Associated Event – CHASING LONGEVITY:
The Quest for Longer Life



THE LONGEST WALK: Winning the Human Race

Journey through 300 millennia of human history to reveal the secrets of our survival

Since our ancestors split from their ape cousins, many Hominin species have roamed the Earth. Today, only Homo sapiens remain.

Palaeontologist and former presenter of ABC TV's *Catalyst* **Paul Willis** leads a discussion on how recent scientific technology has added to the wealth of archaeological data and will tease out the truths behind more than 300,000 years of human survival.

THE LONGEST WALK: Winning the Human Race is presented in conjunction with Griffith University.

PARTICIPANTS

Paul Willis
Lisa Matisoo-Smith
Adam Brumm
Peter Hiscock
Rainer Grun

Friday 23 March 2018

7:00pm – 8:30pm

Conservatorium Theatre, QCGU

\$35/\$30/\$10

Associated Event – ANCIENT DNA:
How Genetics Can Reveal the Secrets of Evolution



THE BELIEVING BRAIN: Neuroscience and the Spiritual Instinct

Explore the potential origins of faith

It's a trait shared by every culture from the dawn of humankind: imagining planes of existence beyond the reach of our senses, spiritual domains that shape our Earthly experiences. But why do beliefs of the fantastic hold such powerful sway over our species? Do they arise as a mere by-product of human cognitive evolution or are they driven by some other force?

Bridging the gap between science and religion, Festival co-founder and renowned physicist **Brian Greene**, joined by neuroscientists, philosophers,

anthropologists, and evolutionary biologists, will explore one of the most profound mysteries of our existence.

Saturday 24 March 2018

5:00pm – 6:30pm

Conservatorium Theatre, QCGU

\$35/\$30/\$10



Hello science, welcome to Brisbane

uq.edu.au

**Hello science,
welcome to
Brisbane**

uq.edu.au

**PROUD ACADEMIC
PARTNER OF WORLD
SCIENCE FESTIVAL
BRISBANE**



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

Create change



EXTREME CITIES: Building Against the Tide

The urban environments of a sustainable future

By 2050, almost two thirds of the world's population will live in cities on or near the coast, many of which will support more than 10 million inhabitants.

This thought-provoking discussion will reveal ground breaking global initiatives in urban planning, architecture and engineering that are creating dwellings, workplaces and public spaces to optimise human and environmental survival.

PARTICIPANTS

Cheryl Desha
Tanya Ha
Barbara Norman
Malcolm Smith

Thursday 22 March 2018

7:30pm – 9:00pm

Conservatorium Theatre, QCGU

\$35/\$30/\$10

Associated Event – WASTE NOT, WANT NOT:
Creating A Circular Economy



SPACE INVADERS: To Infinity and Beyond

Ponder the practical and legal minefields of extra-terrestrial exploration

As humanity ponders the viability of interplanetary settlement, commercial and scientific endeavours - from asteroid mining to space tourism - are ready to prove that the sky is no longer the limit.

Science journalist and ABC Broadcaster **Robyn Williams** leads specialists - from NASA scientists to archaeologists - in an exploration of current and near-future operations in space and the socio-legal challenges of who will control the final frontier.

PARTICIPANTS

Robyn Williams
Jennifer Wiseman
Muriel Richard
Alice Gorman
Andrew Dempster

Saturday 24 March 2018

10:00am – 11:30am

Conservatorium Theatre, QCGU

\$35/\$30/\$10

Associated Event – SPACE JUNK: Cleaning Up
After Ourselves



WASTE NOT, WANT NOT: Creating a Circular Economy

Imagine a society devoid of detritus

Our expert panel in all things discarded will share innovative ways to reimagine and repurpose waste and examine whether science and technology can work their magic in time to save humanity from drowning in its own detritus.

PARTICIPANTS

Tanya Ha
Joyanne Manning
Veena Sahajwalla
Christine Blanchard

Friday 23 March 2018

10:00am – 11:00am

The Edge Auditorium, SLQ

\$30/\$25/\$10



SPACE JUNK: Cleaning Up After Ourselves

Follow international initiatives to spring clean space

Where humans have gone, rubbish has followed. Now we are leaving our unwanted footprints behind as we venture beyond Earth. 'Space junk' is creating a growing environmental and safety problem.

National Living Treasure **Robyn Williams** and our panel of space experts will examine the current state of this extraterrestrial 'tip' and explore future strategies for cleaning up after ourselves.

PARTICIPANTS

Robyn Williams
Alice Gorman
Muriel Richard
Melissa de Zwart

Thursday 22 March 2018

10:00am – 11:00am

Auditorium 1, SLQ

\$30/\$25/\$10



PROBING THE ETERNAL SUNSHINE: Memories and Fears

Tap into the deep recesses of the mind

Throughout our lives we accumulate a treasure chest of memories along with a Pandora's Box of fears. Exactly how these gems are formed and processed, and why, remains somewhat of a mystery.

Join our fearless panel to delve into human minds and the wealth of new research that could one day help clinicians to modify memories and fears for patients with PTSD or Schizophrenia, or restore them in patients with Alzheimer's or brain injuries.

PARTICIPANTS

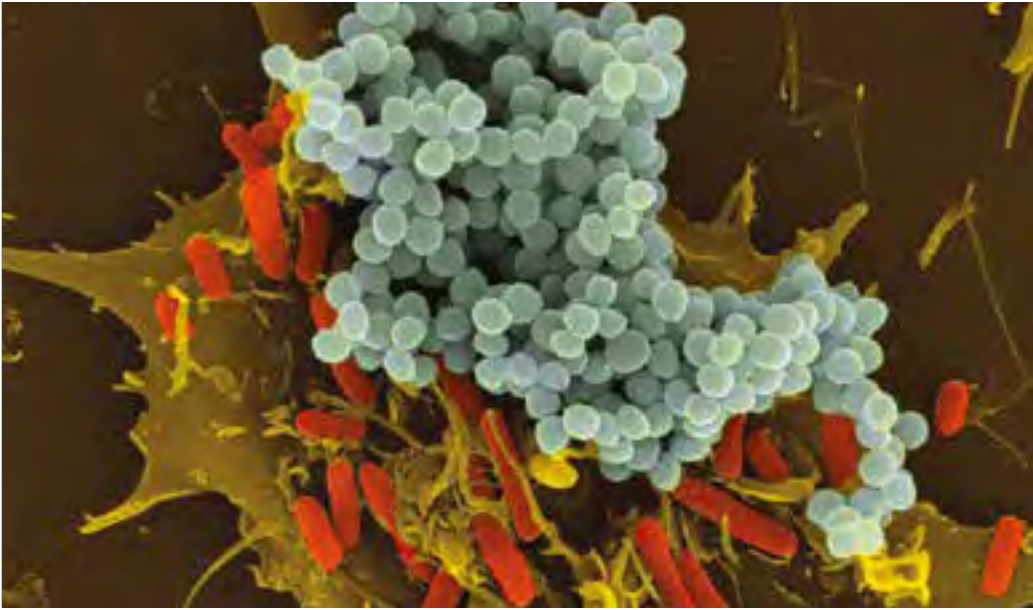
Lynne Malcolm
Pankaj Sah
Kim Felmingham
Muireann Irish

Saturday 24 March 2018

1:00pm – 2:00pm

Auditorium 1, SLQ

\$30/\$25/\$10



BUGS & DRUGS: The Resistance Wars

Join the fight against superbugs with cutting-edge science as your defence

Antibiotic drugs have saved millions of lives since the 1940s. However, while disease-causing bacteria continue to change, our pharmaceutical defences have not, raising the threat of deadly armies of superbugs and a return to the dark days of uncontrolled infection.

