

PINT OF SCIENCE

AUSTRALIA

20 – 22 May 2019



@pintofscienceau

Purchase tickets at
pintofscience.com.au

WELCOME!

Pint of Science Australia delivers science engagement, primarily through a national festival, that builds the Australian public's appreciation of science, contributes positively to combat inequity and negative stereotypes within the Australia science sector, establishes and supports cross-discipline collaborations, and celebrates and champions excellence in the Australian science and science engagement sectors.

Our events include interesting and relevant talks on the latest science research that are accessible to all.

The main festival takes place annually over three days in the month of May as part of the broader international Pint of Science festival: a fantastic celebration of science that reaches all across the globe.

We group our events into six main categories that cover the broad scope of what we consider science:

- **Atoms to Galaxies:** physics, chemistry, maths, astronomy
- **Beautiful Mind:** neuroscience, psychology and psychiatry
- **Our Body:** medicine, human biology, health
- **Our Society:** law, history, politics, policy, languages
- **Planet Earth:** geosciences, plant sciences, zoology
- **Tech Me Out:** biotechnology, robotics, computers

Pint of Science Australia is only possible by the amazing dedication and contribution from our volunteer team. We have a crew of hundreds, passionate science-interested volunteers who power the whole operation.



Pint of Science acknowledges Australia's traditional owners and custodians, the first innovators and scientists of this land. We pay respect to those Aboriginal and Torres Strait Islander elders and communities and their continuing relationship with the Australian land and sea.

Details correct at time of printing

FROM THE DIRECTORS

As a community, it is so important to have an appreciation of science to better our future. But how can you engage with something if it's locked away in a lab? This is what drives us to do more.

It has been awe-inspiring to see Pint of Science grow and mature over the last few years. Not only has the festival tripled in size in just three years, we've also built a community of passionate and science-interested people who come together in an annual celebration of Australian science research.

We're thrilled by the eagerness of our speakers wanting to share their research and the enthusiasm that

our partners have for building a more diverse STEM sector. Their support for science outreach is truly inspirational.

Of course, all of this wouldn't be possible without our volunteers. Countless late nights, weekends, and lunch-breaks; it is their dedication that makes this festival what it is. Many join us with little event experience and it is an exciting journey to travel with them as they build their skills and confidence to run their own Pint of Science events.

We hope you enjoy the #PintAU19 festival.

Jirana and Tom

2019 ARTWORK

Pint of Science Australia engages Australian artists to create works to represent the broad diversity of science in this country. The 2019 artwork is by Canberran multidisciplinary artist and performer, Miriam Slater.

Having a self-confessed minimal knowledge of and exposure to the world of science, Miriam focused on developing an image that expressed the inherent link we all have to science

in our lives, whether we are conscious of it or not. Like an evolving ecosystem with interconnected branches weaving the micro and macro world together, this piece represents all the many facets of science, and the wonder of discovery represented by a blue-ringed octopus wielding a VR-headset.

You'll see Miriam's work featured throughout this year's festival.



2019 MERCHANDISE



#PINTAU19 PINT GLASS

\$28.50

The 2019 #PintAU19 pint glass features the amazing artwork of Miriam Slater.

570ml Pint Glass (160mm height x 83mm diameter) faux etched with the Pint of Science logo on one side and the artwork on the other.



#PINTAU19 TEE

\$35.50

Get your very own #PintAU19 tee - the same shirt our fantastic volunteers were wearing during the 2019 festival! It features the artwork of Miriam Slater - and we think it looks pretty rad.



#PINTAU19 PIN

\$8

For the first time in Australia we have our very own #PintAU19 pins! Featuring either our Pint of Science Logo or the lovely blue-ringed octopus artwork from Miriam Slater. Get yours today!

SHOUT A DRINK

Up to you!

Pint of Science is powered by our volunteers and we try to say thank you by making sure they get a meal and a drink on the nights they volunteer. You can help out the festival by shouting our volunteers that drink, meal or even the whole team. Cheers!

Merchandise available at pintofscience.com.au/merch

Photos indicative only

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2019 TOPICS



ATOMS TO GALAXIES



OUR BODY



BEAUTIFUL MIND



TECH ME OUT



PLANET EARTH



OUR SOCIETY



Confirmed accessible venue - see website for more details

THE BRITISH HOTEL

58 FINNISS ST, NORTH ADELAIDE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH CSI: ANIMALIA AUSTRALIA

Time to become a Sherlock Holmes for our exciting and unique animals in Australia. Get your trench coat and detective hat ready!

EchidnaCSI: citizen science meets genetics *Ms Tahlia Perry*
Cephalopods on the rise as oceans change *Dr Zoe Doubleday*



TUE 21ST PRESERVE THE EARTH

Climate change affects us all. What can we do to stop it? Unleash the citizen scientist inside you.

Soil health: challenges for our future *Dr Lynne Macdonald*
Citizens as custodians of a healthy planet *Associate Professor Craig Williams*



WED 22ND SEARCHING FOR CURES

Cancer and cystic fibrosis - learn what can be done to prevent and treat disease.

Using adult stem cells to treat disease *Dr Nigel Farrow*
Where are we with breast cancer? *Dr Pallave Dasari*

THE WHEATSHEAF HOTEL



39 GEORGE ST, THEBARTON DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH THROUGH SPACE AND TIME

Come on a journey to the moon and back, and discover the power of light.

Light tools: making light work *Dr Georgios Tsiminis*
The archaeology of Apollo 11 *Dr Alice Gorman*



TUE 21ST MIND YOUR MIND

Brainpower in action! Immerse yourself in the human brain and learn how it works, what is going on in health and disease and what to do when something goes wrong.

Mind, body, hashtags, and health *Dr Ivanka Prichard*
Brain disorders in a test tube *Dr Cedric Bardy*



WED 22ND HISTORIC SCIENCE ... SERVED WITH BEER

Be amazed by the life and legacy of Norman Tindale and his contributions to Aboriginal Australia and hear how the indigenous languages are being revived today.

Wing Commander Tindale RAAF 284480 *Ms Francesca Zilio*
Language reclamation and wellbeing *Professor Ghil'ad Zuckermann*

ROB ROY HOTEL



ADELAIDE

106 HALIFAX ST, ADELAIDE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH THE STORY OF YOU

Do you know which microbes grow between your teeth and what they can tell us about health and disease? Discover the magic of microbes and the powerful impact of our unique body to keep you fit and healthy.

The microbes of our ancestors *Dr Raphael Eisenhofer*

How well do you know yourself? *Dr Madelé van Dyk*



TUE 21ST UNDER THE SEA

Dive into a world of glowing underwater excitement and get to know how to protect Nemo's home.

Saving Nemo *Professor Karen Burke Da Silva*

Marine light shows *Dr Tullio Rossi*



WED 22ND DECIMALS HAVE A POINT

Maths can be fun and we can prove it. Find out how we can use Twitter for better disease management and what the numbers can tell you about you.

Studying online social networks using maths *Dr Lewis Mitchell*

Desert island networks *Dr Jono Tuke*



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Pint of Science
Festival

Supporting young researchers to engage the community on all things science

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ARMIDALE GOLF CLUB



GOLF LINKS RD, ARMIDALE DOORS: 6:00PM STARTS: 6.30PM ENDS: 9PM



MON 20TH **HEALTHY ME: LIVING LONGER AND LOVING IT?**

It's true, we are living longer than previous generations but it takes some work to live a long, healthy and happy life. Our speakers tonight will give us some details on how we're living and ways to improve our chances of survival and live with a good quality of health. Are you up for it?

