



Q U E E N S L A N D M U S E U M

World
Science
Festival
Brisbane

WORLD SCIENCE FESTIVAL BRISBANE
2019: IN REVIEW



FOREWORD



Our world is changing more rapidly than at any other time in human history. The World Science Festival Brisbane invites us to explore what the future holds.

This year's World Science Festival Brisbane, a month-long celebration of science, attracted record crowds in the more than 134 events that were held across Queensland.

The Festival, hosted by Queensland Museum and funded by the Queensland Government, recorded more than 205,000 visitors, which was the largest number since the Festival began in 2016. All regional areas experienced a growth in attendances, which reflects Queensland's growing passion for all things science.

The 2019 Festival also attracted more than 90,000 visitor nights, which was a 39% increase from last year.

In the past four years, World Science Festival Brisbane has taken science out of the labs and onto the streets, enthralled audiences, engaged communities and injected more than \$32 million into the Queensland economy.

These phenomenal results support the Queensland Government's vision to establish our state as a place that recognises, supports, advocates and engages in science and the jobs it underpins.

The Queensland Government continues to take the lead in bringing this landmark event to Queensland, with annual funding of \$3

million to ensure the festival will continue to grow and thrive.

All great scientists attest that we are greater than the sum of our parts. World Science Festival Brisbane is no different. This overwhelming success is directly attributed to the generosity and unwavering enthusiasm of attendees, participants, performers, activity providers, staff, volunteers and partners, all of whom contributed so much more than their time.

Congratulations on another fantastic year, we look forward to seeing what the Festival brings in 2020.

The Honourable Annastacia Palaszczuk MP
Premier and Minister for Trade

The Honourable Kate Jones
Minister for Innovation and Tourism
Industry Development

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

ACKNOWLEDGEMENT OF COUNTRY

In keeping with the spirit of reconciliation, we acknowledge the Traditional Custodians of the land that the festival is created and presented on – we recognise and pay respect to the first scientists and acknowledge the important contribution this unique wisdom provides to contemporary scientific conversations and collaborations. We acknowledge the deep and timeless relationship between Country and Aboriginal peoples and Torres Strait Islanders and pay respect to the Elders of the community and extend recognition to their descendants both past and present.



Cover image: Soldier Fly, *Antissa nota*.
Image by Geoff Thompson, Collection Imager
© Queensland Museum, 2017

Visitors to **STREET SCIENCE!**
get hands-on with one of the many
free STEM activities on offer.



**A general public
informed by science,
inspired by its wonder,
convinced of its value,
and prepared to engage
with its implications for
the future.**

World Science Festival mission



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Visitors to Queensland Museum were once again captivated by **THE HATCHERY: Turtle Conservation Experience** at World Science Festival Brisbane 2019.

SNAPSHOT¹ 2019

Programming

214

PERFORMANCES

134

EVENTS HELD ACROSS

6

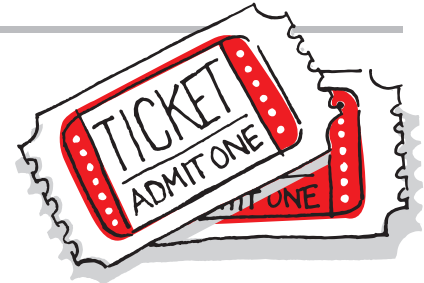
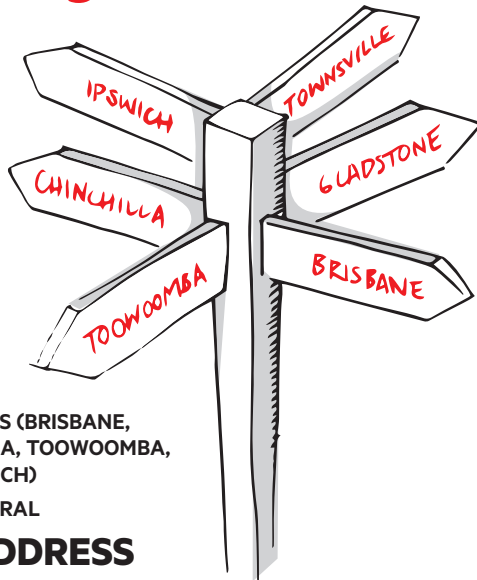
GEOGRAPHIC LOCATIONS (BRISBANE, GLADSTONE, CHINCHILLA, TOOWOOMBA, TOWNSVILLE AND IPSWICH)

INCLUDING THE INAUGURAL

SCIENTIA^{®2} ADDRESS

AND AUSTRALIAN PREMIERE OF

TIME AND THE CREATIVE COSMOS



Attendances

186,970

BRISBANE | 19-24 MARCH

7,142

GLADSTONE | 1-2 MARCH

3,305

TOWNSVILLE | 8-9 MARCH

3,044

CHINCHILLA | 29-30 MARCH

2,748

IPSWICH | 16-17 MARCH

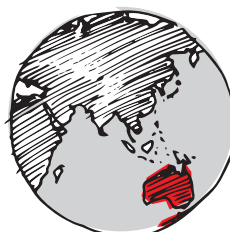
2,020

TOOWOOMBA | 22-23 MARCH

205,229

People

209 PARTICIPANTS FROM **6** COUNTRIES



55

ACTIVITY PROVIDERS

33

PERFORMERS AND

244

VOLUNTEERS

¹ Nomenclature is defined in Appendix 1.

² SCIENTIA is a registered trademark of UNSW Sydney. SCIENTIA is used under licence from UNSW Sydney.

Marketing + Media Relations

1,937 | MEDIA STORIES

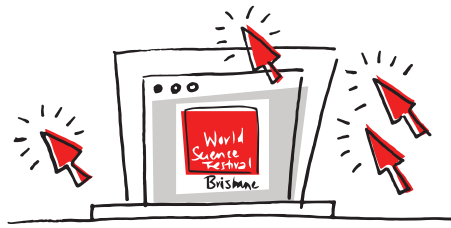
REACHING A CUMULATIVE AUDIENCE OF

1B+



WITH AN ADVERTISING SPACE RATE VALUE OF

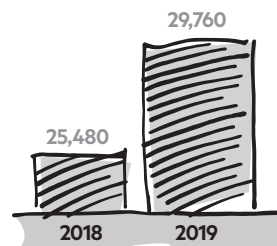
17.9M



170,190+ UNIQUE VISITORS

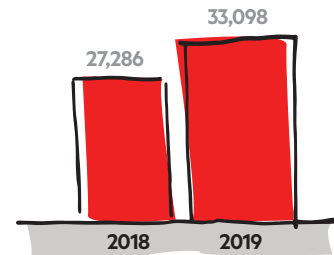
TO worldsciencefestival.com.au WEBSITE
1 MAY 2018 – 30 APRIL 2019

21.3% | GROWTH IN ENEWS SUBSCRIBERS



ENEWS SUBSCRIBERS

16.8% | AVERAGE GROWTH IN SOCIAL MEDIA AUDIENCES



SOCIAL MEDIA AUDIENCES

Economic Impact³

90,538

EVENT-SPECIFIC VISITOR NIGHTS, A **39% INCREASE** ON 2018

\$11.45M

IN DIRECT AND INCREMENTAL SPENDING ACROSS QUEENSLAND, REPRESENTING A **28% INCREASE** ON 2018

Partnerships

30 PARTNERS FROM GOVERNMENT, ACADEMIA AND INDUSTRY

CONTRIBUTING

\$3M IN

CASH + IN-KIND SUPPORT



DEMONSTRATED **100%** SATISFACTION WITH OF PARTNERS INDICATING AN INTENTION TO RE-PARTNER

³ Economic Impact assessment commissioned by Tourism and Events Queensland



PROFILE

QUEENSLAND MUSEUM NETWORK

Queensland Museum Network has been discovering, documenting and celebrating the state's biological diversity, cultural heritage and geological treasures for 157 years.

Today, Queensland Museum Network is the keeping place for the State Collection, comprising over 1.2 million cultural objects and natural history specimens and more than 14 million research items.

A trusted cultural and scientific leader, backed by 150+ years of research and excellence, Queensland Museum Network offers communities a safe place to explore new concepts, new discoveries and brave new ideas.

We reach beyond the constraints of geography to celebrate the story of Queensland and our place in the world through ground-breaking research and visitor experiences across seven public sites:

1. Queensland Museum: South Bank, Brisbane
2. Cobb+Co Museum: Toowoomba
3. Museum of Tropical Queensland: Townsville
4. The Workshops Rail Museum: Ipswich
5. Queensland Museum Collections, Research and Loans Centre: Hendra, Brisbane
6. Museum of Lands, Mapping and Surveying: Edward Street, Brisbane
7. Earth Sciences Museum: The University of Queensland, Brisbane.

These compelling experiences provide a powerful platform to build and sustain engagement in science, technology, engineering and maths (STEM) throughout life and across generations.

WORLD SCIENCE FESTIVAL BRISBANE

Hailed by The New York Times as 'a new cultural institution', the World Science Festival has been held annually in New York for over a decade.

World Science Festival Brisbane is presented by the Queensland Government through Queensland Museum Network: the only global extension of this hugely popular initiative.

Through a curated program of conversation, theatre and cinematic performance, educational events and outdoor experiences, World Science Festival Brisbane explores the entanglement of science and art.

Presenting World Science Festival Brisbane reinforces Queensland Museum Network's position as a leader in STEM engagement and enhances Queensland's profile as a knowledge economy.