Award-winning broadcaster **Norman Swan** leads our panel in analysing how science, government, industry and the global community must join forces to triumph in the escalating war of resistance.

PARTICIPANTS
Norman Swan
Peter Collingnon
Cheryl Jones
Mark Blaskovich

Saturday 24 March 2018
1:30pm – 3:00pm
Conservatorium Theatre, QCGU
\$35/\$30/\$10

Associated Event – VENOM & PAIN:
An Unlikely Alliance



ALIEN CONTACT: What Happens Next?

Prepare for the consequences of a momentous encounter

NASA estimates we'll find definitive evidence of aliens within 20 to 30 years. Which begs the question: and then what? Is the world prepared for the profound implications of a discovery of life beyond earth? Will the news inspire jubilation, despair, or fear? Will aliens be seen as gods or interlopers?

Evidence of alien life, whether microbial or intelligent, will provoke fundamental questions about every aspect of life in the universe, posing an unprecedented challenge for humanity.

Sunday 25 March 2018
2:00pm – 3:30pm
Conservatorium Theatre, QCGU
\$35/\$30/\$10



CHASING LONGEVITY: The Quest for Longer Life

Will centenarians ever be considered young?

Life expectancy is continually being extended, and for the first time in history, six generations are alive at the same time. Will rewiring the ageing process ever be a scientific reality and could humankind survive the process?

Cosmos editor **Elizabeth Finkel** will guide our panel through the scientific possibilities and socio-economic impacts of our quest for longer lives.

PARTICIPANTS
Elizabeth Finkel
Lindsay Wu
Derek Richard

Sunday 25 March 2018
1:00pm – 2:00pm
Auditorium 1, SLQ
\$30/\$25/\$10



VENOM & PAIN: An Unlikely Alliance

Find out how nature and science can create good from bad

Australia's most venomous creatures carry evolution's most exquisitely engineered biological weapons, while offering myriad opportunities for scientists to fight some of humanity's most intractable ills.

Join ABC presenter **Norman Swan** and our panel of biologists, chemists and innovators to learn how technological advances in recent decades are harnessing new drug candidates from our 'backyard' apothecary to improve human health.

PARTICIPANTS
Norman Swan
Glenn King
Norelle Daly
Jamie Seymour

Sunday 25 March 2018
10:00am – 11:00am
Auditorium 1, SLQ
\$30/\$25/\$10



A SPORTING CHANCE: Building the Ultimate Athlete

Venture into the outer limits of human sporting achievement

Over recent decades, advances in bioengineering, physiology, psychology and genetics have lifted physical achievement towards extreme limits. But how far is too far for the body and the mind?

Champion road cyclist and orthopaedic surgeon **Bridie O'Donnell** and our panel of experts will examine who the real winners are in the complex interplay between science and sport.

PARTICIPANTS

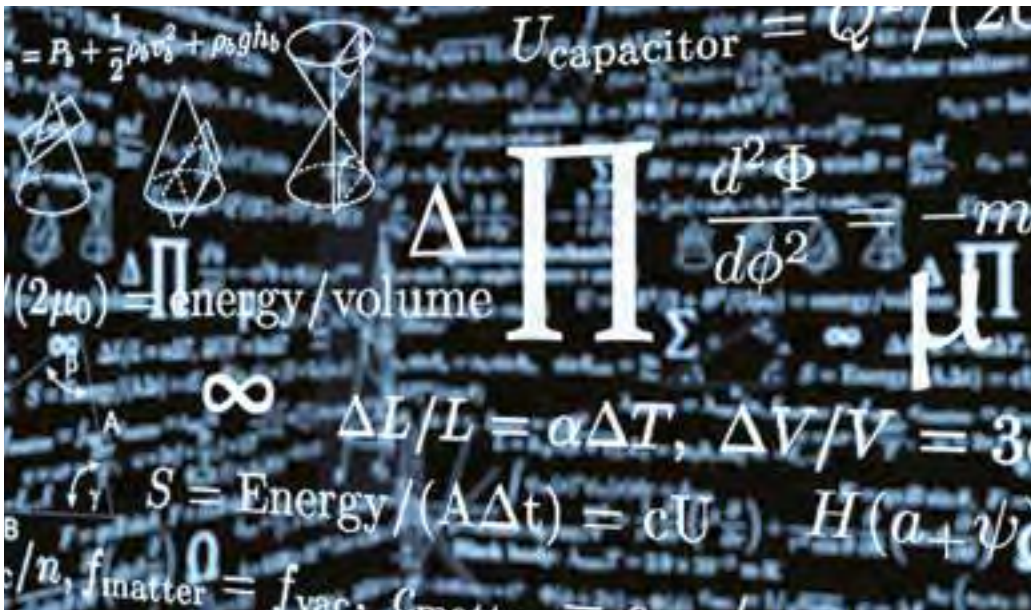
Bridie O'Donnell
David Bishop
Brendan Burkett
Lynley Anderson

Sunday 25 March 2018

10:30am – 12:00pm

Conservatorium Theatre, QCGU

\$35/\$30/\$10



THE LANGUAGE OF THE UNIVERSE: Can Mathematics Explain Everything?

Mathematics – the quiet achiever

Underscoring the complex patterns and geometric rules of the natural world or the parabolic symmetry inherent in music, maths charts the forms of existence itself.

From particle physics and Pythagoras to the Parthenon and poker, our stellar panel of astrophysicists, maths-historians and mathematicians will reveal the boundless creativity and power of mathematics to explore the outer limits of our world, the human mind and beyond.

PARTICIPANTS

Kerrie Mengersen
Nalini Joshi
Keith Devlin
Brian Schmidt
Clemency Montelle

Wednesday 21 March 2018

5:00pm – 6:30pm

Conservatorium Theatre, QCGU

\$35/\$30/\$10

Associated Event – FOR THE LOVE OF MATHS: More Than Just Numbers



FOR THE LOVE OF MATHS: More Than Just Numbers

If life is a numbers game, then mathematicians are the masters of the universe

From musical composition, social media algorithms and architecture to global economics and smart phone technology, mathematics is omnipresent and essential.