You are what you eat ... and do! *Professor Hugh Barrett*

Ageing kidneys or chronic disease? *Associate Professor Michelle Guppy*

The more candles, the bigger the wish *Associate Professor Stuart Wark*



TUE 21ST **OUR PLANET: FROM FLOWERS TO FOSSILS**

Delve into the past, present and future with stories on what small fossil shells from the world's first complex animals can tell us about early creatures and their ecosystems, to a contemporary context where humans rely on and can sustain these ecosystems in our fast changing world.

Early animals in ancient armour *Dr Marissa Betts*

Nature networks: how ecosystems keep us alive *Dr Manu Saunders*



WED 22ND **FIELDS OF TECHNOLOGY: FROM FARMING TO FOOTY**

Technology is racing forward, providing exciting opportunities for monitoring, data collection, and improved efficiency of systems across a range of industries. But what about sport or farming? Tonight we'll explore the technology streamlining training practices, rehabilitation, and strategy in elite sports, and how remote sensing technologies is helping farmers manage crop systems, predict yields, and monitor the welfare of their animals.

Using remote sensing to predict crop growth *Dr Angelica Suarez Cadavid*

Technology advances in elite sport *Mr Matt Pine*

Keeping watch on lambing ewes *Dr Sabine Schmoelzl*

DID YOU KNOW?

The nerve-blocking toxins in blue-ringed octopus venom are actually not made by the octopus, but come from bacteria living in the animal's saliva glands.



THE NATIONAL

182-186 HIGH ST, BENDIGO DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



TUE 21ST **BODIES: HUMAN AND PLANT**

Be amazed by the many trillions of molecules helping keep your body in check and enthralled by the actions we take every day to prevent species extinction.

Biology at the single molecule level *Dr Donna Whelan*

Recovering Australia's threatened flora *Ms Anna Murphy*



WED 22ND **SCIENCE, SEX AND ART**

What goes on behind the closed doors of our rural Baby Boomers? Can science and art complement each other? Come and find out!

What is the A doing in tech school STEM? *Mr Aime Sacrez*

Aussie science poetry *Dr Michael Leach*

Best sex: rural baby boomers in FWBR *Dr Linda Kirkman*

BENDIGO



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science agency

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Quench your thirst for
knowledge and discover
more about our speakers:

blog.csiro.au/pintofscience



BREWHOUSE BRISBANE**601 STANLEY ST, WOOLLOONGABBA DOORS: 6:30PM STARTS: 7PM ENDS: 9PM****MON 20TH MAKING SENSE OF THE BRAIN**

Discover the differences between the brains of humans and mantis shrimp. What can our fingers and toes tell us about our brain and why do mantis shrimp see so many more colours than humans?

The way we wiggle *Dr Christian Redd*

The visual system of mantis shrimp *Ms Amy Streets*

**TUE 21ST EVOLUTION MAKES PERFECT**

Why do our brains function so differently to those of other vertebrates and how can we improve our brain function to get better at multi-tasking?

How did mammalian brain wiring evolve? *Dr Annalisa Paolino*

The neuroscience of multitasking and practice *Dr Kelly Garner*

**WED 22ND REGENERATING SUSTAINABILITY**

Take a step back and explore ways we can protect and regenerate Australia's unique and varied landscape

Allowing nature to make some decisions *Ms Peta Zivec*

Second talk not available at time of printing

CATCHMENT BREWING**150 BOUNDARY ST, WEST END DOORS: 6:30PM STARTS: 7PM ENDS: 9PM****MON 20TH PRINTED TISSUE AND SILKY EYES**

Need a new bio-implant? Just print it! Struggling with Macular Degeneration? Perhaps the answer is on the Mulberry tree outside. Take a journey into how medicine is no longer confined to plastics and artificial fibres.

The sight-saving potential of silk *Dr Natalie McKirdy*

Biofabrication: 3D printing tissues and organs *Naomi Paxton*

**TUE 21ST LOOKING INTO YOUR FUTURE**

Have you ever pondered what the future will be like? Get a glimpse into the futuristic workplace and how we will harvest our energy using efficient nanotechnology.

Where will we get our energy in the future? *Professor Joe Shapter*

Busting myths around the future of work *Dr Claire Naughtin*

**WED 22ND IT'S HAILING DROP BEARS!**

Explore how scientists are taking to the skies and taking a birds-eye approach to spotting our Aussie icons, both the fuzzy and stormy.

When you can see the koalas despite the trees *Dr Grant Hamilton*

Using weather radars to forecast hailstorms *Mr Jordan Brook*

NEWSTEAD BREWING CO. MILTON



BRISBANE

67 CASTLEMAINE ST, MILTON DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH DEADLY AS

What do venomous animals and fighting slime have to do with saving lives? Come and check out how these sinister organisms are turning into medical innovations.

Radical coatings to fight slime and infections *Dr Nathan Boase*

Deadly cures: drugs from venomous animals *Professor Glenn King*



TUE 21ST EXTRA! EXTRA! HEAR ALL ABOUT IT

Gather around to hear all the new research happening in the world of PhDs with topics ranging from robotics to algae, from venom to space as we do a PhD blitz talking session. Even hear all about the trickiness of deadly cancer research.

PhD blitz session *PhD Candidates*

The tricky business of cancer research *Dr Fiona Simpson*



WED 22ND THE GOOD, THE BAD AND THE YEASTY

Is yeast good or bad? Find out how yeast can enhance our lives but also potentially wreak havoc along with some of the therapies used to prevent other inflammatory diseases.

Killer yeast *Professor Avril Robertson*

On a quest for Brisbane's best. Beer that is! *Edward Kerr*

The switch for a longer, healthier life *Associate Professor Kate Schroder*

NEWSTEAD BREWING CO. NEWSTEAD

85 DOGGETT ST, NEWSTEAD DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH NEW THOUGHTS ON THE BIG C

Medical treatments have come a long way and we have many animals such as the zebrafish to thank for that. But how far have treatments come, could we soon be seeing personalised cancer treatments?

The future of personalised cancer treatment *Dr Zach Houston*

Zebra-fishing for answers to human diseases *Dr Kazuhide Shaun Okuda*



TUE 21ST ROBOTICA ASTRONAUTICA

Robots are becoming more and more a part of our lives. Find out what innovative ways we're using robots to help our farmers and astronauts.

Robotics and the future of farming *Dr Chris Lehnert*

Ultralight legged robotics *Mr Ryan Steindl*



WED 22ND ROCKING ABOUT A BAR

Step back in time as we discover the fun beverages and burning habits of the first humans. How different will it be to our current methods? One way to find out!

Brewers of the Stone Age *Dr Serena Love*

Mineral magnetism and human occupation *Dr Kelsey Lowe*

RED BRICK HOTEL

83 ANNERLEY RD, WOOLLOONGABBA DOORS: 6:30PM STARTS: 7PM ENDS: 9PM

**MON 20TH AMONGST THE ROCK AND SEA**

Join us as we go on an adventure amongst the rocks, through the minerals before we find out what is really running off into the Great Barrier Reef. Is it good? Or is it bad?