After only four years, World Science Festival Brisbane has fast become the Asia-Pacific counterpoint to New York: a trusted place to explore new frontiers, celebrate the unthinkable and debate the challenges confronting humankind.



PROGRAM

The fourth annual World Science Festival Brisbane explored life on earth, advancing medical science, invention and the story of space through a curated program of performance, conversation, film, outdoor experiences and hands-on activities.

PERFORMANCE

20 – 23 MARCH 2019

The 2019 performance program explained the fascinating lifecycle of stars, planets, galaxies, nebulae and universal phenomena with two multimedia events: **PARTICLE/WAVE: Where Science and Art Collide** and **TIME AND THE CREATIVE COSMOS**.

PARTICLE/WAVE offered audiences a unique insight into the incredible discovery of gravitational waves. Direct from the Melbourne International Arts Festival, this immersive experience was presented under the spectacular dome of the Sir Thomas Brisbane Planetarium to six sell-out audiences.

On Saturday evening, more than 1,100 patrons filled the Concert Hall for the Australian premiere of **TIME AND THE CREATIVE COSMOS**. Written and narrated by World Science Festival co-founder and acclaimed physicist, Brian Greene and featuring original choreography from New York-based modern dance troupe Pilobolus, **TIME AND THE CREATIVE COSMOS** took audiences on a cosmic journey from the Big Bang to the end of time.

First performed in 2017 in New York, the Australian premiere of **TIME AND THE CREATIVE COSMOS** was adapted to include poetry by acclaimed Australian writers Jack Davis and Kenneth Slessor and performances by multi-award winning actor, writer, producer and director, Leah Purcell; actor, writer, comedian, playwright and star of the ABC's *Black Comedy*, Steven Oliver; winner of *The Voice Australia* 2013, Harrison Craig and Brisbane cabaret singer, Alison St Ledger.

Exclusive to Brisbane and for one night only, **TIME AND THE CREATIVE COSMOS** was presented by Queensland Museum in association with World Science Festival and Queensland Performing Arts Centre.

Brian Greene in **TIME AND THE CREATIVE COSMOS**.



Audiences were taken on a journey to Mars in **WE WILL BE MARTIANS: Our Future on the Red Planet**.



SIGNATURE EVENTS

19 – 24 MARCH 2019

World Science Festival Brisbane Signature Events showcase the expertise of our Academic Partners and the best events from New York.

On Tuesday evening, internationally renowned scientist, explorer, conservationist and Chief Councillor of the Climate Council Tim Flannery presented the **SCIENTIA® ADDRESS** in QPAC's Concert Hall.

The **SCIENTIA® ADDRESS** included an interview of Flannery by life-long friend and frequent collaborator, actor, comedian and screenwriter John Doyle (*Roy and HG*). With his engaging and accessible style, Flannery inspired audiences to understand our environment, consider renewable energy sources, and fight to sustain our planet's forests, food sources, waterways and atmosphere.

With the scene set so adeptly by Flannery, our environment continued as a key theme throughout World Science Festival Brisbane 2019. On Thursday evening, the fate of Australia's jewelled wonder was discussed in **OUR JEWELLED SEAS: Future-Proofing the Great Barrier Reef**. Presented in conjunction with



The University of Queensland, this signature event saw Traditional Owners and international experts in ecological genetics, climate change and environmental biophysics debate the story of the Great Barrier Reef – past, present and future.

On Friday evening, 21st century intelligence attempted to tame age-old enemies in **PANDEMICS AND EPIDEMICS: Preparing for the Ultimate Travel Bug**. Presented in conjunction with Griffith University, this stimulating conversation investigated the application of modern science to prevent, predict and meet the rising threat of infectious diseases worldwide. On Sunday, our focus moved from Earth to elsewhere in the galaxy as World Science Festival co-founder

Brian Greene and a panel of interdisciplinary experts navigated the technological, physiological, and psychological challenges of sending humans to the red planet in **WE WILL BE MARTIANS: Our Future on the Red Planet**.

Our signature event program concluded on Sunday afternoon with **INNOVATION BY DESIGN: Geeks, Style Gurus and Sciencepreneurs**. Presented in conjunction with QUT, this on-trend discussion considered the rise of science-based entrepreneurship and the blurred lines between technology, engineering and fashion.

CONVERSATION + SALON SERIES

20 – 24 MARCH 2019

Conversations and salons are the beating heart of the World Science Festival Brisbane program. In 2019 these stimulating and thoughtfully crafted discussions contemplated the delicate balance between preservation and progress in the face of climate change, longevity and overpopulation.

BRINGING THEM BACK: The De-extinction Debate explored the revolutionary technologies taking place worldwide to preserve vanishing species and wrestled with the implications of species revival. **SAVING WHAT WE'VE GOT: Australia's Wildlife Under Threat** focussed on maintaining and sustaining our home-grown biodiversity while **CITIZENS + SCIENCE: The Reef Needs Us All** demonstrated how the burgeoning growth of citizen science is best deployed to defend and preserve the Great Barrier Reef.



World
Science
Festival
Brisbane



Audiences enjoyed inspiring discussions, including **MAKING IT GREAT: Celebrating Queensland Invention**, as part of the World Science Festival Brisbane 2019 program.



We travelled from the tropical north to the arctic south in **ANTARCTICA: What Happens There Matters Everywhere**. Specialists in glaciology, ecology and biology demonstrated how the frozen continent has become a vital prognostic indicator of our warming planet and the worrying influence of human activities. **HOMEWARD BOUND: Mother Nature Needs Her Daughters** included firsthand accounts from three women who voyaged to Antarctica as part of a groundbreaking leadership initiative aimed to heighten the influence and impact of women in science. Staying on the global theme, **FEEDING THE WORLD: The Big and Small Solutions** examined food security in the face of climate change, while **FARMING, FOOD and THE FUTURE: What's on the Menu in 2050?** contemplated the future eating habits of primary production-rich countries like Australia.

Australia's pristine topography was the subject of **WHEN SCIENCE MEETS ART: Shifting Perspectives on the Australian Landscape**, in which artists and scientists demonstrated how multimedia is being used to contextualise 130,000 years of history. Our fine country remained the focus for **AUSTRALIA IN SPACE: Our Story in the Stars**, which examined Australia's historic role in space exploration – from establishment of the Muechea Tracking Station in 1962 through to founding of the Australian Space Agency in 2018... and beyond. We returned home to Queensland in **MAKING IT GREAT: Celebrating Queensland Invention**. Pioneering scientists from Griffith University, QUT and The University of Queensland highlighted how breakthroughs in salivary diagnostics, molecular biology, bionics and biochemical engineering and biotechnology are contributing to longer and healthier lives.

In **CRISPR: The Modern Creation Story**, an expert panel of biologists discussed the game-changing CRISPR-Cas9 technology and grappled with the implications and consequences of genetic manipulation. Staying in the health realm, **PERSONALISED MEDICINE: Every Bodies' Business** reflected on the last 50 years of breakthroughs in medical science and the future of made-to-measure healthcare, while **TACKLING IMMUNITY: Best Friend, Worst Enemy** offered an exciting adventure into the intricacies, perils and promise of immunity, including immunotherapy breakthroughs designed to beat cancer. **CSI@WSFB: Forensic Science in the 21st Century** took a deep dive into modern-day forensics with its' unique and sometimes murky melding of science, law enforcement and justice. **WHOSE DNA IS IT ANYWAY: It's a Fine Line Between Profiling and Privacy** explored the place—and sometimes misplacement—of DNA data in today's technology-driven world.

VISITOR FEEDBACK



Cannot wait to be back next year! **It was our family's first time attending World Science Festival Brisbane and we were incredibly impressed.** Fantastic to hear the opinions and thoughts of the world's greatest scientific minds! *An inspiring and educational event accessible to all people. It was a wonderful event that truly fostered and built on our interest and knowledge of science for all age groups.* My friend and I loved looking down the telescopes on Saturday night at South Bank. **Well done – a fantastic event that we highly recommend.** I totally LOVE that Brisbane hosts this event – don't ever lose it! **The most fascinating talk I have been to so far was WE WILL BE MARTIANS.** Such a great breadth of experience and knowledge among the speakers. The audience was so

enthralled you could hear a pin drop! I hope [we] retain the Asia Pacific licence for many more years. *I believe the diversity of science presented together with the experts and scientists sharing their knowledge is a definite benefit to me personally but also to the social fabric of Brisbane. I shall be booking even more sessions next year. I LOVED IT! And it just gets better each year!* My class absolutely loved it and some students are now considering careers in science. **Thank you for making these events available to us.** We continue to be amazed and delighted by the imaginative presentation of science, as well as by the progress in knowledge and understanding. **Thank you to all sponsors, organisers and volunteers, a job well done!** Thanks for putting on affordable family friendly events! **Another great WSFB!**





Kids and adults alike got hands-on with free STEM activities at **STREET SCIENCE!**





Apollo Mission space suit at the *NASA – A Human Adventure* exhibition.

QUEENSLAND MUSEUM

21 – 24 MARCH 2019

In the weeks leading up to World Science Festival Brisbane 2019, Queensland Museum was transformed with opening of the new-look *Discovery Centre* on 8 March and Australian premiere of *NASA – A Human Adventure* on 15 March.