"In this inspiring salon for the next generation of mathematicians, a distinguished panel of math-ambassadors will highlight how the power of maths is embedded in every element of our daily lives.

PARTICIPANTS

Chris Ferrie
Arthur Benjamin
Charles T Gray
Eddie Woo

Thursday 22 March 2018

11:30am – 12:30pm

Conservatorium Theatre, QCGU

\$30/\$25/\$10



ANCIENT DNA: How Genetics Can Reveal the Secrets of Evolution

The mystery of what happens to DNA after death has long fascinated scientists. Our panellists will outline the biological processes that degrade DNA after death and then compare specific case studies to show how this unique substance changes in different environments. From the ancient penguins preserved in the frozen layers of Antarctica to the sacred ibis mummies from the catacombs of Egypt, our experts will reveal how they decode DNA from a range of archaeological sites centuries after death.

PARTICIPANTS

Paul Willis
Craig Millar
David Lambert
Sally Wasef

Saturday 24 March 2018

10:00am – 11:00am

Auditorium 1, SLQ

\$30/\$25/\$10

STREET SCIENCE!

Saturday 24 and Sunday 25 March 2018
10:00am – 4:00pm
Cultural Forecourt, South Bank Parklands

In 2018 the Cultural Forecourt at South Bank Parklands will again turn into a science playground with dozens of **FREE** immersive and family-friendly events for everyone to enjoy.

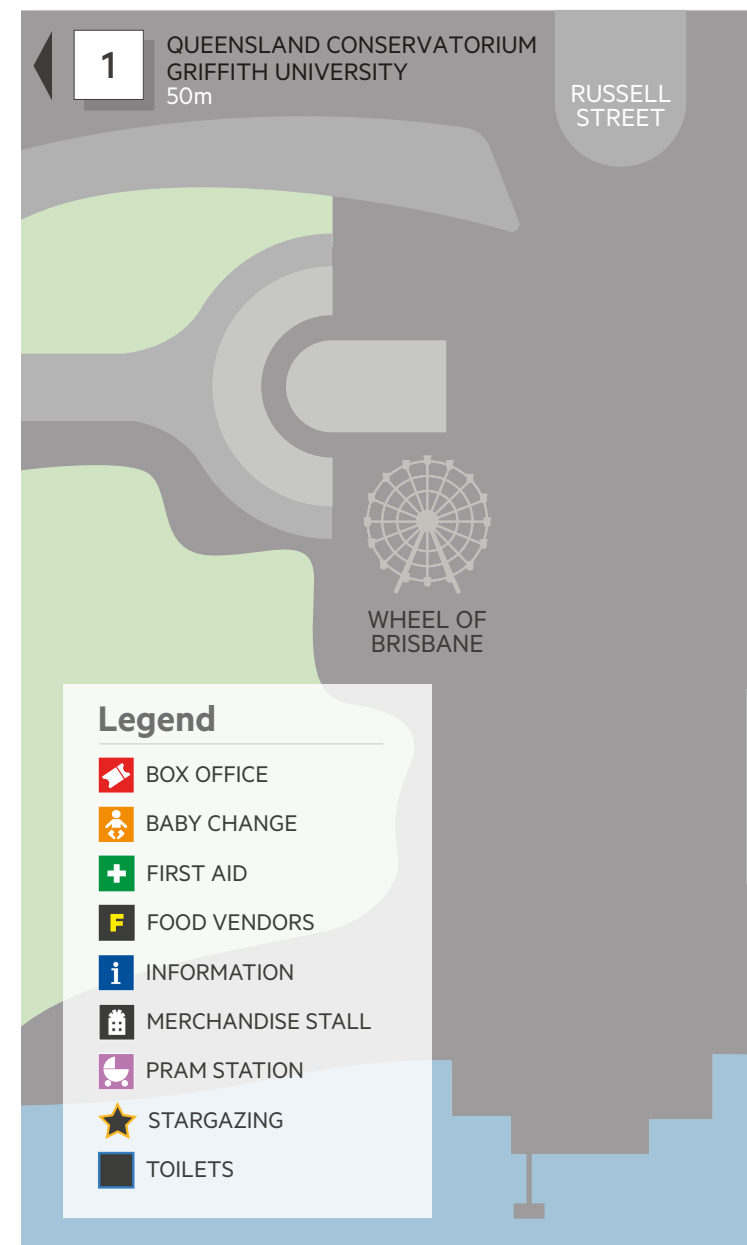
Take part in hands-on activities and explore the science behind robots, fossils, bubbles, slime, spiders, solar energy, drones, augmented reality, experiments and even explosions!

Kick back and relax at **The Osmosis Stage** where you can enjoy a stellar line-up of amazing musicians, mad scientists and science surprises guaranteed to inspire and delight the young and the young at heart.

Grab a drink and join in the experiments at the **Festival Lab** where you can discover the wonders of science through casual conversations and live events.

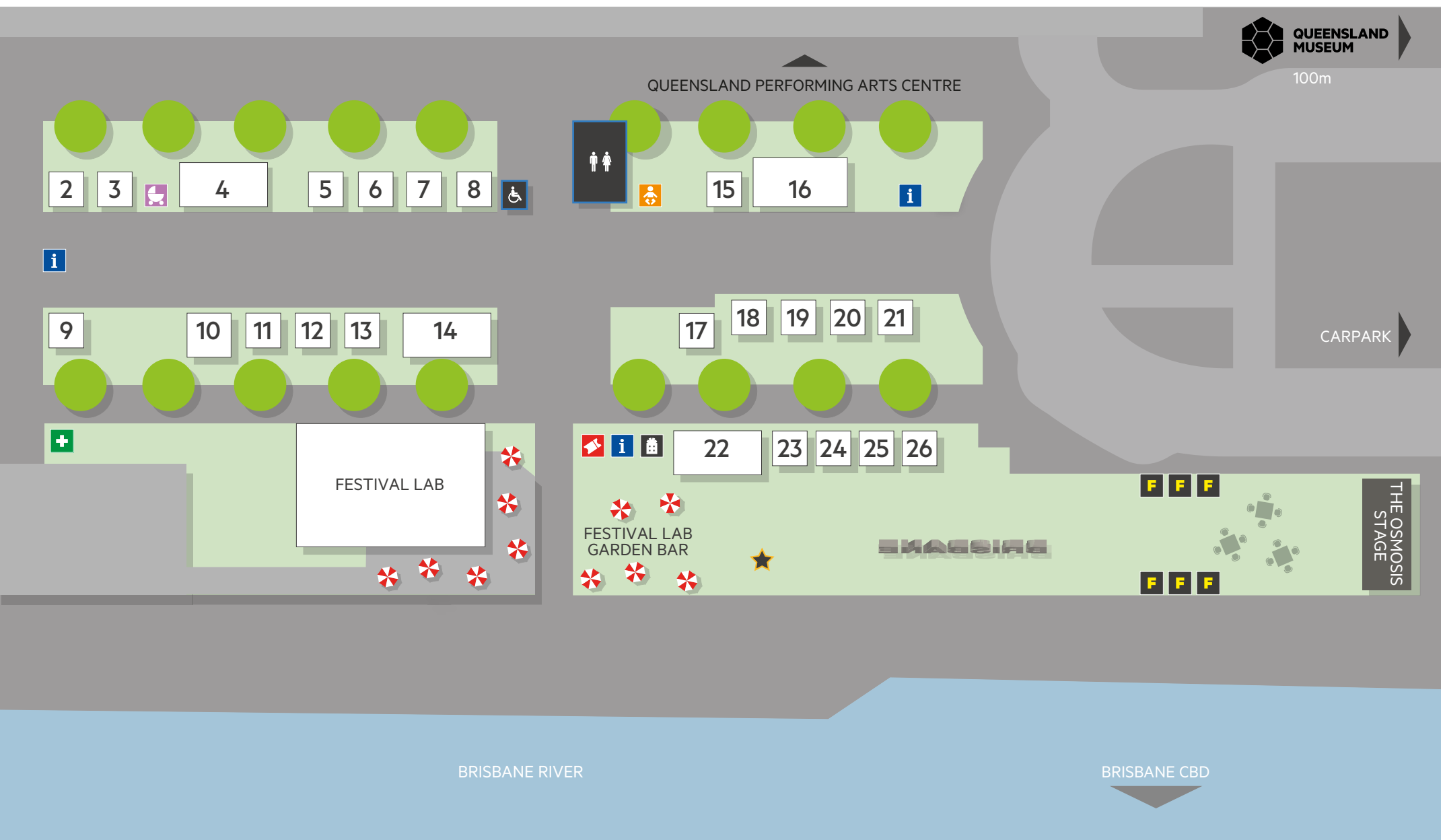
Saturday 24 and Sunday 25 March 2018
10:00am – 4:00pm
Cultural Forecourt, South Bank Parklands