Science innovation that values diversity *Dr Cathy Robinson*

Groundwater contaminants in reef catchments *Dr Lucy Reading*

Mineral systems of Cape York, Queensland *Ms Courteney Dhnaram*

**TUE 21ST FISHY VENOM DRUGS OR DEADLY DRUGS**

Omega or not to Omega, and how do we maintain a healthy lifestyle? And how can venomous animals help us develop novel drugs? All will be revealed.

Venoms: a cocktail for drug discovery *Dr Fernanda Cardoso*

Plants as a sustainable source of fish oil *Professor Michelle Colgrave*

**WED 22ND LIVING WITH THE GRID**

Are the complaints really true? Are we turning into zombies from being online for too long? And what do 3D printers and plants have in common?

Dis:connected: our lives on and offline *Dr Jaimee Stuart*

Planting art and growing science *David Harris and Zach LeBlanc*

NEWSTEAD BREWING CO

— BRISBANE • AUSTRALIA —



The Scientific Method starts with a Newstead.

THE FOX HOTEL ACADIA ROOM



BRISBANE

71-71 MELBOURNE ST, SOUTH BRISBANE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH UPCYCLE YOUR GENETIC KNOWLEDGE

What can head trauma data tell us about dementia and just how much can we engineer our bodies?

Neurodegeneration, concussion, and genetics *Mr Omar Ibrahim*
Re-engineering the molecular wheel *Dr Jason Whitfield*



TUE 21ST GET OUTER THIS WORLD

Delve into the extremes of the galaxy, and even discover what space sounds like!

How to hear the Big Bang *Samuel Hinton*
Extreme environments: gravity and black holes *Dr Janie Hoormann*



WED 22ND MENTAL ILLNESS AND HALLUCINATIONS

How do we cope with our mental illnesses? Could our phones be the answer? And how does our brain construct hallucinations?

The brain across the psychosis continuum *Dr Ilvana Dzafic*
Health-e minds, healthy bodies *Dr Marlien Varnfield*

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THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

THE FOX HOTEL VERANDA ROOM



71-73 MELBOURNE ST, SOUTH BRISBANE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH ELECTRIFYING ENERGY

With our body using electricity to control our muscles and our brain, we find out how researchers are using this to their advantage to learn more about our body.

Of fish and lasers *Dr Gilles Vanwallegghem*

Listening to muscles ... with needles & wires! *Dr Jeroen Aeles*



TUE 21ST VERSATILE BA(T)CTERIAS

Bat or fiction? What is the truth behind bats and disease? What adaptations has bacteria developed to build La Résistance, could bugs be the answer? Come and uncover the fat truth

Eating fat to stay alive *Jessica Rooke*

The curious world of bats & their researchers *Tamika Lunn*

BugBusters: phage therapy in the 21st century *Dr Karen Weynberg*



WED 22ND COMPLEX TERA-SYSTEMS

How and where do we save all those ginormous microscopic photos? And how can so many systems play a role on one end result? Find out as we unravel these complexities.

Big discoveries from little things *Dr Nicholas Condon*

Emergence in complex systems *Professor Ross McKenzie*

THE BURROW



52 RUSSELL ST, WEST END DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH LITTLE CREATURES, BIG CURES

Are your spidey-senses tingling? Come and discover how bacteria killing bacteria and spider venom are becoming new alternatives to treating medical ailments.

Bacteria killing bacteria: modern antibiotics *Ben Vezina*

Spider to the rescue: venom-based drug design *Dr Yann Chin*



TUE 21ST A HEARTY CATHETER

We are constantly improving the medical world. Tonight we look at the world of catheters and heart failure. What's changing for the better?

The OpenHeart Project *Jo Pauls*

Slippery and shiny catheter materials *Associate Professor Amanda Ullman*



WED 22ND RIDE THE WAVE OF THE STARS

How big is a star? Come and discover just how big the diamonds in our sky really are and how we can utilise superfluids to potentially solve our growing energy needs.

Superfluids for low-energy computing *Professor Matthew Davis*

Light, stars, crystals and the nano-world *Dr Tobias Schulli*

SEA LEGS BREWING CO.**89 MAIN ST, KANGAROO POINT DOORS: 6:30PM STARTS: 7PM ENDS: 9PM****MON 20TH WHO THOUGHT IT BEST**

Computers have come a long way but can they match the power of human thinking? Do we have as much control over our decisions as we do over a computer. Is your mind really yours?

How machines 'think' *Dr Yoni Nazarathy*

The neuroscience of free-will *Professor Ross Cunningham*

**TUE 21ST BE MORE PACIFIC**

Australia has a unique landscape and stunning reefs. But what creatures are among the shallows and how do we go about protecting such valuable icons?

Big green donuts in the Great Barrier Reef *Mardi McNeil*

Guiding decisions for nature conservation *Dr Josie Carwardine*

A hitchhiker's guide to marine biodiversity *Dr Eleanor Velasquez*

**WED 22ND MIND OVER GUT**

You are what you eat, or at least what is in your gut ... Gut over here and make up your own mind! Or is making up your mind challenging enough? Brain it on!

Five ways your brain is screwing you over *Dr Diane Harner*

Hiking the brain epigenetic landscape *Marta Nabais*

Gut microbiome profiling *Dr Alena Pribyl*

THE WATERLOO HOTEL**ANN ST & COMMERCIAL RD, FORTITUDE VALLEY DOORS: 6:30PM STARTS: 7PM ENDS: 9PM****MON 20TH LOCATION, LOCATION, LOCATION**

Who knew location could be so important? Come and find out just how much location can impact stem cells and cancer treatment

Cancer inequities: where and why *Dr Susanna Cramb*

How can we use stem cells to fix brain damage *Associate Professor Larisa Haupt*

**TUE 21ST DELVING INTO THE PAST**

The past can tell us a lot about our world and how it came to be. But just how much can the past help us with the future?

Looking back in time with geophysics *Janelle Simpson*

The dirty secrets of coal *Nikola Van de Wetering*

**WED 22ND A ZIKA-Y SITUATION**

Find out where Queensland science is heading and how an Australian plant could be our next virus warrior.

Could a Zika outbreak happen again? *Dr Francesca Frentiu*

Australian native plant: a novel Zika killer *Dr Trudi Collet*

Queensland science impact and collaborations *Sebastian Dimech*

THE NORMAN HOTEL



102 IPSWICH RD, WOOLLOONGABBA DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH MEDICAL DETECTIVES

Spit it out! No really ... it could help early detection of diseases! Come and find out how your spit could help early detection of diseases and how knowing the enemy can help treat bacterial disease.

Disease diagnosis is spitting distance away *Associate Professor Chamindie Punyadeera*
Seeing the unseen: visualising bacteria *Dr Mark Blaskovich*



TUE 21ST INFLAMING PATHOGENS

Get hook ... wormed. Discover how these blood-sucking parasites can help with autoimmune disease and how mitochondria are more than just the powerhouse of the cell.

Mitochondria: the powerhouses of inflammation *Caroline Holley*
Learn to stop worrying and love the Hookworm *Dr Wayne Johnston*



WED 22ND HOW DO YOU WEAR YOUR GENES?

Discover how useful genetic testing is in preventing and treating public health, with a focus on understanding Motor Neuron disease.

The genetics of motor neuron disease *Dr Fleur Garton*
Implications of genetic data in public health *Dr Anna Vinkhuyzen*

THE CHARMING SQUIRE

3/133 GREY ST, SOUTH BRISBANE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH FIGHTING SUPERBUGS? METAL AS!