With more than 1,300 zoology specimens and historical artefacts on display, the *Discovery Centre* is a much-loved treasure trove for inquisitive minds. During World Science Festival Brisbane, the *Discovery Centre* was activated with daily **MEET THE CURATOR** sessions delivered by Queensland Museum Network specialists in insects, fish, marine invertebrates and mammals.

Discovery continued daily with *NASA – A Human Adventure* exhibition. The most comprehensive and extensive touring space flight exhibition in the world, *NASA – A Human Adventure* tells the 50 year story of space travel from the dreamers to the early pioneers and on to the engineering feats that have made space exploration possible. In homage to *NASA – A Human Adventure*, World Science Festival Brisbane 2019

LET'S TALK series included sell-out sessions covering space travel and astrophotography, followed by a visit to the exhibition. Supported by Inspiring Australia, this year's **LET'S TALK** series also featured conversations on tarantulas, bugs and sharks.

Every available space at Queensland Museum was activated with pop-up displays and hands-on activities. At **CORALWATCH**, citizen science ambassadors demonstrated how we can become coral health experts. **QUEENSLAND MUSEUM EXPERTS** showcased extraordinary mammal and insect specimens. In *Lost Creatures*, visitors learned the inner-workings of water catchments by hand-crafting hills, valleys and lakes with kinetic sand with the **SEQ Water AUGMENTED REALITY SAND BOX**. Meanwhile, visitors explored Antarctic science – sans the frigid temperatures – in **ICE ICE BABY**. Presented thanks to a partnership with Australian Antarctic Division, **ICE ICE BABY** included a spectacular 3.2 metre LEGO® cutaway model of Australia's new icebreaker RSV *Nuyina* built by Certified LEGO® Professional Ryan 'The Brickman' McNaught of *LEGO® Masters Australia* fame.

Returning for the fourth year was crowd favourite **THE HATCHERY: Turtle Conservation Experience**⁴, which gave more than 7,000 patient visitors the rare opportunity to witness Loggerhead Turtle hatchlings emerging from their eggs. Designed by Queensland Museum Network's Senior Curator, Vertebrates, Patrick Couper in conjunction with the Department of Environment and Science, development of **THE HATCHERY** commenced in January with egg-collection from nests at the Mon Repos rookery on the Bundaberg Coast. After collection, eggs were transported to Brisbane for a perfectly timed incubation that saw the hatchlings emerge during World Science Festival Brisbane 2019. The hatchlings' first moments were captured and live-streamed on the World Science Festival Brisbane website, thanks to support from AARNet. Following World Science Festival Brisbane 2019, the hatchlings were released into the East Australian Current to begin their journey past the northern tip of New Zealand and on to the coasts of Chile and Peru before returning to Queensland waters in 16 years' time.

Queensland Museum's popular *After Dark and Night at the Museum* programs were held on Friday and Saturday evenings to coincide with World Science Festival Brisbane 2019. Friday programming was for 18+ audiences, and included expert talks and science demonstrations delivered in partnership with the Australian Academy of Science. Saturday evening targeted family audiences, with science experiments, live music sing-alongs and a disco. Entry to both events included access to *NASA – A Human Adventure* and **THE HATCHERY**.

⁴ **THE HATCHERY: Turtle Conservation Experience** received ethics approval from Queensland Museum Animal Ethics Committee and Department of Environment and Science.

STREET SCIENCE!

23 – 24 MARCH 2019

Despite being the hottest March on record, **STREET SCIENCE!** welcomed more than 96,000 attendees to the Cultural Forecourt at South Bank for two days of pure science fun.

Presented with generous support from BHP Foundation, **STREET SCIENCE!** comprised a stellar line-up of 30 individual Activity Providers delivering free family-friendly activities guaranteed to inspire the young and young-at-heart.

Budding scientists examined waterways, unlocked the secret ingredients in everyday household items; witnessed the circular economy in action; deciphered crocodile DNA; observed robotic sketching, conducted ice-age barometry and explored landscapes through virtual reality. BHP Foundation revealed how much science fiction has become fact thanks to the power of invention, while early childhood specialists C&K created a special place for under-fives to tinker and experiment.

A full list of **STREET SCIENCE!** Activity Providers is detailed in Appendix 2.

Queensland Museum Network actively promotes sustainable business practices. This year, 1,536 tonnes of waste generated at **STREET SCIENCE!** was diverted from landfill. Water refill stations generously provided by SEQ Water discouraged single-use plastic, and helped combat the unimaginable heat. Food vendors were required to minimise plastic waste, and The Plastic King roved between the Cultural Forecourt and Queensland Museum sharing messages about recycling.

Nestled in the green space overlooking the Brisbane River was the **OSMOSIS STAGE**. During the day, the **OSMOSIS STAGE** presented an explosive program of events and a cosy place to rest and recharge before embarking on more **STREET SCIENCE!** fun. On Saturday night, the **OSMOSIS STAGE** offered a place to kick back and relax with music by Hope D, Chris Tamwoy and Pat Tierney.

On Saturday, crowds of people got lost in the cosmos during **STARGAZING: Brisbane**, expertly guided by Celestron and Brisbane Astronomical Society.

An undeniable favourite, **STREET SCIENCE!** continues to provide an exceptional platform for industry, academia and community-based organisations to showcase their capability and raise awareness of current research, citizen science projects and conservation issues.

FESTIVAL LAB

21 – 24 MARCH 2019

For the fourth year running, Festival Lab took pride of place on the Cultural Forecourt, serving as a visual and geographic hub for attendees to celebrate the quirky, fun and unexpected facets of science.

The **BRAIN FOOD BREAKFAST** program served up breakfast alongside mind-boggling science. **IN THE NAME OF SCIENCE** examined how ethical norms have been set aside in favour of the greater good and **AN ARMY OF PERFECT SOLDIERS** considered the possibility of designer babies. **WHY THE FACTS DON'T MATTER** explored the difficulty of discerning fact in the rising face of fake news while **BACKYARD FOOD REVOLUTION** demonstrated the bountiful cuisine that can be grown in suburbia.

After breakfast during the week, Festival Lab was turned over to World Science Festival Brisbane partners for a range of networking, ceremonial and launch events. On the weekend, Festival Lab was transformed into a spectacular pop-up playground where families could get hands-on with STEM.

Of an evening, Festival Lab was the place to be with **SCIENCE GETS SOCIAL** offering river views, cool beverages and edgy, humorous science. **LAW AND ORDER IN THE LAB** demonstrated how science and the judiciary are collaborating to raise public confidence in the justice system. **WHO'S YOUR DADDY'S DADDY** explored the burgeoning field of at-home DNA-ancestry and questioned if society is prepared for the results. **FERMENTED SCIENCE** examined the effect of rising temperatures on viticulture. In **SCIENCE SAYS!** two teams of scientists, comedians and science communicators battled their way through the big headlines *Mock The Week* style, while a hand-picked roster of superb speakers enthralled audiences for ABC Radio National's live **OCKHAM'S RAZOR** event.

FILM

21 – 22 MARCH 2019

The World Science Festival Brisbane 2019 film program **FAR FROM HOME: Cinema's Fascination with Space** showcased bold and fantastical imaginings of journeys to the moon, life on Mars and the psychological impact of travelling through space.

Delivered in conjunction with QAGOMA's Australian Cinémathèque, **FAR FROM HOME** included the award-winning documentary *Earthrise* (2018) about the first space-captured image of Earth, and winners of NASA's Project Mars short film competition *Rendezvous with Mars* (2018), *Morning Blue* (2018), *Nomadic Cloud* (2018), *92MARS* (2018).

Science fiction lovers saw Arnold Schwarzenegger in the original *Total Recall* (1990), Jane Fonda in the iconic *Barbarella* (1968) and Sandra Bullock in the critically acclaimed *Gravity* (2013). *The Dish* (2000) and *Wallace and Gromit: A Grand Day Out* (1989) entertained family audiences, alongside the French-made *Le Voyage Dans Lalune (A Trip to the Moon)* (1902) and Japanese anime *Kaubōi Bibappu: Tengoku No Tobira (Cowboy Bebop)* (2001).

QUEENSLAND WOMEN IN STEM PRIZE

24 MARCH 2019

Now in its fourth year, the **Queensland Women in STEM Prize** recognises the valuable contribution of Queensland women working in STEM careers.

Presented by Queensland Museum Network in partnership with Office of the Queensland Chief Scientist, Office for Women and BHP Foundation, the **2019 Queensland Women in STEM Prize** provided three cash prizes of \$5,000 including, for the first time, a category recognising the work of First Nations women.

The People's Choice Award was voted by the public, while the Jury Award and the Aboriginal and Torres Strait Islander Jury Award were assessed by an expert panel comprising Kathy Andrews (Griffith University), Paul Bertsch (Office of the Queensland Chief Scientist), Leonie Coghill and Jim Thompson (both Queensland Museum Network).

Entrants were required to provide a written application, supported by a two-minute video summarising their research and its impact in Queensland. To ensure the best possible chance of success, two free science communication sessions were offered in Townsville and Brisbane in February.