Some Festival Lab events are ticketed – please visit website for further details.



Street Science! activities

- 1 Science Showcase**
presented by Griffith University
- 2 Let Your Curiosity Boil Over with UNE Discovery**
presented by University of New England
- 3 Modern Encounters with Prehistoric Queensland**
presented by Australian Mega Fauna Project
- 4 Experience Science with UQ**
presented by The University of Queensland
- 5 Humanoid Robots - The Next Step In Human Evolution?**
presented by STEM Punks
- 6 Exploring Robotics and STEM**
presented by Robotics Playground
- 7 Medical Super Heroes**
presented by the Translational Research Institute
- 8 Science Tye Dye and Magic Mud Pit**
presented by Young Scientists of Australia and the National Youth Science Forum
- 9 MAKER STUDIO**
presented by Petrosains Kuala Lumpur
- 10 Engineer for the Day**
presented by Arup
- 11 Wild Weather! Queensland's Coolest Science**
presented by Street Science
- 12 Weed Spotter**
presented by Department of Environment and Science
- 13 Reef Think Tank**
presented by Great Barrier Reef Foundation, Department of Environment and Science and QUT
- 14 Discover, Explore, & Learn with QUT**
presented by QUT



15 The role of geology in the development of Brisbane CBD and surrounds

presented by the Queensland Division
of the Geological Society of Australia

16 Bodies of Water!

presented by BHP Billiton Foundation

17 Hackafun

presented by Coding Kids & iNovoTech

18 The Snail Whisperer

presented by Queensland Museum

19 Feathers, Furs and Fins: The Nature of SEQ

presented by Healthy Land and Water

20 The Future of Health

presented by QIMR Berghofer Medical Research Institute

21 BrainBuzz

presented by the Nine Network

22 Human Evolution and Play for Under 5s

presented by C&K

23 Radiation Exploration

presented by QARPS

24 Soil: The Foundation of Life

presented by Soil Science Australia

25 Maker Kids

presented by Flying Fox Studios

26 Australian Science Olympiads

presented by Australian Science Innovations

★ **Stargazing**

Saturday 6pm – 9pm



STARGAZING

Do you ever wonder about the stars twinkling above you? Come along for a night under the stars. This is the perfect opportunity to switch off and explore the natural luminosity of the beautiful night sky.

Celestron will provide telescopes for you to explore and identify the stars to unlock the secrets of our observable universe.

Saturday 24 March 2018

6:00pm – 9:00pm

Cultural Forecourt, South Bank Parklands

FREE

**YARN STORYTELLING -
Only In Your Dreams**

Only In Your Dreams is a night of true tales about the nature of sleep – how sleep holds power over our mood and memory, and why when healthy sleep escapes us, it feels like our brain is betraying us. Scientists and civilians alike will share their sleeptime experiences.

Friday 23 March 2018

7:30pm – 9:00pm

Festival Lab, Cultural Forecourt

South Bank Parklands

\$20/\$15 (Includes beverage in ticket price)

**ABC LIVE SCIENCE PODCAST -
Ockham's Razor**

700 years ago, the English monk and philosopher William of Ockham set down one of the key planks of the scientific method. Today, the ABC podcast Ockham's Razor is a soapbox for all things scientific: stories, insights, arguments or tributes – anything that can grip an audience by the ears for 10 straight minutes. Join a hand-picked roster of speakers for a night of short talks that will intrigue, excite and inspire.

Saturday 24 March 2018

8:00pm – 9:30pm

Festival Lab, Cultural Forecourt

South Bank Parklands

FREE – Bookings required via the website

BODIES OF WATER!

BHP Billiton Foundation is
proud Street Science Partner of
World Science Festival Brisbane

24-25 March
South Bank Cultural Forecourt

Join BHP Billiton Foundation during
Street Science! to find out just how
fundamental and fun water is to all of us!



BHP BILLITON FOUNDATION STEM PARTNERS



BRAIN FOOD BREAKFAST

Festival Lab, Cultural Forecourt
South Bank Parklands



THE TALES TEETH TELL

Join renowned biological anthropologist **Tanya Smith** as she reveals how researching our teeth helps us to understand ancient human development, behaviour and evolution.

Thursday 22 March 2018, 7:30am – 8:30am
\$20/\$15 (Includes breakfast in ticket price)



SPORTING SUCCESS

Enjoy a high-performance breakfast of champions to discover whether innate sporting talent could one day be pre-determined biologically or even pre-designed.

Friday 23 March 2018, 7:30am – 8:30am
\$20/\$15 (Includes breakfast in ticket price)



NO GUTS, NO GLORY

Sit down for breakfast with healthy living champion **Joanna McMillan** and discuss the fascinating facts behind gut health and the growing importance of this field of science.

Saturday 24 March 2018, 8:00am – 9:00am
\$20/\$15 (Includes breakfast in ticket price)



FEED YOUR BRAIN, FEED YOUR BODY
with Dr Karl

Jump-start your day and give your brain a boost with **Dr Karl** over breakfast as he shares the amazing and amusing facts you need to know about all things body, health and exercise.