Leave it to a scientist to bring new metals to an antibiotic resistant fight. But could this be the solution to fighting superbugs? It's antibodies game. Come and find out!

How bacteria sweet talk rogue antibody *Mr Josh Monteith*
Using metals to fight antibiotic resistance *Dr Angelo Frei*



TUE 21ST JUDGE, JURY AND EXECUTIONER

Can you really be the judge, jury and executioner or are we in a real life version of Sims? Can a jury judge fairly when presented with all the facts, even when the science is uncertain? Your Honor, the members of this Jury find the defendant... Come and find out!

Evidence-based evidence in the courtroom *Gianni Ribeiro*
Let's talk about sex...ual dimorphism *Ms Kristy Winter*



WED 22ND WHEN NEMO SAW DORY RUN AND HIDE AMONGST THE CORAL

Come on a highly visual journey into one of the most beautiful places on earth. Descend into the beautiful waters of the coral reef as you explore the corals and how Nemo really does see Dory.

Of reefs and corals *Mr Brett Lewis*
Seeing Nemo: investigating clownfish vision *Mr Laurie Mitchell*

MACALISTER BREWING COMPANY**6 DANBULAN ST, SMITHFIELD DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM****MON 20TH MAPPING THE REEF: FROM SKY TO SEA**

Take to the sky and jump into the water with both feet to find out about the technology used to map the Great Barrier Reef. From the shallow to deep reefs, to seagrass meadows, dive in and explore with us.

From drones to maps on the Great Barrier Reef *Dr Karen Joyce*

Mapping the deep Great Barrier Reef *Dr Robin Beaman*

New frontiers in seagrass discovery *Dr Paul York*

**TUE 21ST PLANET OF THE PLANTS**

How can we reveal the dark biodiversity on our planet? And when we find it, how can we take care of it?

The dark matter of biodiversity *Professor Darren Crayn*

Securing Australia's tropical mountain flora *Dr Alex Cheesman*

**WED 22ND SLIMY SECRETS**

Deadly jellyfish, mysterious eels. Uncover the secrets of our local slimy friends.

Tricks of an elusive moray eel revealed *Dr Brendan Ebner*

Irukandji jellyfish: the deadliest catch *Dr Rob Courtney*

SALT HOUSE**MARINA POINT, 6/2 PIERPOINT ROAD, CAIRNS CITY****DOORS: 6PM STARTS: 6:30PM ENDS: 8PM****MON 20TH HACKING THE BRAIN**

Why should we talk to kids about gambling? How can yoga change our minds?

Time for the talk: gambling and kids *Erika Langham*

Social workers should love yoga – really? *Dr Jo Mensinga*

**TUE 21ST REEF RESCUE**

Innovative solutions to help the Great Barrier Reef, hear from scientists and local organisations about reef rescue in Cairns.

GBR legacy: science for solutions *Mr Sven Hagen*

Coral larval rearing to boost reef recovery *Katie Chartrand*

**WED 22ND THE BIRDS AND THE BEES**

Touching on taboo topics from sex to abortion care.

Let's talk about sex, baby! *Dr Sally Hall*

Researching the taboo topic *Ms Lydia Mainey*

ACE HIGH EATERY



191 ANKETELL ST, GREENWAY DOORS: 6:00PM START: 6:30PM ENDS: 8:30PM

**MON 20TH “GIVE ME HYPERSONIC SPEED, MR SULU”**

With the current focus on sustainable living, you won't want to miss an evening hearing about the organic future for mobile phones. You'll also be treated to how Canberra researchers are reaching hypersonic speeds.

Growing organic mobile phones *Mr Ankur Sharma*

Hypersonics: fast, hot and exciting *Dr Bianca Capra*

**TUE 21ST A MATERIAL GIRL IN AN AGEING WORLD**

The brain is the body's most valuable tool, and it's also the one we understand the least. Start making some new neural networks. Learn about how the latest in cognitive science can help improve the lives of the elderly, and how we can use silk from bees in a new way.

The ball to prevent falls *Ms Hayley Teasdale*

Teaching an ancient material new tricks *Dr Trevor Rapson*

**WED 22ND WHAT'S THE MATTER WITH LASERS?**

How much do you know about lasers, and what it is that makes up our universe? Join us south side for some serious laser talk, and to find out where all our antimatter is going.

Big problems need big lasers *Dr David Gozzard*

Where has all the antimatter gone? *Fiona Panther*

BOLT BAR



68 BANDJALONG CRES, ARANDA DOORS: 6:00PM START: 6:30PM ENDS: 8:30PM

**MON 20TH WHAT CAKE SHOULD YOU BRING TO A QUANTUM PARTY?**

Could creating a solar system really be a piece of cake? Can you not get enough of that darn quantum hype? Join us for some engaging and interactive talks that will have you creating your own solar system and quantum memories in no time.

Recipe for a solar system *Miss Eloise Birchall*

Putting quantum information on ice *Dr Rose Ahlefeldt*

**TUE 21ST INTRODUCING: THE GREEN STANDARD**

Join us at Bolt Bar to learn how we are enhancing the efficiency of our agricultural systems by improving Canola oil production, and how we can speed up genetic selection in tree breeding.

DNA informed tree breeding *Dr Saravanan Thavamanikumar & Dr Bala Thumma*

Canola producing gold for Australia *Dr Kyle Reynolds*

**WED 22ND ENGINEERING A FRAIL-SAFE FUTURE**

Robots as physical therapists and how frailty may affect health outcomes in the elderly. Come to the north side at 6PM for \$15 steaks with a side of health-tech research.

Robot assisted physical rehabilitation *Dr Shahid Hussain*

Frailty is in the eye of the beholder *Dr Imaina Widagdo*

GRYPHONS CAFFE BAR



16 BARKER ST, GRIFFITH 6PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH TAKE A BITE OUT OF HEALTH

A fully sick night of talks about our health and what makes a mozzie's favourite meal (could it be us?). What could make your Monday any more exciting?

Mosquitoes: they'll sniff you out *Dr Jacqui Poldy*

Sick individuals or sick populations? *Ms Jenny Welsh*



TUE 21ST DIVING IN THE DEEP

Oceans in Canberra? That's crazy. Get wet with marine science and discover what our Canberra researchers are learning about our ocean floor and life as a scientist on a boat. Come and learn what's really happening in the deep blue.

Mapping and characterising Australia's seafloor *Dr Rachel Przeslawski*

Furious 50s and shrieking 60s: marine science *Associate Professor Leanne Armand*



WED 22ND BENDING THE ELEMENTS: CLIMATE, CURRENTS AND FIRESTORMS

What is a firestorm and why does it "what's the word ... burn"? And who is Eddy and why does wind affect him in our oceans? Is Eddy even a person? So many questions and we have the answers.

The science of firestorms *Associate Professor Jason Sharples*

Response of oceanic eddies to climate change *Josué Martínez Moreno*

KING O'MALLEYS

131 CITY WALK, CANBERRA DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH THE FUTURE IS HERE, IT LOOKS AND TASTES GREAT

An iron-free household? "What's that?" you might ask. Come along to hear about the future of no-crease cotton while you sip-back and learn about the development of zero-proof alcohol.

Engineering plant fibres for a no-iron future *Dr Madeline Mitchell*

Changing the Aussie drinking culture *Dr Christina Delay*



TUE 21ST FORGET DENIM, THESE GENES ARE AUSTRALIAN MADE

Our Aussie animals are a big part of our national identity. What if we could manage the extinction of our furry friends? Don't miss a night of genome chat and the future of Australian mammals.