The 2019 Queensland Women in STEM Prize was awarded on Sunday 25 March at a special World Science Festival Brisbane 2019 event. The Honourable Dianne Farmer, Minister for Child Safety, Youth and Women named Anu Choudhary winner of the People's Choice Award for her entry *Taming Weeds Without Herbicides*. James Ensor, Executive Officer and President of BHP Foundation presented the inaugural Aboriginal and Torres Strait Islander Jury Award to Clare Villalba for her entry *People in Focus: Protecting the Eyesight of People with Diabetes*. The Honourable Leeanne Enoch, Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts named Amanda Dawson winner of the Jury Award for her entry *Fishing for Plastics: From Ocean to Plate*. This special event concluded with an inspiring keynote from globally acknowledged pioneer in salivary diagnostics and proud "Woman of STEM", Chamindie Punyadeera.



| EDUCATION

World Science Festival Brisbane 2019 included curated student events that demonstrated how STEM is used to solve real-world problems.

More than 7,100 students attended World Science Festival Brisbane 2019 as part of pre-planned school excursions.

The education program commenced in August 2018 with the launch of **THE HATCHERY CRUSADERS**: a school-based citizen science competition. Open to all Queensland schools, the competition required students in Years 3-6 to collect debris from nearby waterways and create artwork reflecting learnings about plastic pollution and its impact on marine life. On Wednesday 20 March, the Honourable Leeanne Enoch, Minister for Environment and the Great Barrier Reef, Minister for Science and Minister for the Arts awarded St Thomas More School of Sunshine Beach the winning trophy at the official opening of World Science Festival Brisbane 2019. Their artwork *Time*

to *'Turn' the Table* was displayed at Queensland Museum alongside nine finalists to complement **THE HATCHERY: Turtle Conservation Experience** (page 17).

This year, **THE HATCHERY: Turtle Conservation Experience** was further complemented by an education program that highlighted the increasing threat of plastic pollution. These free sessions included a visit to the incubation room, a discussion about turtle biology and lifecycle and a hands-on workstation demonstrating the devastating impact of ocean pollution on turtles and other marine wildlife.

For the first time, the hugely popular **COOL JOBS** was delivered in all geographic locations, allowing audiences in Gladstone, Townsville, Ipswich, Brisbane, Toowoomba and Chinchilla the chance to learn about 'a day in the life' of people with diverse STEM careers. In **PIONEERS IN SCIENCE**, award-winning marine scientist Ove Hoegh-Guldberg and skin cancer specialist Adele Greene regaled students in Brisbane,

The winning entry of **THE HATCHERY CRUSADERS** competition.



Gladstone and Chinchilla with personal stories, life challenges, highs and lows encountered through their illustrious careers, followed by a lively Q&A.

Students became apprentice immunologists and museum curators with return of the **APPRENTICE PROGRAM**. These intimate, immersive hands-on workshops give students the once-in-a-lifetime opportunity to experience, firsthand, the wonder of STEM by working in laboratories alongside subject-matter experts. **FIVE MINUTES WITH YOUR FUTURE** gave budding senior high school students interested in tertiary science study the chance to seek advice from undergraduate alum from the National Youth Science Forum. Australia's favourite science communicator, Karl Kruszelnicki appeared in Brisbane and Townsville to posit the idea of life beyond Earth in **DR KARL FOR KIDS** and to reveal the many and varied vocations offered by STEM in **FUTURE CAREERS IN SCIENCE**.

Curriculum-linked learning resources, developed in conjunction with the Department of Education, were available for **THE HATCHERY, PIONEERS IN SCIENCE** and the salon events **SAVING WHAT WE'VE GOT** and **MAKING IT GREAT**. Student ticket prices were offered across all programmed events and schools were encouraged to complement their time at World Science Festival Brisbane 2019 by visiting *SparkLab Sciencecentre* and free activities at Queensland Museum (page 17).

Thanks to a partnership with BHP Foundation, a delegation of Aboriginal and Torres Strait Islander students excelling in STEM subjects travelled to Queensland's capital from across Australia to attend World Science Festival Brisbane 2019. Their once-in-a-lifetime experience included programmed events, a behind the scenes tour of Queensland Museum, and meet and greet opportunities with scientists and the Minister for Science and the Great Barrier Reef and Minister for the Arts.

REGIONAL

The 2019 Regional Program included two-day satellite events in Gladstone, Townsville, Ipswich, Toowoomba, and Chinchilla.

GLADSTONE

1 – 2 MARCH 2019

Presented with support from Shell's QGC business, the two-day Gladstone Regional Event comprised student activities and **STREET SCIENCE!**

On Friday, more than 1,100 students from the Gladstone region met an astrophysicist, immunologist and environmental engineer in **COOL JOBS: Gladstone** and learned about breakthroughs in cancer research during **PIONEERS IN SCIENCE: Adele Greene**.

Gladstone Convention and Exhibition Centre became a science playground on Saturday, welcoming 5,500 attendances for **STREET SCIENCE!** Queensland Museum Network experts demonstrated their latest research in corals, malacology, arachnids and palaeobotany. Other activities included investigating microscopic plankton, mini-beasts and marine debris; celebrating the endurance of migratory shore birds and unearthing the science of archaeology with Flying Scientists Michelle Langley and Kaylene Butler.

Crowd favourite Street Science Steve returned with two performances of his new stage show **BLASTING THE PAST: With Science Steve** while eager space photographers learned the secrets of capturing deep space objects in **LET'S TALK: Astrophotography**.

TOWNSVILLE

8 – 9 MARCH 2019

The Townsville Regional Program kicked off at The Science Place at James Cook University on Friday. Students from Townsville, Ingham and the Burdekin learned about 'a day in the life' of a biomedical illustrator, palaeontologist and marine biologist in **COOL JOBS: Townsville** before meeting iconic Karl Kruszelnicki during **FUTURE CAREERS IN SCIENCE: With Dr Karl**. That evening, Dr Karl presented **EXTREME MOMENTS IN SCIENCE: With Dr Karl** to a sell-out crowd. He returned on Saturday morning, delighting audiences young and old in **DR KARL FOR KIDS**.

To celebrate the Townsville Regional Program, entry to Museum of Tropical Queensland was free on Saturday. More than 1,850 visitors got hands-on with holograms, augmented reality and 3D-printing, launched rockets and met Queensland Museum Network experts in marine biology, palaeontology and object conservation before journeying to the most hidden parts of the human body in the *Tiny Worlds* exhibition, presented in partnership with QIMR Berghofer Medical Research Institute.



Audiences joined Andrew Campbell, one of Australia's best astrophotographers on a stellar journey of discovery at **LET'S TALK: Astrophotography**.



IPSWICH

17 – 18 MARCH 2019

In celebration of **STREET SCIENCE!**, entry to The Workshop Rail Museum was free on Sunday. More than 1,780 locals met marine biologists from Queensland Museum Network, tested the pH level of soil, fossicked for fossils and learned how to keep our waterways healthy.

That evening, two teams of local scientists battled wits and wittiness to uncover the latest and greatest scientific discoveries – and a few of the odder ones – in **SCIENCE NATION: Science Says!**

On Monday, The Workshops Rail Museum welcomed 60 students who learned what it takes to be a veterinary pathologist, curator and geneticist in **COOL JOBS: Ipswich**.

TOOWOOMBA

22-23 MARCH 2019

The Toowoomba Regional Event commenced on Friday with **FLIGHT CLUB: Soaring Machines** and **COOL JOBS: Toowoomba**. Cobb+Co Museum welcomed more than 140 students eager to understand the science of flying, soaring, parachuting and gliding and learn more about careers in archaeology, veterinary science and biochemistry.

That evening, the little-known story of Toowoomba's Cooby Creek in the space race was shared in **FROM AUSTRALIA TO THE WORLD: The Lost Apollo Moments**. On Saturday, more than 1,390 people visited Cobb+Co Museum to see memorabilia from the Cooby Creek Space Tracking Station, explore the wonders of space in the AARNET IGLew and take part in a range of free, hands-on STEM activities including displays from Queensland Museum Network's marine biology team.

The Toowoomba Regional Event concluded with **STARGAZING: Toowoomba**. More than 240 people gathered at Cobb+Co Museum for a night under the stars with expert guidance from Toowoomba Astronomical Society.

CHINCHILLA

29 – 30 MARCH 2019

The Regional Program concluded in Chinchilla. Presented with support from Shell's QGC business, the Chinchilla Regional Program recorded 3,044 attendances. Students from the Western Downs met a biochemist, environmental engineer, entomologist and trailblazing cancer scientist in **COOL JOBS: Chinchilla** and **PIONEERS IN SCIENCE: Adele Greene** on Friday before engineering rockets, investigating minerals and sorting through sediment from a 50,000-year old cave system.

STREET SCIENCE! went off with a bang on Saturday, with self-proclaimed 'mad' scientist Dr Rob Bell conducting experiments to determine the number of rubber bands it takes to implode a watermelon (the answer was inconclusive). Queensland Museum Network experts showcased their latest research in malacology, geosciences and palaeontology and provided hands-on taxidermy demonstrations. Audiences learned about the science of decision-making from Flying Scientists James Kesby and Felix Egger before taking a prehistoric journey in **DINOSAUR TIME MACHINE**.

AUDIENCES

World Science Festival Brisbane attracts diverse audiences.

ATTENDANCES

More than 205,000 attendances were recorded for World Science Festival Brisbane 2019, representing a modest two per cent increase on 2018. Attendances by event location, including year on year growth are provided in table one, below.