Sunday 25 March 2018, 8:00am – 9:00am
\$20/\$15 (Includes breakfast in ticket price)

SCIENCE GETS SOCIAL

Festival Lab, Cultural Forecourt
South Bank Parklands



THE ART OF CRYPTOLOGY

Hackers, gamers, spies and snapchatters all rely to varying degrees on the multifaceted minefield of cryptology – a digital world of codes, algorithms, patterns and puzzles. Delve into the murky world of encryption and discover the exquisite artistry that permeates our daily lives.

Thursday 22 March 2018, 5:30pm – 7:00pm
\$20/\$15 (Includes beverage in ticket price)



PILLOW TALK

Our sleeping hours may be filled with sweet dreams, insomnia and nightmares. Venture into the dark hours as we explore sleep patterns, REM and the wondrous world of dreams.

Friday 23 March 2018, 5:30pm – 7:00pm
\$20/\$15 (Includes beverage in ticket price)



SCULLY TO YOUR MULDER

New scientific discoveries can blur the lines between science fiction and science fact. From wormholes and warp speed to DNA splicing and human hybrids, we test the science behind the stories with the scepticism of Scully and the imagination of Mulder.

Saturday 24 March 2018, 5:30pm – 7:00pm
\$20/\$15 (Includes beverage in ticket price)

LET’S TALK SERIES

Theatre, Queensland Museum



ANCIENT EGYPTIAN MUMMIES:
May They Live Forever

Serena Love

Explore the how and why of ‘immortal’ human remains and the rituals of one of ancient Egypt’s most iconic objects: the mummy.

Friday 23 March 2018, 10:30am – 11.30am, \$20/\$15

ANCIENT EGYPTIAN BODIES:
Medicine, Surgery and Magic

Serena Love

A fascinating glimpse into how ancient Egyptians treated trauma, infections and gynaecological issues using natural compounds, amulets and incantations.

Sunday 25 March 2018, 10:30am – 11.30am, \$20/\$15

THE HUBBLE SPACE TELESCOPE

Jennifer Wiseman

Discover the journey of the Hubble Space Telescope which has revolutionised astronomy, giving us an unobstructed view of the universe and its beginnings as it spins around the Earth.

Friday 23 March 2018, 3:30pm – 4:30pm, \$20/\$15



MIGRATORY SHOREBIRDS

Richard Fuller

Find out about the shorebirds from around the globe that form an important part of our coastal ecosystems and biodiversity, but now face threats due to habitat loss, hunting and climate change.

Saturday 24 March 2018, 10:30am – 11:30am, \$20/\$15

TURTLES

Colin Limpus

An extraordinary insight into the life cycles of Loggerhead and Flatback turtles and the difficulties these complex animals face as human impact increases and encroaches.

Saturday 24 March 2018, 1:00pm – 2:00pm, \$20/\$15

FROGS

Harry Hines

Become a champion for these humble amphibians and their survival as you discover their amazing costumes, characteristic songs, life cycles and biodiversity in a human-impacted world.

Sunday 25 March 2018, 1:00pm – 2.00pm, \$20/\$15

THIS IS HOW WE INSPIRE FUTURE INNOVATORS

Since 2013 Coder Dojo has introduced 3,500 Brisbane kids
to the world of computer programming.

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digitalbrisbane.com.au



CoderDojo Brisbane



MATHEMAGICS

A glimpse inside a remarkable mind

FESTIVAL EXCLUSIVE

Internationally renowned mathematician **Arthur Benjamin** will take audiences on a mind-bending journey through the infinite world of mathematics in this highly entertaining, fun and interactive presentation for all ages.

Exclusive to World Science Festival Brisbane, *Mathemagics* will showcase Dr Benjamin's extraordinary mathematical knowledge and extreme mental agility, before revealing the secrets of combinatorics and rapid-fire calculation for everyone to learn. *Mathemagics* offers a rare glimpse inside a remarkable mind and highlights the boundless power of the human brain.

Friday 23 March 2018
11:30am – 12:30pm
Conservatorium Theatre, QCGU
\$15/\$10

Friday 23 March 2018
7:00pm – 8:00pm
The Edge Auditorium, SLQ
\$15/\$10



DR KARL

DR KARL FOR KIDS

Back by popular demand!

Join Science Broadcaster **Dr Karl** as he investigates the Big Question - "Is there life beyond Earth?"

You'll also get the chance to ask your burning science questions be they chemical, physical, technological, astrophysical or astronomical! This event is recommended for children 7 to 13 years and their families.

Saturday 24 March 2018
11:30am – 12:30pm
Concert Hall, QPAC
\$10/\$5
SOLD OUT

**EXTREME MOMENTS IN SCIENCE:
 with Dr Karl**

Dr Karl will take you on a rollercoaster ride through the 'badlands' of science where you'll discover the answers to questions you never knew existed – and where you will laugh and learn.

Prepare to be amused and amazed as Australia's favourite science guru takes you on an excursion around a scientific landscape from the sublime moments of deep thought to the arcane and bizarre.

Saturday 24 March 2018
8:00pm – 9:30pm (followed by book signing)
Conservatorium Theatre, QCGU
\$15/\$10

PIONEERS IN SCIENCE

The Pioneers in Science program gives students rare access to some of the world's most renowned scientists.

This intimate gathering allows students to address some of the most important topics in science with our guests, who will share their personal stories, life challenges and career highlights, giving students a chance to imagine what their futures in science might be.



PROFESSOR FIONA WOOD
 2005 Australian of the Year **Fiona Wood** is a plastic and reconstructive surgeon specialising in burn care, trauma and scar reconstruction. Director of the WA Burns Service of Western Australia and a consultant Plastic Surgeon at Princess Margaret Hospital and Fiona Stanley Hospital, Wood co-pioneered the world's first 'spray on skin'.

Thursday 22 March 2018
1:30pm – 2:30pm
Conservatorium Theatre, QCGU
\$15/10



PROFESSOR ALAN MACKAY-SIM
 2017 Australian of the Year **Alan Mackay-Sim** is an international expert on the human sense of smell. Mackay-Sim was a pioneer in the discovery and use of adult stem cells from the nose for medical applications including spinal cord injury and understanding brain diseases.

Friday 23 March 2018
1:30pm – 2:30pm
Theatre, QM
\$15/10



The action-packed regional program brings the wonder and excitement of science, technology, engineering and mathematics to Queensland towns and cities. Visit worldsciencefestival.com.au to book tickets including ‘free ticketed events’ and ‘schools only’ events.