A 'quollity' reintroduction *Ms Belinda Wilson*

Australian mammals and their genomes *Professor Janine Deakin*



WED 22ND WHAT'S THE BUZZ ABOUT COWS?

Love your morning latte and smashed avo? Learn about how we can keep our bees a-buzzing and pollinating our food crazes, and the importance of nutrition for the health of cows and people.

Bee-ing healthy *Dr Amy Paten*

From grass to glass *Dr Rachael Rodney Harris*

SIX STRING BREWERY**4/330 THE ENTRANCE RD, ERINA DOORS: 6:30PM STARTS: 7PM ENDS: 10PM****MON 20TH BRAIN BREWSTERS**

Learn how to boost your brain! Ever wondered how much power your mind has over your body? Come down and find out about the interesting interactions between brain and body and how the mind can influence nutrition and physical performance!

Brain vs brawn *Dr Mitchell Smith*

Brain food and your food brain *Dr Emma Beckett*

**TUE 21ST FROTHIES WITH THE FISHES**

Come sink some beer with the fishes! Do you think marine life are partying when we aren't looking? Come under the sea to take a closer look and see how we keep tabs on them while getting over your shark phobias!

Estuarine cafes: where do fish hang out? *Dr Troy Gaston*

Sharks, drones and ROVs *Dr Vincent Raoult*

**WED 22ND PALE ALES CAN'T JUMP**

Did you ever think the human body was too simple? Come down tonight to learn about whether the oral contraceptive can benefit muscle performance and the complex interactions between sun exposure and vitamins!

Sunshine and your nutrition: not just vitamin D *Miss Patrice Jones*

Gym and gender, on the cycle *Mrs Belinda Thompson*

DID YOU KNOW?

The emu 'constellation' identified by many Australian Aboriginal cultures is a dark patch in the Milky Way caused by dark nebulae blocking the light from stars behind.





17 SOMERVILLE GARDENS, PARAP
DOORS: 5PM STARTS: 5.30PM ENDS 7.30PM



MON 20TH SUPERBUGS AND SONOGRAPHY: HEALTH IN THE NT

This evening is devoted to health with an NT twist. Several local researchers share their research and stories of working in health in the top end. We'll talk bacteria, superbugs, and get an insight into health in the communities. We'll even use ultrasound to see inside the human body LIVE (happening on site)!

The microbiome within *Dr Jo Wapling*

HealthLAB - a visual tour of our organs *Associate Professor Heidi Smith-Vaughan*

We can make a drug for that *Dr Martin Boland*



TUE 21ST HAPPINESS AND MINDFULNESS: WHAT DOES THE SCIENCE SAY?

What does science say about what makes us happy and how can we sustain it long term? How about the commonly quoted practice of mindfulness; what does the science say? Come and jump down the rabbit hole. This one is about the mind; who knows how deep the rabbit hole goes?

Mindfulness: a pathway to wellbeing *Dr Buaphrao Raphiphatthana*

The pursuit of happiness (spoiler - ends badly!) *Dr Simon Moss*



WED 22ND ANTS BEES AND DRUGS: SCIENCE IN THE TOP END

Ants – they're everywhere but they're so different. We take a look at how evolution has taken different paths for different ants. Bees – essential to life; how can we protect this most essential insect and what impact does the bee have on local horticulture? Drugs and Wastewater – we get a rundown on the National Wastewater Drug Monitoring Program and the findings from Darwin.

Intercontinental contrasts in ant communities *Professor Alan Andersen*

Biosecurity and bees *Vicki Simlesa*

Sniffing out drugs in sewage *Ms Dianne Rose*



LITTLE CREATURES



221 SWANSTON ST, GEELONG DOORS: 6PM STARTS: 6.30PM ENDS: 9PM



MON 20TH THE FAST AND THE FROTHIEST

New technology for making cars of the future, 3D printing houses and overcoming design challenges that will lead to a solar car. I'll drink to that!

The world solar car challenge *Associate Professor Paul Collins & Dr Mariana Paulino*

Would you fancy printing your home? *Professor Mahmud Ashraf*



TUE 21ST TRUST YOUR GUTS

Bacteria may have a bad rap, but they provide amazing benefits to us – and not just through fermenting beer! How does the bacteria in our gut affect our brain? And we know exercise is good for us, but can we get the effects of exercise with a pill?

Your gut, brain and bacteria *Dr Amy Loughman*

Mimicking exercise for disease treatment *Associate Professor Sean McGee*

Bacteria are my friends *Dr Ben Wade*



WED 22ND FROM FIBRE TO SPACE

From a galaxy far, far away people sit over a beer to ponder all that life offers: from advances in natural fibres and their applications, to the ethics of space exploration and defence.

Ethics of space exploration *Dr Evie Kendal*

The lifecycle of natural fibres *Dr Stuart Gordon*

New uses for Australian agricultural fibres *Dr Menghe (Malcolm) Miao*



DID YOU KNOW?

Seagrasses are rated the third most valuable ecosystem globally - one hectare would be worth approximately 5,783 happy hour pints (depending on the pub of course).



CURRUMBIN RSL



165 DURRINGEN ST, CURRUMBIN DOORS: 6:30PM STARTS: 7PM ENDS: 9PM

**MON 20TH BEYOND THE BEACH**

Noticed anything new about the ocean? How about jellyfish? Dive into a bit of marine science to find out what's going on in the deep blue

Jellyfish: the good, the bad & the beautiful *Professor Kylie Pitt*

Our changing oceans *Dr Serena Lee*

**TUE 21ST CONSERVATION, CONVERSATION AND CHEMISTRY**

Want an insight into the chemistry of nature and how wonderfully interconnected all things are? Find out why it matters and how you can join the conversation.

Plants that need animals, and why it matters *Dr Ronda Green*

Chemistry of nature *Professor Tony Carroll*

**WED 22ND CURIUSER AND CURIUSER**

If a theoretical physicist and a cognitive neuroscientist met at a bar, what would they talk about? Come along and find out! Go on ... give your brain some love.

Humans vs robots: what's the latest? *Prof Dr Irini Giannopulu*

Down the quantum rabbit hole *Dr Eric Cavalcanti*

OPTIONS TAVERN

SHOP 1109, WESTFIELD SHOPPING CENTRE, TOWN CENTRE DRIVE,
HELENSVALE DOORS: 6:30PM STARTS: 7PM ENDS: 9PM**MON 20TH MICRO/GLYCO ... IT'S ALL BIOLOGY TO ME**

Outwitting superbugs and deciphering cell language. It's your body we're talking about, so bring it along and treat it to a pint of science.

Superbugs and vaccines *Associate Professor Kate Seib*

Do you speak Glyco? Your cells do! *Associate Professor Joe Tiralongo*

**TUE 21ST FLOODS, FIRE, FURY**

How are we adapting to climate events and what is the impact of change? We ask an ecologist and a sociologist for new perspectives.

Are floods good for fisheries in SEQ? *Kaitlyn O'Mara*

Climate adaptation in theory and practice *Dr Johanna Nalau*

**WED 22ND A WEE BIT O' CHEMISTRY**

Who doesn't love a chemical reaction? Discover how nature produces chemicals to combat disease and how we might rethink our approach to drugs.