TABLE 1: TOTAL ATTENDANCES (BY EVENT LOCATION)

Type	2016	2017	2018	2019	Comparison	
					#	%
Street Science!	20,000	60,000	92,000	96,447	4,447	5%
Queensland Museum ⁵	69,475	90,304	68,811	69,019	208	0%
Ticketed events	17,423	20,576	21,608	22,712	1,104	5%
Non-ticketed events (Brisbane)	1,710	2,000	2,848	2,000	(848)	-30%
Non-ticketed events (Regional)	3,097	6,380	10,284	12,330	2,046	20%
Affiliate events ⁶	8,662	2,965	5,188	2,721	2,467	-48%
Total Attendances	120,367	182,225	200,739	205,229	4,490	2%

Audience profiling was obtained from intercept surveys at **STREET SCIENCE!**, Queensland Museum and Regional Program and post-event surveys sent to ticket buyers.

In Brisbane, most events were attended by individuals living in the local area (refer table two, below). Non-local visitation was bolstered by the Pacific Arts Association XIII International Symposium (24-28 March), high school students from intrastate participating in the STEM Girl Power Camp (19-23 March) sponsored by the Department of Education, and international delegations on a dedicated study excursions managed by Education Queensland International.

TABLE 2: ATTENDANCES BY GEOGRAPHIC ORIGIN (BRISBANE)

GEOGRAPHIC BASE	2016	2017	2018	2019
Brisbane	81%	78%	79%	80%
Intrastate	15%	18%	17%	17%
Interstate	3%	3%	3%	3%
International	1%	1%	1%	1%

Attendees who travelled further than 200 kilometres stayed overnight, either with family or friends or in paid accommodation, generating 93,243 visitor nights in Brisbane and 16,317 visitor nights in the regions⁷. Direct and incremental spending in Queensland as a result of World Science Festival Brisbane 2019 is estimated at \$11.45 million⁷.

Surveys were conducted with ticket holders and visitors to Queensland Museum and **STREET SCIENCE!** to measure engagement, satisfaction, programming and brand awareness. More than half of the people surveyed were first time visitors to World Science Festival Brisbane. Almost all indicated they are likely to return in 2020, and most would probably or definitely recommend the event to friends and family. More than 80% agreed the festival made them want to find out more about science.

PARTICIPANTS

World Science Festival Brisbane 2019 gathered 33 performers, 167 speakers, 18 moderators and 29 introducers from Australia, Germany, New Zealand, Lithuania, United Kingdom and United States. This included the return of World Science Festival Brisbane veterans Australian-born NASA astronaut **Andy Thomas**; international physicist **Brian Greene**; pioneering immunologist **Ian Frazer** and award-winning broadcasters **Karl Kruszelnicki**, **Natasha Mitchell**, **Rhianna Patrick**, **Norman Swan** and **Robyn Williams**.

Making their World Science Festival Brisbane debut were NASA astronaut **Yvonne Cagle**; pioneering epidemiologist **Jonathan Epstein**; award-winning coral expert **Paul Falkowski**; molecular biologist **Nina Fedoroff**; wildlife reproduction expert **Thomas Hildebrandt**; research ecologist **Michelle LaRue**; bionic artist **Viktoria Modesta**; forensic scientist **Niamh Nic Daéid**; ecologist and Queensland expat **Hugh Possingham** and Kavli Prize-winning genomics expert **Virginijus Šikšnys**.

These international guests were joined by **Pip Courtney**, presenter of *Landline*; **Gwen Fenton**, Chief Scientist of Australian Antarctic Division; **Tim Flannery**, conservationist, scientist and author; **Anthony Murfett**, Deputy Head of Australian Space Agency and a host of experts from **Queensland Museum Network**, and Academic Partners **Griffith University**, **QUT** and **The University of Queensland**.

A full list of participants is provided at Appendix 2.

VOLUNTEERS

World Science Festival Brisbane 2019 was supported by 244 enthusiastic volunteers who contributed more than 2,400 hours of invaluable support.

This year, 800 applications were received and assessed by our Volunteer Coordinator. Volunteer activities were aligned with the individual's goals and motivations and included participant services, way finding, queue management and backstage tasks at all regional locations.

Volunteers attended a compulsory orientation session, where they received an overview of the program, general information on protocol and responsibilities, and were issued the official handbook and uniform. Returning volunteers each received a special badge honouring years of service.

⁵ Includes attendances at *NASA – A Human Adventure* exhibition

⁶ Approved activities staged by third party organisations under the aegis of the World Science Festival Brisbane brand

⁷ Economic Impact assessment commissioned by Tourism and Events Queensland

MARKETING

World Science Festival Brisbane's marketing campaign is about taking science out of the lab and into the streets to reach the hearts, minds and imagination of audiences.

Advertising was designed to build on brand awareness and drive ticket sales while below-the-line advertising was used to promote Regional Events. The international exclusivity of the World Science Festival Brisbane brand was leveraged to promote Brisbane and Queensland as a 'stay and see' destination in interstate and overseas markets.

Promotional material for all locations was refreshed with a new tagline, 'brave new ideas', and two hero images – a stylised exoplanet and the stunning Soldier Fly *Antissa nota*. Social media accounts were sustained with STEM-related news and commentary throughout the year, with event-specific content commencing on 30 November 2018 to coincide with the early bird promotion and culminating with the end of programming on 31 March.

Campaign spend and cooperative marketing from partners Tourism Events Queensland, Brisbane Marketing, Channel 9, ABC and Australian Academy of Science resulted in more than \$800,000 in bonus media value.

Photographic projection of Soldier Fly, *Antissa nota* on Brisbane's William Jolly Bridge.

Image courtesy of Brisbane City Council.

ADVERTISING

- Print advertisements in *The Weekend Australian*, *Gladstone Observer*, *Chinchilla News*, *Dalby Herald*, *QPAC Story* and *Creative Brisbane What's On Guide*.
- Television commercials on *SBS On Demand* and Channel 9.
- Promotional placements during Channel 9 programming *Married at First Sight*, *True Story with Hamish and Andy*, *Today* and *Morning News*.
- Homepage buyouts on *Brisbane Times*, *Sydney Morning Herald* and *The Age*, resulting in 5.6 million impressions.

OWNED DIGITAL AND SOCIAL CHANNELS

- 170,190 unique visitors to www.worldsciencefestival.com.au.
- 6.23 million impressions, 36,700 engagements and 42,900 click-throughs.
- Social media audiences grew by an average 17 per cent. Instagram recorded the highest growth (42 per cent growth) followed by Twitter (27 per cent growth) and Facebook (15 per cent growth).
- 34 eDMs were distributed across eight databases, achieving an average open rate of 29 per cent.
- World Science Festival Brisbane database grew by 21 per cent to 33,073 subscribers.



OUTDOOR

- 182 banners and flags within a 10-kilometre radius of Brisbane CBD—including high traffic areas Roma, George and Queen Streets, North Quay and Victoria Bridge—and 40 flags across Gladstone and Chinchilla.
- *Street Talk* and *CityLights* JC Deceaux panels in Sydney and Melbourne.
- Extensive venue signage throughout the South Bank Cultural Precinct including digital and kerbside billboards at QPAC, Melbourne Street Overpass and Queensland Museum.
- Digital billboards throughout CBD cafes and university campuses in Sydney and Melbourne.
- Red lighting on some of Brisbane's most iconic landmarks including the Victoria, Kurilpa and Story bridges; Treasury Casino and neighbouring Reddacliff Place; QPAC and the adjacent Wheel of Brisbane; Roma Street Parklands and the Tropical Dome, Mt Coot-tha.
- Photographic projection of Soldier Fly *Antissa nota* on Brisbane's William Jolly Bridge (pictured above).

COLLATERAL

- 44-page program distributed to event and partner venues, commuter hubs, tourist information centres, cafes restaurants, libraries, shopping centres and social hubs throughout South-East Queensland and inserted in the *The Courier Mail* on Saturday 9 March.
- Promotional posters and postcards distributed to coffee shops, libraries and social hubs throughout South-East Queensland.
- Dedicated program for *Time and the Creative Cosmos*.
- Inclusion in *What's On* guides for Queensland Museum, Museum of Tropical Queensland, The Workshops Rail Museum and Cobb+Co Museum.

CURIOCITY

This year, World Science Festival Brisbane was promoted as a key pillar of *Curiosity*.

A collaboration between Tourism Events Queensland and Brisbane Marketing, *Curiosity* is a new event platform that builds on Queensland's reputation as a leader in innovation, technology and start-ups and encourages people from all walks of life to think 'outside the box' and see how science, art and technology come together to impact our lives.

As well as World Science Festival Brisbane 2019, the inaugural 20-day *Curiosity* included global technology and innovation summit *QODE* and the *Curiosities* – a curious trail of 14 augmented reality pop-up spaces, and music events spread along the Brisbane River from South Bank to New Farm.

PUBLICITY AND MEDIA RELATIONS

Publicity and media relations supported the marketing campaign by creating interest and excitement in the World Science Festival Brisbane 2019 program and participants.

Activity commenced on 30 November 2018 with an early bird promotion and release of tickets to **PARTICLE/WAVE** and select Signature Events.

The full program was launched on 31 January with a spectacular water jet pack stunt on the Brisbane River. World Science Festival Brisbane 2019 was officially opened at Queensland Museum on 20 March to coincide with announcement of **THE HATCHERY CRUSADERS** winner (page 20).



Dance Troupe, Pilobolus visit a Brisbane icon at the Cultural Forecourt, South Bank.

ABC and Channel 9 returned as official media partners, resulting in live broadcasts from Queensland Museum and **STREET SCIENCE!** on Saturday 24 March by ABC Radio *Brisbane Weekends* with Emma Griffiths and Channel 9's *Weekend Today*.