GLADSTONE

STUDENT DAY

Friday 2 March 2018 | Gladstone Entertainment Convention Centre

BECOMING MARTIAN WITH JOSH RICHARDS | **FREE - Schools only**
COOL JOBS | **FREE - Schools only**

COMMUNITY DAY

Saturday 3 March 2018 | Gladstone Entertainment Convention Centre

STREET SCIENCE SHOW | **FREE - Ticketed event**
BECOMING MARTIAN WITH JOSH RICHARDS | **FREE - Ticketed event**
UNDERSTANDING THE UNIVERSE INSIDE THE HUMAN BODY | **FREE - Ticketed event**



CHINCHILLA

STUDENT DAY

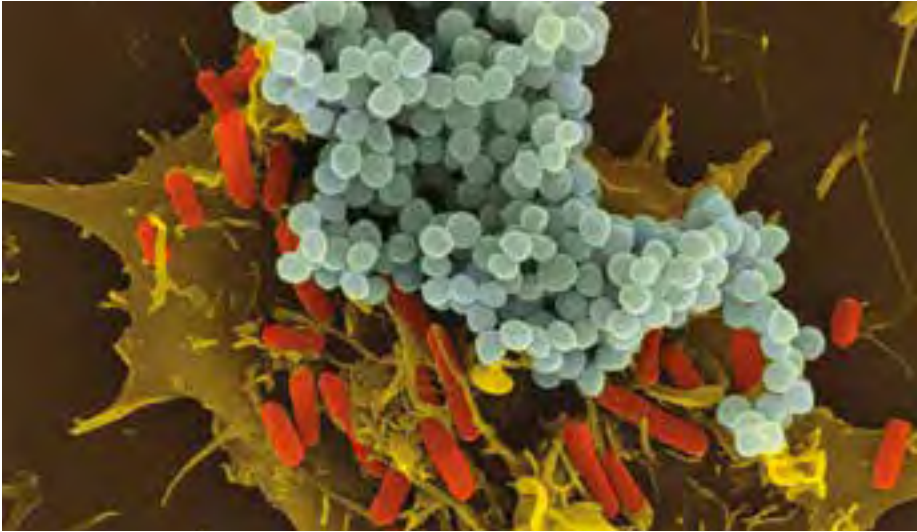
Friday 9 March 2018 | Chinchilla Cultural Centre

COOL JOBS | **FREE - Schools only**
FOR THE LOVE OF MATHS: CHARLES T GRAY | **FREE - Schools only**

COMMUNITY DAY

Saturday 10 March 2018 | Chinchilla Cultural Centre

STREET SCIENCE SHOW | **FREE**
FOR THE LOVE OF MATHS: CHARLES T GRAY | **FREE**
UNDERSTANDING THE UNIVERSE INSIDE THE HUMAN BODY | **FREE**



TOOWOOMBA

STUDENT DAY

Friday 16 March 2018 | Cobb+Co Museum

FLIGHT CLUB | **\$5**
COOL JOBS | **\$10**

BUGS & DRUGS: The Resistance Wars

Friday 16 March 2018 | Empire Church Theatre | **\$30/\$25/\$10**

STREET SCIENCE SHOW

Saturday 17 March 2018 | Cobb+Co Museum | **FREE - Ticketed event**



IPSWICH

STARGAZING

Thursday 22 March 2018 | The Workshops Rail Museum | **FREE**

EXTREME MOMENTS IN SCIENCE: With Dr Karl

Thursday 22 March 2018 | The Workshops Rail Museum | **\$15/\$10**



TOWNSVILLE

COMMUNITY DAY

Sunday 25 March 2018 | Museum of Tropical Queensland

STREET SCIENCE SHOW | **FREE - Ticketed event**
ANSTO FACT OR FICTION 2.0: Web of Intrigue | **\$10/\$5**

STUDENT DAY

Monday 26 March 2018 | Museum of Tropical Queensland

COOL JOBS | **\$5**
ANSTO FACT OR FICTION 2.0: Web of Intrigue | **\$5**



QUEENSLAND MUSEUM EXPERTS

Behind the scenes of Queensland Museum is an extraordinary place where scientists, researchers, preparators and collection managers build and maintain one of Australia's largest collections of natural and cultural heritage. From skins to skeletons – make no bones about it, these exhibits will fascinate and enthrall.

Thursday 22 and Friday 23 March 2108
9.30am – 5.00pm
Level 4, QM
FREE - No bookings required



GREEN HEART SCHOOLS: Future BNE Challenge

Year 7 students from schools across the city will form Brisbane Water Security Response teams after a visit from a time traveller warning of water woes in the year 2100! This inquiry-based learning challenge asks teams to channel innovative, radical and future-thinking ideas to critically evaluate water availability and quality and discover how science, technology and design can work together to build a better future.

Visit website for details



A NIGHT BY THE FIRE WITH RHONDA PURCELL

Join us for an intimate conversation by the fire with Quandamooka woman, champion body builder and Deadly Choices ambassador **Rhonda Purcell**. Learn more about Rhonda's life story and how her love for training, healthy eating and determination has turned her life around.

Saturday 24 March 2018
6:30pm – 7:30pm
kuril dhagun, SLQ
FREE – Bookings required via website



WORLD SCIENCE FESTIVAL BRISBANE STEAM TRAIN

Travel through Brisbane by steam! Start your festival adventure aboard an authentic steam train before disembarking for festival events at Queensland Museum and South Bank Parklands. Steam trains depart and return to South Brisbane station for a one-hour ride.

Saturday 24 March 2018
10:15am – 11:15am and
11:40am – 12:40pm
South Brisbane Station
\$33/\$30/\$22



QUANTUM PHYSICS FOR BABIES

Bring your under-5s to hear physicist **Chris Ferrie** read his book *Quantum Physics for Babies*. With a tongue-in-cheek approach, this is the perfect way to introduce basic concepts to even the youngest scientists.

Friday 23 March 2018
10:30am – 11:00am
The Corner, SLQ
FREE - No bookings required



COOL JOBS

Meet four amazing scientists – Chris Ferrie, Veena Sahajwalla, Justin Marshall and Jennifer Wiseman – to discuss the reality of today's most innovative jobs. Hosted by Rob Bell.

Thursday 22 March 2018
10:00am – 11:00am
Concert Hall, QPAC
\$10



FOSSIL FINDERS: Piecing the Past Together

Investigate the process of fossilisation and how the remains of living things reveal information about past environments and ecosystems.

Thursday 22 and Friday 23 March 2018
10:00am – 11:00am, 11:30am – 12:30pm
and 1:00pm – 2:00pm
The INVENTory, Level 4, QM
\$10



APPRENTICE PROGRAM

This immersive program for students offers a taste of real science in action through small, hands-on workshops as a Museum Conservator, Microbiologist, Geneticist or an Evolutionary Biologist.

Thursday 22 March – Saturday 24 March 2018
Various times and locations - visit website for details
\$10



EMPIRE OF OUR SENSES: The Body and Mind in Science

The Australian Cinémathèque, GOMA.

A sensory program of film and documentaries that reflects on the expectations we have of our minds and bodies and how these can be re-evaluated through deeper scientific investigation.