Can allergy drugs treat bladder disease? *Miss Zane Stromberga*

Chemistry, naturally *Professor Tony Carroll*

PERTH, WA

18

Rosie O'Grady's
205 James St, Northbridge

The Brisbane
292 Beaufort St, Highgate

The Newport
2 South Terrace, Fremantle

ADELAIDE, SA

17

Rob Roy Hotel
106 Halifax St, Adelaide

The British Hotel
58 Finnis St, North
Adelaide

The Wheatsheaf Hotel
39 George St, Thebarton

HOBART, TAS

16

Shambles Brewery
222 Elizabeth St, Hobart

BENDIGO, VIC

13

The National
182-186 High St, Bendigo

GEELONG, VIC

14

Little Creatures
221 Swanston St, Geelong

MELBOURNE, VIC

12

Carlton Brewhouse
24 Thompson St Abbotsford

Newmarket Hotel
34 Inkerman St, St Kilda

The Provincial Hotel
299 Brunswick St, Fitzroy

Richmond Bowling Club
2 Gleadell St, Richmond

DARWIN, NT

19

Railway Club, 17
Somerville Gardens, Parap

NEWCASTLE, NSW

9

The Delany Hotel
134 Darby St, Cooks Hill

The Happy Wombat
575 Hunter St, Newcastle

CENTRAL COAST, NSW

8

Six String Brewery
4/330 The Entrance Rd,
Erina

WANGARATTA, VIC

15

Malt Shed Wangaratta
8-10 Tone Road,
Wangaratta

ARMIDALE, NSW

7

Armidale Golf Club
Golf Links Rd, Armidale

350 SPEAKERS
53 VENUES
19 CITIES
1 BIG EVENT

PINT OF SCIENCE

2019





NOOSA, QLD

4

Heads of Noosa
85 Rene Street, Noosaville

TOWNSVILLE, QLD

6

Heritage Exchange
151 Flinders Street
Townsville City

Townsville Brewery Malt
253 Flinders Street
Townsville City

Townsville Brewery Tavern
252 Flinders Street
Townsville City

TOOWOOMBA, QLD

5

Bar Wunder
424 Ruthven St,
Toowoomba

BRISBANE, QLD

1

Brewhouse Brisbane
601 Stanley St,
Woolloongabba

Catchment Brewing
150 Boundary St, West End

Newstead Brewing Co.
Milton
67 Castlemaine St, Milton

Newstead Brewing Co.
Newstead
85 Doggett St, Newstead

Red Brick Hotel
83 Annerley Rd,
Woolloongabba

Sea Legs Brewing Co.
89 Main St, Kangaroo Point

The Burrow
52 Russell St, West End

The Charming Squire
3/133 Grey St, South
Brisbane

The Fox Hotel Acadia
Room
71-71 Melbourne St, South
Brisbane

The Fox Hotel Veranda
Room
71-73 Melbourne St, South
Brisbane

The Norman Hotel
102 Ipswich Rd,
Woolloongabba

The Waterloo Hotel
Ann St & Commercial Rd
Fortitude Valley

GOLD COAST, QLD

3

Currumbin RSL
165 Durringen St,
Currumbin

Options Tavern
Shop 1109, Westfield
Shopping Centre, Town
Centre Drive, Helensvale

CAIRNS, QLD

2

Macalister Brewing
Company
6 Danbullan St, Smithfield

Salt House
Marina Point, 6/2 Pierpoint
Road, Cairns City

SYDNEY, NSW

10

Botany View Hotel
597 King St, Newtown

Collector Hotel
100 George St, Parramatta

Crown Hotel
160-162 Elizabeth St,
Sydney

Harol Park Hotel
70A Ross St, Forest Lodge

The Occidental Hotel
43 York St, Sydney

CANBERRA, ACT

11

Ace High Eater
191 Anketell St, Greenway

Bolt Bar
68 Bandjalong Cres,
Aranda

Gryphons Caffe Bar
16 Barker St, Griffith

King O'Malleys
131 City Walk, Canberra

SHAMBLES BREWERY



222 ELIZABETH ST, HOBART DOORS: 6.30PM STARTS: 7PM ENDS: 9PM

**MON 20TH COSMIC CHEMISTRY: BLACK HOLES, LASERS AND SMART MATERIALS**

The wonders of the cosmos and chemistry combine in a showcase of the microscopic to the supermassive! How does the universe change when black holes collide? Krzysztof will show you how it can be measured with lasers (4 km long!), and we'll even demonstrate a miniature laser! Hear about the innovative chemistry behind the next generation of smart materials!

How the universe creates gold? *Krzysztof Bolejko*

Plastic fantastic: the chemistry of polymers *Dr Stuart Thickett*

**TUE 21ST OCEAN SECRETS: CLIMATE CHANGE AND SEABIRD SPIES**

Take the plunge and delve into the mysteries of the marine environment. Spanning atmospheric modelling and climate change impacts, to spying on seabirds, hear from the ocean experts.

A year in the sub-Antarctic: Marion Island *Mrs Paige Green*

The impact of climate change on the ocean *Dr Andrew Lenton*

**WED 22ND BEAKER TO BEDSIDE: HOW MEDICAL RESEARCH MOVES FROM THE LABORATORY INTO PRACTICE**

From cells to the clinic for healthy hearts and minds, Niamh and Allanna will take you behind the scenes of clinical research, as they discuss putting medical research into practice to reduce heart attacks and stroke. We'll also hear about development of medicines and the innovative use of magnets to assist stroke research.

Bring research to life: evidence in practice *Miss Niamh Chapman*

Searching for a stroke of genius *Ms Allanna Russell*

CARLTON BREWHOUSE

24 THOMPSON ST, ABBOTSFORD DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH SOCIAL SCIENCES TO THE RESCUE

Hear lessons from researchers in public health, education and connections to nature to better understand and connect with our modern world.

Reading for nature *Rachel Fetherston*

Why haven't lectures changed in 1000 years? *Dr Scott Daniel*

Public health research in news media *Ms Georgia Dempster*



TUE 21ST IF THESE GENES COULD TALK

Genetics - showing us the past and changing the future.

The deadliest ocean of all time *Mr Ben Francischelli*

What can prehistoric DNA tell us? *Dr Cristina Valdiosera*

Genetic engineering: movies vs. reality *Mr Ben Novak*



WED 22ND FROM SMALL CREATURES TO VAST ECOSYSTEMS

Come learn about the importance of classification to understand organisms and processes and how to protect them.

There's nothing silly about naming psyllids! *Dr Francesco Martoni*

Why ecosystems matter *Dr Emily Nicholson*

Third talk not available at time of printing



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NEWMARKET HOTEL

34 INKERMAN ST, ST KILDA DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH UNCONVENTIONAL TREATMENTS

When animals come to the rescue. Come discover how animals are helping us develop new ways for our bodies to heal.

Toxins to treatments *Mr Stephen Drane*

Natural born killer molecules vs. superbugs *Professor Emeritus Frances Separovic*



TUE 21ST SHINING LIGHT ON THE LITTLE CREATURES

We delve into some of the secrets of the world around us - and how humans fit in the picture.

Colourful language of mantis shrimp *Dr Amanda Franklin*

Wild commuters: animal connectivity in cities *Dr Holly Kirk*



WED 22ND NOVEL NEUROSCIENCE

The brain is amazing. But how does it work and what is happening when things go wrong?