More than 20 media releases were issued and 750 stories pitched to local, national and international media. Opportunities were supplemented by a comprehensive Media Kit, image library and Media Accreditation Program. Fairfax Media based a team of journalists, journalism and photography students at Queensland Museum from 20-24 March, resulting in syndication across online and print mastheads including *The Age*, *Sydney Morning Herald* and *Canberra Times*.

Publicity and media relations activity resulted in 1,937 published stories, with an Advertising Space Rate of \$17.9M, reaching a cumulative audience of more than 1.08Bn. As demonstrated at table 3, online produced the most coverage. Audience reach peaked at 1,712,076 on Saturday 23 March.

Highlights include:

- Four media calls including official program announcement on 31 January, **STREET SCIENCE! Gladstone** on 2 March; official opening on 20 March, **TIME AND THE CREATIVE COSMOS** rehearsal on 22 March; and **2019 Queensland Women in STEM Prize** on 24 March.
- Television and radio interviews with Brian Greene, Andy Thomas, Yvonne Cagle, Queensland Museum Network experts and other World Science Festival Brisbane participants.
- *Quest Newspaper* features running across all mastheads on 7 March, four-page spread in *QWeekend* on Saturday 23 March, dedicated *Factor-X* on Sunday 10 March, and feature story in the *Weekend Australian Magazine* on Saturday 16 March.
- Articles in Qantas and Jetstar in-flight magazines, *COSMOS magazine*, *MiNDFOOD Australia Magazine*.

TABLE 3: COVERAGE⁸ BY MEDIA TYPE
1 MAY 2018 – 31 APRIL 2019

Type	Number stories	Audience reach	ASR (\$)
Online	1,676	1,062,428,898	9,827,462
Radio	126	2,774,400	6,098,637
Print	108	6,848,825	861,379
Television	27	5,105,000	1,131,703
TOTAL	1,937	1,079,681,437	17,919,181

⁸ Estimate only; does not include publications without iSENTIA or Meltwater licencing agreements.



| PARTNERSHIPS

World Science Festival Brisbane 2019 was generously supported by 32 partners from government, academia and private industry.

A generous contribution from BHP Foundation ensured that the two-day **STREET SCIENCE!** extravaganza continued to be free for the enjoyment of more than 96,000 attendees, and provided learning and professional development opportunities for deserving Aboriginal and Torres Strait Islander students and early career scientists. Specialist expertise from PwC will allow us to measure the social impact of World Science Festival Brisbane while SEQ Water facilitated hands-on activities at Queensland Museum and ensured attendees stayed hydrated with free water refill stations at **STREET SCIENCE!**

This year, support from the Department of Education, Department of Environment and Science, Office of the Queensland Chief Scientist and Office for Women contributed to the development of curriculum-linked learning resources; development and delivery of the much-loved **HATCHERY: Turtle Conservation Experience**; regional engagement and the **2019 Queensland Women in STEM Prize**.

We are privileged to have the ongoing support of Strategic Partners Tourism and Events Queensland and Brisbane Marketing, who promote World Science Festival Brisbane as an unmissable 'stay and see' opportunity and key pillar of *Curiosity*. Continued support of Academic Partners Griffith University, QUT and The University of Queensland ensures that our ambitious program of brave new ideas is underpinned by scientific rigour and presented by the best thought-leaders from across the globe.

World Science Festival Brisbane 2019 achieved phenomenal promotion thanks to support from media partners ABC and Channel 9, complemented by bespoke and targeted activity provided by Australian Academy of Science and Welcome to the Fold. Our neighbours at QPAC provided exceptional technical support for **TIME AND THE CREATIVE COSMOS** and hosted 21 events in the Concert Hall and Cremorne Theatre. World Science Festival Brisbane returned to Gladstone and Chinchilla thanks to support from Shell's QGC business, while investment from James Cook University enabled Dr Karl to make his World Science Festival Brisbane debut in Townsville.

Our Program Partners empower us to explore the connections between art, design, music and culture. Award-winning experts from QIMR Berghofer Medical Institute inspired students in regional Queensland to consider STEM careers. Early childhood experts C&K offered our youngest visitors play-based STEM activities as part of **STREET SCIENCE!**

We collaborated with Inspiring Australia, QAGOMA and Celestron to deliver the **LET'S TALK** series, **FAR FROM HOME: Cinema's Fascination with Space**, and Stargazing events. State Library of Queensland and South Bank Parklands opened their remarkable venues to record crowds. AARNet streamed select events online, increasing accessibility and reach. Australian Antarctic Division unveiled the mysteries of Antarctic science. The Australian Research Council Centre of Excellence for Australian Biodiversity and Heritage showcased Australia's 130,000 timescale through sound and video art. Sci-Fleet Toyota and The Mantra Group transported and accommodated travelling participants in style synonymous with the World Science Festival Brisbane brand.

Queensland Museum is committed to ensuring World Science Festival Brisbane partnerships are premised on a shared vision, clearly articulated outcomes and measurable, mutually rewarding impacts in STEM. Partner benefits include program development, ticketing, stakeholder engagement, brand awareness and on-site activation. Many partners leveraged their association through cooperative marketing and affiliate programming.

OUR PARTNERS

Queensland Museum Network is grateful for the generous contribution made by the following partners in support of World Science Festival Brisbane 2019.

PRESENTED BY



STRATEGIC PARTNERS



ACADEMIC PARTNERS



STREET SCIENCE PARTNER



MEDIA PARTNERS



PERFORMANCE PARTNER



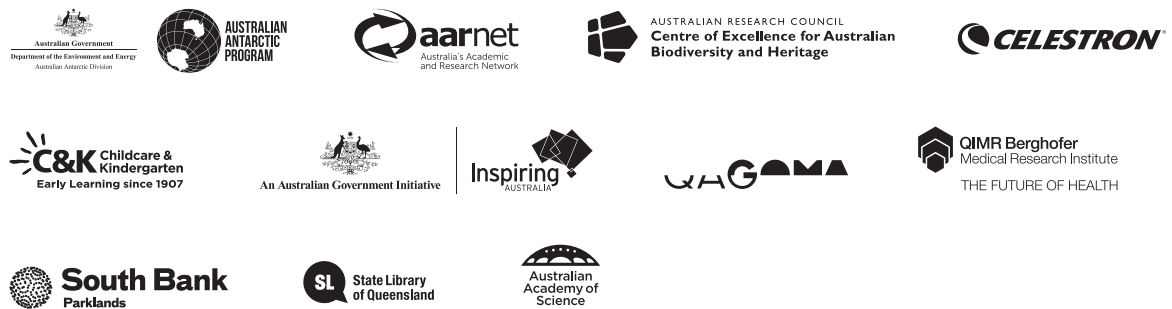
COMMUNITY PARTNERS



FUTURES PARTNERS



PROGRAM PARTNERS



OFFICIAL SUPPLIERS



⁹ Queensland Government contribution includes support from Department of Education, Department of Environment and Science, Office of the Queensland Chief Scientist and Office for Women.



| APPENDICIES

APPENDIX 1: NOMENCLATURE

Activity Provider	an individual or organisation that provided programming at Queensland Museum, a Regional Event or as part of STREET SCIENCE!
Attendee/ance	an individual who attended World Science Festival Brisbane events.
Affiliate event	approved activities staged by third party organisations under the aegis of the World Science Festival Brisbane brand.
eDM	electronic direct mail.
Event	individual activities that comprised the official World Science Festival Brisbane program – performance, conversation and salon, film, STREET SCIENCE!
Participant	an individual who took part in a World Science Festival Brisbane event as a speaker (excluding Performers and Activity Providers).
Performer	an individual who took part in a World Science Festival Brisbane performance.
Performances	the number of times an individual event was performed.
Program	the collective noun for all individual events that comprise World Science Festival Brisbane.
Ticketed	an event where attendees were required to make a booking to secure a ticket and take part.

APPENDIX 2: ACTIVITY PROVIDERS, PARTICIPANTS + PERFORMERS

ACTIVITY PROVIDERS

Name	Event Location
AARNet	TE,I,TA
ANSTO	B
ARC Centre of Excellence for Gravitational Wave Discovery (OzGrav)	B
Australian Antarctic Division	B
Australian Citizen Science Association	TE,B
Australian Radiation Protection Society Inc	B
BHP Foundation	B
BOP Industries	G,B,C
Boyne Island Environmental Education Centre	G
Brisbane Astronomical Society	I,B
C&K	B
Coral Watch	B
ARC Centre of Excellence for Australian Biodiversity and Heritage (CABAH)	B
Channel 9	B
Chinchilla Historical Museum	C
Chinchilla Library	C
Cirrus Robotics	TE,I,TA
Cooby Creekers	TE,TA
CQUniversity	G
Department of Environment and Science	TE,B
Fotojenic Photography	TE,I,TA
Geological Society of Australia	B
Gidarjil Development Corporation Limited	G
Gladstone City Library	G
Gladstone Community Air Quality Group	G
Gladstone Regional Art Gallery and Museum	G
Great Barrier Reef Foundation	B
Griffith University	B
Healthy Land and Water	G,I,B
Integrated STEM and Edwooducation	TE,TA
It's Rocket Science	TE,I,TA
James Cook University	TE
Lightweave	C
Lone Pine Koala Sanctuary	B
Micromelon Robotics	B
Mud Kitchen	B
National Museum of Natural Science Taiwan	B
National Youth Science Forum	B
Office of the Queensland Chief Scientist	B
Office of the Queensland Chief Scientist (Flying Scientists)	G,C
Playable Spaces	B