\$10/\$8/\$7 (QAGOMA Member)

THE EMPIRE OF SCENTS

Wednesday 21 March 2018 | 6:00pm

LIFE, ANIMATED

Wednesday 21 March 2018 | 7:45pm

EXPERIMENTER: The Stanley Milgram Story

Friday 23 March 2018 | 6:00pm

THE FARTHEST

Friday 23 March 2018 | 7:45pm

SHORTS FOR SHORTIES

Saturday 24 March 2018
1:30pm, 2:00pm and 2:30pm

Sunday 25 March 2018
10:30am and 11:00am
Free - No bookings required

BEFORE THE FLOOD

Saturday 24 March 2018 | 1:00pm

FERMENTED

Saturday 24 March 2018 | 3:00pm

BOMBSHELL: The Hedy Lamarr Story

Sunday 25 March 2018 | 3:15pm

THE IMMORTAL LIFE OF HENRIETTA LACKS - FILM & TALK

Following the film screening, research scientist **Jennifer Stow** (University of Queensland) will discuss the incredible impact that Henrietta Lacks' cells have had on cancer research.

Sunday 25 March 2018 | 1:00pm
Free - No bookings required

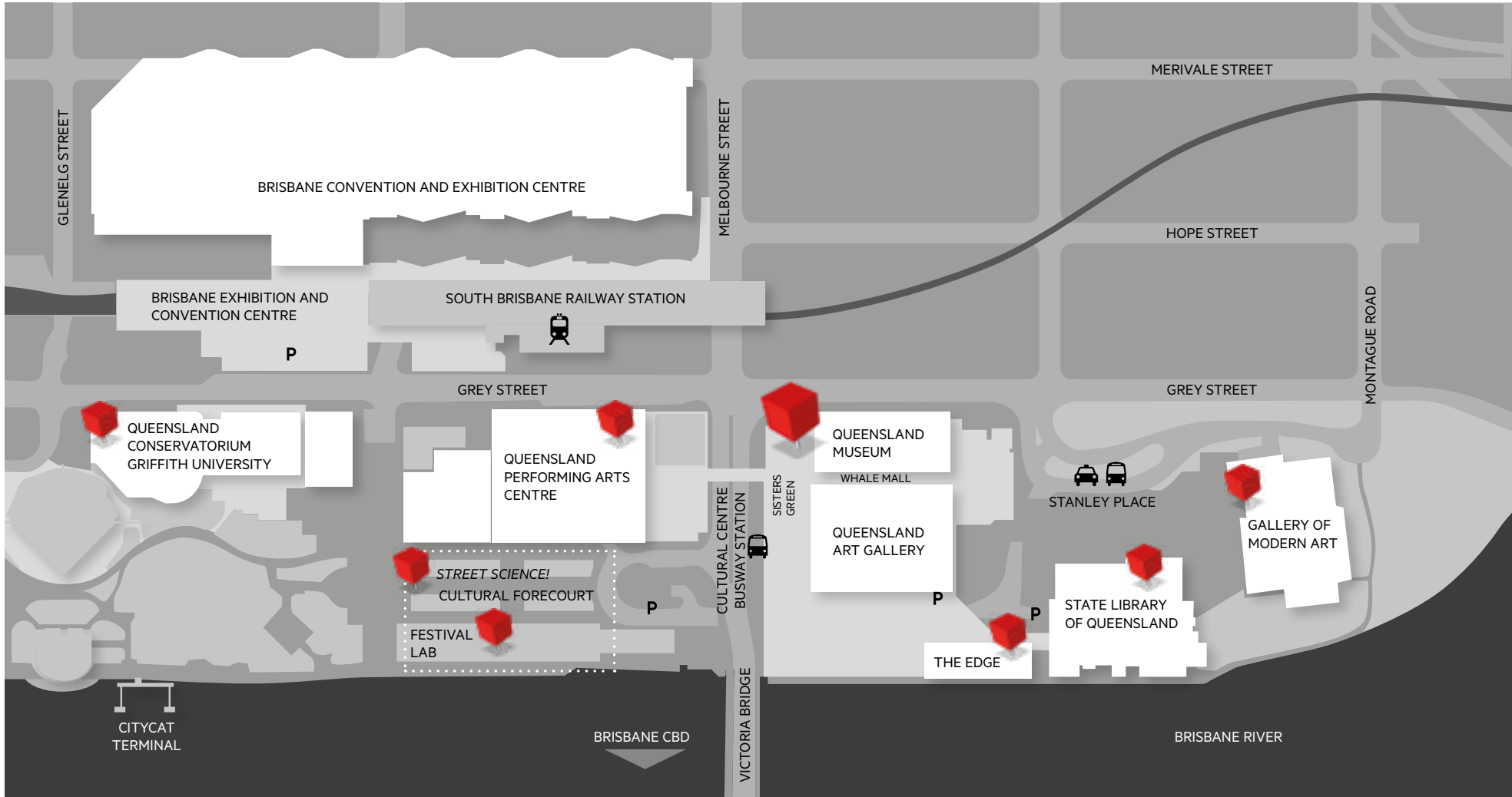
THE EMPIRE OF SCENTS - FILM & DINNER

Inspired by *The Empire of Scents* GOMA Restaurant Head Chef Aaron Holt joins forces with scientist Sandra Olarte Mantilla (University of Queensland) and a guest sommelier to guide diners through a sensory evening of film, food and wine.

Saturday 24 March 2018
4:30pm
Tasting menu with matched wines
\$107/\$96 (QAGOMA Member)
Screening 4:30pm | Dinner 6.00pm
Reservations required

For further film details visit the website

More information



World Science Festival Brisbane

INFORMATION AND ENQUIRIES

Phone: 07 3842 9103
Overseas callers: 61 7 3842 9103
Website: worldsciencefestival.com.au

TICKET SALES

Brisbane events

QTIX Ticket Sales
Phone: 136 246 (Toll Free outside the Brisbane metropolitan area)
+61 7 3846 4444 AEST (Outside Australia)

Box Office Hours:
9:00am – 8:30pm, Monday to Saturday (AEST)
Please note the Box Office is open two hours prior to a scheduled performance on Sundays.




Email: info@qtix.com.au
Corner Grey and Melbourne Streets
South Brisbane, Q, 4101

Other outlets
Ticket sales will be available at Level 2 Queensland Museum and various locations during the Festival.
See website for full details.