Eat a Snickers: how hunger drives behaviour *Dr Sarah Lockie*

Plasticity of the ageing brain *Dr Méadhbh Brosnan*

RICHMOND BOWLING CLUB

2 GLEADELL ST, RICHMOND DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH FIGHTING BACK: THE MAGIC OF IMMUNITY

Find out how the body deals with foreign invaders and the science that can help defeat them.

Worms, microbiome and a whole lot of s*** *Katharina Stracke*

Understanding the anti-viral response *Ebony Monson*

Changing the game on cancer *Natasha Brockwell*



TUE 21ST DIGITISE ME

Technology is an everyday reality, but how are we using it and how does it affect us?

Household gaming and the NBN *Dr Will Balmford*

Of Instagram, big data, and big questions *Dr Marc Cheong*

The digital human body *Dr Simon Harrison*



WED 22ND THE INNER WEB OF OUR HEAD

Your brain: how it works, how it's wired, and how we can affect it

Visual attention and models of cognition *Sarah Moneer*

A 3-minute MRI scan to map your brain network *Dr Thijs Dhollander*

Music's influence on well-being in older age *Dr Amanda Krause*

ROYAL MELBOURNE HOTEL



629 BOURKE ST, MELBOURNE DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH STARS: LIFE AND DEATH

Black Holes, bright stars, and the darkness between

The violent lives of dead stars *Lucy Strang*

Sky full of stars *Dr Stefan Oslowski*

You(r cells) are what you eat *Dr Alexandra (Alex) Harvey*



TUE 21ST IN THE BEGINNING

How do we make the arrival to life as healthy as possible? Discover how science is giving babies the best chance at life

A better transition to life on earth *Aidan Kashyap*

A handmaid's tale of chemicals and fertility *Dr Mark Green*



WED 22ND NATIVE NATURE

We can learn a lot from the natural world around us if we only take a chance to look and listen ...

Plants: they're awesome *Dr Freya Thomas*

Rescuing our climate history *Dr Linden Ashcroft*

Why are wet soils in wetlands so different? *Dr Vanessa Wong*

SPOTTED MALLARD

314 SYDNEY RD, BRUNSWICK DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH COSMIC PERSPECTIVES

The secret life of the very, very big and the very, very little.

Quantum space to outer space *Kyla Adams*

Why you should care about gravitational waves *Jackie Bondell*

Testing Einstein's Relativity using pulsars *Professor Matthew Bailes*



TUE 21ST REVOLUTIONARY REMEDIES

From spider venom to 3D printing - exploring the future of medical techniques.

Spiders save legs! *Victoria Foster*

3D printing implants ... where are we at? *Associate Professor Kate Fox*



WED 22ND THE SCIENCE OF SURVIVAL

The cells and the molecules deciding who stays, who goes and who will sacrifice themselves for the greater good.

The dance of death *Dr Georgia Atkin-Smith*

#LiveYourBestLife *Dr Kylie Quinn*

THE EXCHANGE

39 BAY ST, PORT MELBOURNE DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH HUNGRY FOR KNOWLEDGE

Come learn about schizophrenia, working memory and what keeps you alive.

Schizophrenia - do sex hormones matter? *Dr Anna Schroeder*

Why you're not dead yet *Dr David Farmer*

"Aha!" is best when preceded by a "huh?" *Dr Margaret Webb*



TUE 21ST OLD THREATS AND NEW UNDERSTANDINGS

Learn about what new technology can reveal about our world and how it can create a better one.

Taking flight: seabirds, ageing and epigenetics *Mr Ricardo De Paoli*

Removing water pollution with nanoparticles *Veronica Cashin*

Food innovation: what about food safety? *Ms Sieh Ng*



WED 22ND THE BRIGHTEST BLACK

Let's drink beer and get lost in space.

Where do galaxies live? *Dr Jennifer Piscionere*

The black hole always chirps twice *Dr Juan Calderon Bustillo*

THE PROVINCIAL HOTEL

299 BRUNSWICK ST, FITZROY DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH LET'S DIVE IN

The mysterious things that you'll find under the sea and what we can learn from them.

Seagrass: why should we love it? *Miss Amanda Clarke*

Diving with the Kiwis among the penguins *Mr Matthew McArthur*

Poo-reka: uncovering secrets from faecal DNA *Ms Cathy Cavallo*



TUE 21ST NANO NATURE

The nano-scale: it's kind of a big deal!

'Iron-Man' suits on the nanoscale *Dr Joseph Richardson*

Playing with molecular LEGO *Dr Adam Mechler*



WED 22ND NOTHING BUT NEUROSCIENCE

Listening in on the conversation between hearts and minds.

Biochemistry is metal *Dr Simon James*

Reading minds - neuroscience and mental imagery *Katie Wykes*

Reframing a misunderstood disorder *Elysia Sokolenko*

WELCOME TO THORNBURY

520 HIGH ST, NORTHCOTE DOORS: 6.30PM STARTS: 7PM ENDS: 10PM



MON 20TH THE CHEMISTRY OF THOUGHTS AND BRAIN FUNCTION

The what, how and why of mental illnesses.

Antioxidants, cognition and schizophrenia *Caitlin Yolland*

An ode to patch clamping *Kimberly Thek*

Reward, cognition and anorexia nervosa *Dr Claire Foldi*



TUE 21ST OLD HABITS DIE HARD?

Explore nature, creativity and our increasing disconnection from the natural world.

Write your way to success *Dr Lucie Bland*

How to break up with plastics *Kim Borg*

The tonic of wilderness *Chris McCormack*



WED 22ND BENCH TO BEDSIDE

This session will be a full body experience as we hear from scientists investigating diverse parts of the body - from the lungs to the ovaries!

What happens when your ovaries lose control? *Dr Kelly Walton*

The nuts and bolts of lung cancer *Dr Sarah Best*



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THE DELANY HOTEL



134 DARBY ST, COOKS HILL DOORS: 6:00PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH SEXY SCIENCE

Find out all you need to know about getting it on! Our researchers will explore everything from the humble hyena clitoris to contraceptive choice.

Contraception - your choices *Dr Melissa Harris*

Love is a battlefield: war against Chlamydia *Dr Jemma Mayall*

Saucy science *Ms Catherine King*



TUE 21ST THE BATTLEFIELD WITHIN

Take a tour of the immune system and find out about vaccines, inflammation and antibiotic resistance

What have microbes ever done for us? *Dr Karl Hassan*

Improving severe asthma outcomes *Dr Steven Maltby*

Immunisation in Maitland *Dr Susan Thomas*



WED 22ND SOME LIKE IT HOT (AND WET)

Our Earth is an ever-changing place. Can social media predict the future of our climate? What would happen if a tsunami hit Sydney? Does the environment have its own genetic fingerprint?

Tsunami: a threat to Sydney? *Mr Kaya Wilson*

Environmental DNA as a lens into biodiversity *Dr Michael Stat*

Wave hazards at Figure 8 *Dr Hannah Power*

THE HAPPY WOMBAT

575 HUNTER ST, NEWCASTLE DOORS: 6:00PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH PAIN-FULL NIGHT

We've all experienced some kind of pain - but do we really know what pain is?

MSK pain: taking its measure *Miss Priscilla Viana Da Silva*

Pain and exercise *Mr Simon Davidson*

Painful teenagers *Associate Professor Steve Kamper*



TUE 21ST EXERCISE VS PHYSICAL ACTIVITY

We've all heard it before "exercise more" - but what type of exercise? And how much?