Name	Event Location
QIMR Berghofer Medical Research Institute	G,TE,I,TA,B,C
Queensland Urban Utilities and SAS Laboratory	B
QUT	B
Robotics Playground	I,B
SEQ Water	I,B
Shell's QCG project	G,C
Soil Science Australia	TE,I,TA,B
Sow Great Pty Ltd	I,B,C
STEM Punks	TE,B
Street Science	G,B,C
The Royal Society of Queensland	B
Toowoomba Astronomy Inc	TA
Translational Research Institute	B
The University of Queensland	B
Young Engineers Brisbane	B

Legend

- G Gladstone (1-2 March 2019)
- TE Townsville (8-9 March 2019)
- I Ipswich (17-18 March 2019)
- B Brisbane (18-24 March 2019)
- TA Toowoomba (22-23 March 2019)
- C Chinchilla (29-30 March 2019)

PARTICIPANTS + PERFORMERS

Name	Representing	Geographic Origin	Type	Location
Adam Gilmour		Queensland, Australia	PT	B
Adele Green	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	G,C
Aidan Byrne	The University of Queensland	Queensland, Australia	PT	I,B
Aideen McLnerney-Leo	The University of Queensland	Queensland, Australia	PT	B
Alice Payne	QUT	Queensland, Australia	PT	B
Alicia Sometimes		Victoria, Australia	PR	B
Alison Mann	Queensland Museum Network	Queensland, Australia	PT	TE
Alison St Ledger		Queensland, Australia	PR	B
Andrew Amey	Queensland Museum Network	Queensland, Australia	PT	B
Andrew Campbell		Victoria, Australia	PT	B
Andrew Christy	Queensland Museum Network	Queensland, Australia	PT	C
Andrew Crowden	The University of Queensland	Queensland, Australia	PT	B
Andrew Dempster		New South Wales, Australia	PT	B
Andrew Pask		Victoria, Australia	PT	B
Andrew Rozefelds	Queensland Museum Network	Queensland, Australia	PT	B
Andrew Smith	QUT	Queensland, Australia	PT	B
Andrew Stephenson	The University of Queensland	Queensland, Australia	PT	B
Andrew Thomas		Texas, USA	PT	B
Andrew Watson		Victoria, Australia	PR	B
Andrew White	The University of Queensland	Queensland, Australia	PT	I
Annastacia Palaszczuk	Queensland Government	Queensland, Australia	PT	
Anthony Murfett		Australian Capital Territory, Australia	PT	B
Ashraful Haque	QIMR Berghofer Institute	Queensland, Australia	PT	G
Axel Bruns	QUT	Queensland, Australia	PT	B
Bernie Hobbs	ABC	New South Wales, Australia	PT	B
Bert Roberts	ARC Centre of Excellence for Australian Biodiversity and Heritage (CABAH)	New South Wales, Australia	PT	B
Bianca Beetson	Griffith University	Queensland, Australia	PT	B
Brad Argent		New South Wales, Australia	PT	B
Brad Tucker		Australian Capital Territory, Australia	PT	G
Brian Greene	World Science Festival	New York, USA	PT, PR	B
Caitlin Curtis	The University of Queensland	Queensland, Australia	PT	B
Carol Davidson	Queensland Museum Network	Queensland, Australia	PT	B
Carol Dickenson	QUT	Queensland, Australia	PT	B
Casey Hoves	Pilobolus	New York, USA	PR	B
Cecile Godde		Queensland, Australia	PT	B
Chae Swindell	Queensland Museum Network	Queensland, Australia	PT	G,C
Chamindie Punyadeera	QUT	Queensland, Australia	PT	B
Chandini Raina MacIntyre		New South Wales, Australia	PT	B
Chirag Patel		Queensland, Australia	PT	B
Chris Tamwoy		Queensland, Australia	PR	B
Chris Burwell	Queensland Museum Network	Queensland, Australia	PT	B
Chris Jeffery		Queensland, Australia	PT	B

Name	Representing	Geographic Origin	Type	Location
Christine Charles		Australian Capital Territory, Australia	PT	B
Christine Lambkin	Queensland Museum Network	Queensland, Australia	PT	B
Claire's Bubble		Queensland, Australia	PR	B
Colin Mackellar		New South Wales, Australia	PT	TA
Craig Heraghty	PwC	New South Wales, Australia	PT	B
Dan Beeston		Queensland, Australia	PT	I
Danielle Bentley		Queensland, Australia	PR	B
Darryl Potter	Queensland Museum Network	Queensland, Australia	PT	B
David Bunker		Queensland, Australia	PT	B
David Chesworth		Victoria, Australia	PT	B
David Conry	Queensland Museum Network	Queensland, Australia	PT	B
David Hampton	Queensland Museum Network	Queensland, Australia	PT	I
David Iliffe	ABC	Queensland, Australia	PT	TA
David Lacey		Queensland, Australia	PT	B
David Lloyd	Griffith University	Queensland, Australia	PT	B
David Tuffley	Griffith University	Queensland, Australia	PT	B
David Wachenfeld		Queensland, Australia	PT	B
Dennis McNevin		New South Wales, Australia	PT	B
Di Farmer	Queensland Government	Queensland, Australia	PT	B
Dietmar Hutmacher	QUT	Queensland, Australia	PT	B
Duan Biggs	Griffith University	Queensland, Australia	PT	B
Edwin Olivera	Pilobolus	New York, USA	PR	B
Eleanor Milligan	Griffith University	Queensland, Australia	PT	B
Elisabeth Strain		Victoria, Australia	PT	B
Elvis Okoffo	The University of Queensland	Queensland, Australia	PT	B
Emma Kennedy	The University of Queensland	Queensland, Australia	PT	B
Emma-Kate Rose		Queensland, Australia	PT	B
Espen Knutsen	Queensland Museum Network	Queensland, Australia	PT	G,TE
Fiona Simson		Australian Capital Territory, Australia	PT	B
Francisca Ribeiro	The University of Queensland	Queensland, Australia	PT	B
Fraser Matthew		Queensland, Australia	PR	B
Gabrielle Henderson-Scott	Queensland Museum Network	Queensland, Australia	PT	B
Gary Cranitch	Queensland Museum Network	Queensland, Australia	PT	B
Gavin Singleton		Queensland, Australia	PT	B
Gilbert Price	The University of Queensland	Queensland, Australia	PT	B
Graeme Jennings		Queensland, Australia	PR	B
Graham Moes		Queensland, Australia	PR	B
Greg Devine	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	C
Gurion Ang	The University of Queensland	Queensland, Australia	PT	I
Gwen Fenton	Australian Antarctic Division	Tasmania, Australia	PT	B
Hamish McCallum	Griffith University	Queensland, Australia	PT	B
Harrison Craig		New South Wales, Australia	PR	B
Heather Janetzki	Queensland Museum Network	Queensland, Australia	PT	B

Name	Representing	Geographic Origin	Type	Location
Heidi Taylor		Queensland, Australia	PT	B
Hope D		Queensland, Australia	PR	B
Hugh Possingham		Virginia , USA	PT	B
Ian Frazer	The University of Queensland	Queensland, Australia	PT	B
Ian Godwin	The University of Queensland	Queensland, Australia	PT	B
Isabella Diaz	Pilobolus	New York, USA	PR	B
Jacqueline Mackay	ABC	Queensland, Australia	PT	G
Jacqui Cavaglia		New South Wales, Australia	PT	TA,C
Jeff Johnson	Queensland Museum Network	Queensland, Australia	PT	B
Jennifer Howard	Queensland Government	Queensland, Australia	PT	I
Jess Melbourne-Thomas	Australian Antarctic Division	Tasmania, Australia	PT	B
Jessica Worthington Wilmer	Queensland Museum Network	Queensland, Australia	PT	B
Jillian Roberts	Queensland Museum Network	Queensland, Australia	PT	G,C
Jim Grayson	Queensland Museum Network	Queensland, Australia	PT	G,B
Jim Madden	Queensland Government	Queensland, Australia	PT	I
Jim Thompson	Queensland Museum Network	Queensland, Australia	PT	G,TE,I,B
Jo Wilkinson	Queensland Museum Network	Queensland, Australia	PT	C
Jodie Rummer	James Cook University	Queensland, Australia	PT	B
Joel Gilmore		Queensland, Australia	PT, PR	I,B
John Doyle		New South Wales, Australia	PT	B
John Healy	Queensland Museum Network	Queensland, Australia	PT	B
John Kent	Pilobolus	New York, USA	PR	B
John Saxon		Australian Capital Territory, Australia	PT	TA
John Stanisic	Queensland Museum Network	Queensland, Australia	PT	G,C
Jon Clarke		Australian Capital Territory, Australia	PT	B
Jonathan Cramb	Queensland Museum Network	Queensland, Australia	PT	C
Jonathan Epstein		New York, USA	PT	B
Jonathan Roberts	QUT	Queensland, Australia	PT	I
Jonathan Webb	ABC	New South Wales, Australia	PT	B
Jonica Newby		New South Wales, Australia	PT	B
Jordan DeBono	The University of Queensland	Queensland, Australia	PT	I
Justin Norris	Pilobolus	New York, USA	PR	B
Justin Marshall	The University of Queensland	Queensland, Australia	PT	B
Karin Koch	Queensland Museum Network	Queensland, Australia	PT	B
Karl Kruszelnicki		New South Wales, Australia	PT	TE,B
Kat Norman	Shell's QGC project	Queensland, Australia	PT	C
Katherine Andrews	Griffith University	Queensland, Australia	PT	B
Katherine Reynolds		Australian Capital Territory, Australia	PT	B
Katrina Allen		Victoria, Australia	PT	B
Katrina Mullin	Shell's QGC project	Queensland, Australia	PT	G
Ken Dutton-Regester	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	I,B
Kerrie Dougherty		New South Wales, Australia	PT	TA,B