Regional events

For Regional Program bookings visit
worldsciencefestival.com.au/regional-events
Email: regional@worldsciencefestival.com.au

Getting to the Festival

WALK	The Festival Zone is located across the river from the Brisbane CBD at the Cultural Precinct and South Bank
BUS	 To Cultural Centre Busway Station
TRAIN	 To South Brisbane Station, opposite QPAC on Grey Street
CITYCAT/FERRY	To South Bank Ferry Terminal in South Bank Parklands
TAXI	 To the taxi set-down and pick-up area on either the Grey Street side of QPAC or Stanley Place outside State Library of Queensland
CAR	Via Melbourne Street, Victoria Bridge or Grey Street
PARKING	P Riverside Carpark, QPAC – enter from Stanley Street Art Gallery/Museum Carpark and State Library of Queensland Carpark – enter from Stanley Place Brisbane Convention & Exhibition Centre – enter from Merivale Street or Grey Street South Bank Parklands Carpark – enter from Little Stanley Street

For bus, train and citycat/ferry timetable information call TransLink on 13 12 30 or visit translink.com.au

Festival Venues

QUEENSLAND MUSEUM (QM)	Corner Melbourne & Grey Streets South Brisbane
QUEENSLAND PERFORMING ARTS CENTRE (QPAC)	Corner Melbourne & Grey Streets South Brisbane
QUEENSLAND CONSERVATORIUM GRIFFITH UNIVERSITY (QCGU)	140 Grey Street South Brisbane
GALLERY OF MODERN ART CINÉMATHÈQUE (GOMA)	Stanley Place South Brisbane QAGOMA
STATE LIBRARY OF QUEENSLAND (SLQ)	Stanley Place South Brisbane
FESTIVAL LAB	Cultural Forecourt South Bank Parklands

Other Information

PRAM STATIONS	Located on the Cultural Forecourt and at Queensland Museum <i>Limited availability. Please do not leave valuables in unattended prams.</i>
INFORMATION	Dedicated booths located on the Cultural Forecourt
FOOD OUTLETS	Located throughout the Cultural Forecourt and some festival venues

Looking for a unique gift idea for friends and family? Purchase a festival gift certificate today at worldsciencefestival.com.au



World Science Festival Brisbane Festival Schedule | 21–25 March 2018

WEDNESDAY 21 MARCH		THURSDAY 22 MARCH		FRIDAY 23 MARCH		SATURDAY 24 MARCH		SUNDAY 25 MARCH	
7.30pm	QPAC	QUEENSLAND MUSEUM		QUEENSLAND MUSEUM		QUEENSLAND MUSEUM		QUEENSLAND MUSEUM	
		THE HATCHERY FREE p1		THE HATCHERY FREE p1		THE HATCHERY FREE p1		THE HATCHERY FREE p1	
		QUEENSLAND MUSEUM EXPERTS FREE p15		QUEENSLAND MUSEUM EXPERTS FREE p15		MIGRATORY SHOREBIRDS FREE		EARLY COGNITIVE DEVELOPMENT FREE	
		MIGRATORY SHOREBIRDS FREE		MIGRATORY SHOREBIRDS FREE		CORAL WATCH FREE		UQ QUANTUM PHYSICS FREE	
		CORAL WATCH FREE		CORAL WATCH FREE		WHALE MALL KIDS CHALK MURAL ART FREE		BOP INDUSTRIES FREE	
10.00am – 2.00pm		FOSSIL FINDERS p15		FOSSIL FINDERS p15		UO QUANTUM PHYSICS FREE		LET'S TALK: Ancient Egyptian Bodies p11	
				10.30am		LET'S TALK: Ancient Egyptian Mummies p11		LET'S TALK: Frogs p11	
				1.30pm		PIONEERS IN SCIENCE: Alan Mackay-Slim p13		10.30am	
				3.30pm		LET'S TALK: The Hubble Space Telescope p11		1.00pm	
				5.30pm		AFTER DARK (18+) EGYPTIAN MUMMIES		5.30pm	
		QPAC				QPAC			
		10.00am		COOL JOBS p15		11.30am		DR KARL FOR KIDS p13	
		7.00pm		BESPOKE BODIES p3		7.00pm		CLOSE ENCOUNTERS OF THE THIRD KIND IN CONCERT p1	
		QUEENSLAND CONSERVATORIUM		QUEENSLAND CONSERVATORIUM		QUEENSLAND CONSERVATORIUM		QUEENSLAND CONSERVATORIUM	
5.00pm		THE LANGUAGE OF THE UNIVERSE p7		11.30am		MATHEMAGICS p13		10.00am	
		1.30pm		PIONEERS IN SCIENCE: Fiona Wood p13		7.00pm		1.30pm	
		7.30pm		EXTREME CITIES p5				5.00pm	
								8.00pm	
		FESTIVAL LAB/SOUTH BANK PARKLANDS		FESTIVAL LAB/SOUTH BANK PARKLANDS		FESTIVAL LAB/SOUTH BANK PARKLANDS		FESTIVAL LAB/SOUTH BANK PARKLANDS	
		7.30am		BRAIN FOOD BREAKFAST p11		7.30am		8.00am	
		5.30pm		SCIENCE GETS SOCIAL p11		5.30pm		10.00am – 4.00pm	
		AUDITORIUM 1, SLQ		THE EDGE AUDITORIUM, SLQ		AUDITORIUM 1, SLQ		AUDITORIUM 1, SLQ	
10.00am		SPACE JUNK p5		WASTE NOT WANT NOT p5		10.00am		10.00am	
				7.00pm		1.00pm		1.00pm	
				MATHEMAGICS p13		ANCIENT DNA p7		VENOM & PAIN p6	
						PROBING THE ETERNAL SUNSHINE p5		CHASING LONGEVITY p6	
						kuril dhagan, SLQ			
						6.30pm			
				THE CORNER, SLQ					
				QUANTUM PHYSICS FOR BABIES FREE p15					
				GOMA, CINÉMATHEQUE		GOMA, CINÉMATHEQUE		GOMA, CINÉMATHEQUE	
6.00pm – 9.30pm		EMPIRE OF OUR SENSES Film Program p15		6.00pm – 9.45pm		EMPIRE OF OUR SENSES Film Program p15		10.30pm – 4.45pm	
						4.30pm		1.00pm	
						SOUTH BRISBANE TRAIN STATION			
		6.30pm		EXTREME MOMENTS IN SCIENCE with Dr Karl p14		10.15am & 11.40am			
		8.00pm		STARGAZING FREE p14					

PRESENTED BY



OUR PARTNERS

STRATEGIC PARTNERS



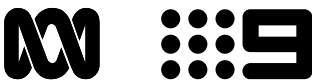
ACADEMIC PARTNERS



STREET SCIENCE PARTNER



MEDIA PARTNERS



PERFORMANCE PARTNER



COMMUNITY PARTNER



INNOVATION PARTNER



PROGRAM PARTNERS



OFFICIAL SUPPLIERS



Like any complex chemical compound, **World Science Festival Brisbane** is a carefully curated combination of elements.

Partnerships feature prominently in these equations, as the oxygen to our propane (the critical elements of combustion).

We are serious about partnerships and dedicated to developing genuine relationships premised on shared vision, clearly articulated outcomes and measurable, mutually rewarding impact in STEM.

If you are serious about partnerships, and want to take a leadership role in STEM engagement, contact our partnerships team on +61 (7) 3842 9344 or email wsfbpartners@qm.qld.gov.au to discuss the opportunities available.

Together, we can make a spark.