Name	Representing	Geographic Origin	Type	Location
Kerrie Wilson	QUT	Queensland, Australia	PT	B
Kevin Thomas	The University of Queensland	Queensland, Australia	PT	B
Kimberly Finlayson	Griffith University	Queensland, Australia	PT	B
Kristen Spring	Queensland Museum Network	Queensland, Australia	PT	C
Leah Purcell		New South Wales, Australia	PR	B
Lee Constable		Queensland, Australia	PT	B
Leeanne Enoch	Queensland Government	Queensland, Australia	PT	TA
Leila Cuttle	QUT	Queensland, Australia	PT	B
Liam St Pierre	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	B
Linsey Pollak		Queensland, Australia	PR	B
Liz Wren		Queensland, Australia	PT	B
Lorelle Holcroft		Queensland, Australia	PT	G,C
Madeleine McCaw		Queensland, Australia	PR	B
Madeleine Kersting Flynn	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	TE
Madeleine van Oppen		Victoria, Australia	PT	B
Madeline Cooper		Queensland, Australia	PR	B
Madhu Bhaskaran		Victoria, Australia	PT	B
Madison Mayfield	Queensland Museum Network	Queensland, Australia	PT	B
Maiken Ueland		New South Wales, Australia	PT	B
Mal Bryant	Queensland Museum Network	Queensland, Australia	PT	I
Mandy Thomas	QUT	Queensland, Australia	PT	B
Margaret Sheil	QUT	Queensland, Australia	PT	B
Marissa McNamara	Queensland Museum Network	Queensland, Australia	PT	I,TA
Mark Furner	Queensland Government	Queensland, Australia	PT	B
Mark Hamann	James Cook University	Queensland, Australia	PT	TE,B
Mark Olive		New South Wales, Australia	PT	B
Mark Smyth	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	B
Martin Betts	Griffith University	Queensland, Australia	PT	B
Marwa Al-Ansary	Shell's QGC project	Queensland, Australia	PT	G,C
Mary O'Malley		New South Wales, Australia	PT	B
Maryanne Venables	Queensland Museum Network	Queensland, Australia	PT	I
Mary-Anne Lea		Tasmania, Australia	PT	B
Merlin Crossley		New South Wales, Australia	PT	B
Merrick Ekins	Queensland Museum Network	Queensland, Australia	PT	I,TA
Michael Bird	ARC Centre of Excellence for Australian Biodiversity and Heritage (CABAH)	Queensland, Australia	PT	B
Michael Rix	Queensland Museum Network	Queensland, Australia	PT	G,B
Michelle LaRue		Canterbury, New Zealand	PT	B
Mike Hayes		Queensland, Australia	PT	B
Nancy Fitzsimmons		Queensland, Australia	PT	B
Natalie McKirdy		Queensland, Australia	PT	I
Natasha Mitchell	ABC	Victoria, Australia	PT	B
Neena Mitter	The University of Queensland	Queensland, Australia	PT	B

Name	Representing	Geographic Origin	Type	Location
Niamh Nic Daéid		Scotland, UK	PT	B
Nicholas Hadnutt	Queensland Museum Network	Queensland, Australia	PT	TA
Nicola Waddell	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	B
Nigel McMillan	Griffith University	Queensland, Australia	PT	B
Nikolaine Martin		Queensland, Australia	PR	B
Nile Russel	Pilobolus	New York, USA	PR	B
Nina Fedoroff		Pennsylvania, USA	PT	B
Nine Network		Queensland, Australia	PR	B
Norman Swan		New South Wales, Australia	PT	B
Ove Hoegh-Guldberg	The University of Queensland	Queensland, Australia	PT	B
Owen Coffee	The University of Queensland	Queensland, Australia	PT	B
Owen Seeman	Queensland Museum Network	Queensland, Australia	PT	G
Pat Tierney		Queensland, Australia	PR	B
Patrice Fogarty	Queensland Museum Network	Queensland, Australia	PT	B
Patrick Hetherman		Queensland, Australia	PT	TA
Paul Bertsch	Office of the Queensland Chief Scientist	Queensland, Australia	PT	B
Paul McShane	James Cook University	Queensland, Australia	PT	TE
Paul Oliver	Queensland Museum Network	Queensland, Australia	PT	I,B
Paul Willis		South Australia, Australia	PT	B
Peta-Anne Zimmerman	Griffith University	Queensland, Australia	PT	B
Peter Ellerton	The University of Queensland	Queensland, Australia	PT	B
Peter Hoj	The University of Queensland	Queensland, Australia	PT	B
Peter Koopman	The University of Queensland	Queensland, Australia	PT	B
Pip Courtney	ABC	Queensland, Australia	PT	B
Patrick Couper	Queensland Museum Network	Queensland, Australia	PT	B
Paul Muir	Queensland Museum Network	Queensland, Australia	PT	TE
Paul Falkowski		New Jersey, USA	PT	B
Paula Tapiolas	ABC	Queensland, Australia	PT	TE
Quiet Achiever		Queensland, Australia	PR	B
Rachel Allavena	The University of Queensland	Queensland, Australia	PT	I,TA
Rachel Ankeny		South Australia, Australia	PT	B
Rebecca Ford	Griffith University	Queensland, Australia	PT	B
Renee Jaworski	Pilobolus	New York, USA	PR	B
Rhianna Patrick		Queensland, Australia	PT	B
Rob Adlard	Queensland Museum Network	Queensland, Australia	PT	I,TA,B
Rob Bell		Queensland, Australia	PT, PR	G,I,B,C
Robert Raven	Queensland Museum Network	Queensland, Australia	PT	B
Robyn Cumming	Queensland Museum Network	Queensland, Australia	PT	TE
Robyn Williams	ABC	New South Wales, Australia	PT	B
Roger Hellens	QUT	Queensland, Australia	PT	B
Rowena Long	QIMR Berghofer Medical Research Institute	Queensland, Australia	PT	B
Sam Hinton	The University of Queensland	Queensland, Australia	PT	I
Sara Howden		Victoria, Australia	PT	B

Name	Representing	Geographic Origin	Type	Location
Sean Foran		Queensland, Australia	PR	B
Selina Bartlett	QUT	Queensland, Australia	PT	B
Science on the GO!	Griffith University	Queensland, Australia	PR	B
Sonia Leber		Victoria, Australia	PT	B
Stacey O'Brien	The University of Queensland	Queensland, Australia	PT	B
Stefan Cooper-Fox		Queensland, Australia	PT	B
Stephen Oliver		Queensland, Australia	PR	B
Steve Gramenz	Queensland Museum Network	Queensland, Australia	PT	I
Steven Chown		Victoria, Australia	PT	B
Stewart Barry		Queensland, Australia	PR	B
Street Science		Queensland, Australia	PR	G,B,C
Sue Keay		Queensland, Australia	PT	B
Sue-Ann Watson	Queensland Museum Network	Queensland, Australia	PT	TE,B
Susan Wright	Queensland Museum Network	Queensland, Australia	PT	B
Tamara Davis	The University of Queensland	Queensland, Australia	PT	B
Tasman van Ommen	Australian Antarctic Division	Tasmania, Australia	PT	B
Thomas Hildebrandt		Berlin, Germany	PT	B
Tim Flannery		New South Wales, Australia	PT	B
Timothy Cohen	ARC Centre of Excellence for Australian Biodiversity and Heritage (CABAH)	New South Wales, Australia	PT	B
Todd Knight	Queensland Museum Network	Queensland, Australia	PT	C
Tony Coonan	Queensland Museum Network	Queensland, Australia	PT	TA
Tony Matthews	Griffith University	Queensland, Australia	PT	B
Traceylee Forester		Queensland, Australia	PT	B
Tracy Day	World Science Festival	New York, USA	PT	B
Trevor Jordan		Queensland, Australia	PT	B
UQ Science Demo Troupe	The University of Queensland	Queensland, Australia	PR	B
Viktoria Modesta		London, UK	PT	B
Virginijus Šikšnys		Vilnius, Lithuania	PT	B
Wayne Jennings		Queensland, Australia	PR	B
Yvonne Cagle		California, USA	PT	B
Zachary Miles	Pilobolus	New York, USA	PR	B

Legend

TYPE	PR	Performer
	PT	Participant
LOCATION	G	Gladstone (1-2 March 2019)
	TE	Townsville (8-9 March 2019)
	I	Ipswich (17-18 March 2019)
	B	Brisbane (18-24 March 2019)
	TA	Toowoomba (22-23 March 2019)
	C	Chinchilla (29-30 March 2019)



World Science Festival Brisbane
2019 volunteers greet visitors
to **STREET SCIENCE!**

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World Science Festival Brisbane 2019: In Review

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