Beyond the headlines! *Mr Tepi (Matthew) McLaughlin*

10,000 steps: how many is really enough? *Associate Professor Mitch Duncan*

HIIT or miss? *Dr Mark Babic*



WED 22ND MAKE UP YOUR MIND

The brain controls everything we do - from regulating impulses, navigating mathematics, and keeping us happy and healthy

Working class or sleeping beauty? *Ms Romany McGuffog*

Gender and STEM education: one step forward? *Dr Elena Prieto*

Impulse and inhibition: what's the link? *Mr Patrick Skippen*

HEADS OF NOOSA

85 RENE STREET, NOOSAVILLE DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM

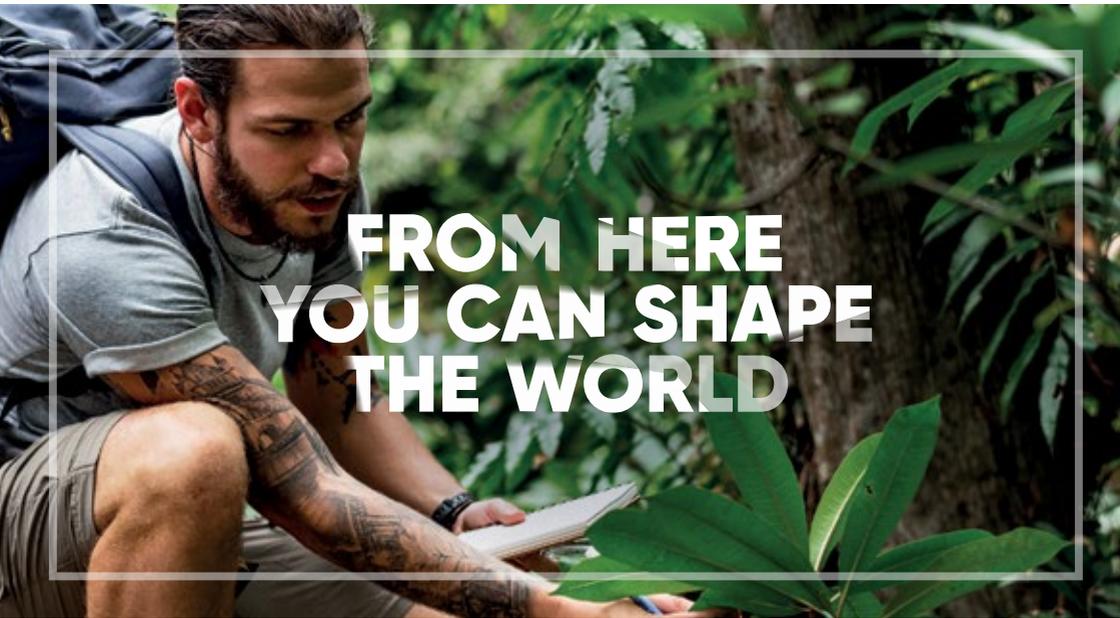


WED 22ND GLACIERS AND GECKO SKIN

From the intricate microscopic structures found on the surface of insects and lizards to glaciers in the arctic – come and hear about the marvels of the natural world.

Cool science on the coast *Dr Adrian McCallum*

Learning from the microscopic world of nature *Dr Greg Watson*



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ROSIE O'GRADY'S



205 JAMES ST, NORTHBRIDGE DOORS: 6PM STARTS: 6.30 PM ENDS: 8.30PM



MON 20TH THE IMPORTANCE OF THE INFINITELY SMALL AND LARGE

Researchers will explain methods to discover the previously unknown from galaxies to cells.

The explosive radio universe *Dr Gemma Anderson*

Size is everything *Professor Matt Kilburn*

Where is everybody? *Dr Gregory Hellbourg*



TUE 21ST UNLOCKING THE BUILDING BLOCKS OF LIFE

From DNA to food and pheromones, these researchers are using the building blocks of life to conserve endangered species.

DNA Zoo Australia *Associate Professor Parwinder Kaur*

Coral reefs in WA *Dr Verena Schoepf*

3Ps of sex: pheromones, photons, phood *Professor Graeme Martin*



WED 22ND TECHNOLOGY: SHAPING OUR LIVES

Come along to hear how technology is affecting every aspect of our lives, from finance to finding resources.

The Cool Earth Project *Professor Hui Tong Chua*

Bitcoin: societal change *Dr Andrzej Gwizdzalski*

Data mining mining data *Dr Jess Robertson*

THE BRISBANE



292 BEAUFORT ST, HIGHGATE DOORS: 6PM STARTS: 6.30PM ENDS: 8.30PM



MON 20TH SCIENCE IN THE COMMUNITY

Presenters will cover a variety of topics from community involvement in research to genome engineering.

Consumer and community involvement in research *Miss Briony Williams*

Is human genome engineering inevitable? *Dr Archa Fox*



TUE 21ST STIMULATING JELLIES

Researchers will present their stories in how the brain works, maintaining brain health, and what jellyfish have taught us about kidney disease.

May I stimulate your brain? *Associate Professor Jennifer Rodger*

Aging, cognitive reserve and brain maintenance *Dr Brandon Gavett*

How jellyfish can help fight kidney disease *Professor Kevin Pflieger*



WED 22ND FEEDING OUR FUTURE

Learn about the challenges that face us in feeding future generations and some of the innovative solutions being developed.

Navigating the maze of Precision Agriculture *Mr Frank D'Emden*

Panning for gold in mould *Dr Heng Chooi*

How do crops respond to a changing climate? *Dr Nicolas Taylor*



2 SOUTH TERRACE , FREMANTLE DOORS:6PM STARTS: 6.30PM ENDS: 8.30PM



MON 20TH UNCOVERING THE EARTH'S HIDDEN TREASURES

Find out how researchers are using x-rays, vibrations, and invisible mining to discover valuable resources beneath the earth's surface.

Keyhole surgery for mining *Dr Laura Kuhar*

Picks and shovels to nano-nuggets and X-rays *Dr Mark Pearce*



TUE 21ST FACTS FROM FOOD TO FACES

Exploring how technology interacts with agriculture, the speculation surrounding AI, and how face perception shapes our lives.

"... served with a side of science." *Dr Heather Bray*

Blind machine faith *Associate Professor Julia Powles*

Face the facts: how faces shape our lives *Mr Derek Swe*



WED 22ND DISCOVERIES IN ASTRONOMY

Hear about recent developments in understanding the lives of stars, the discovery of gravitational waves and the mysteries of dark matter.

Stellar forensics: finding cosmic corpses *Dr Natasha Hurley-Walker*

Gravitational wave discovery *Professor Linqing Wen*

Shining a light on dark matter *Mr Ben McAllister*

DID YOU KNOW?

There are fewer than 50 people known to have 'golden blood' (the Rhnull blood type) since its discovery in Australia in 1961, making for some tricky transfusions.

BOTANY VIEW HOTEL

597 KING ST, NEWTOWN DOORS: 6:30 PM STARTS: 7PM ENDS: 9PM



MON 20TH DATA-BETES

What do data and diabetes have in common? How can we use beautiful data to help us understand disease? How can we solve one of the biggest health issues in Australia?

Our diabetes problem *Mr Gideon Meyerowitz-Katz*

Surveying the proteins in our bodies *Professor Seán O'Donoghue*



TUE 21ST GOOD THINGS COME IN SMALL PACKAGES

What is quantum computing and how does it affect you? Come along to find out about the future of computing and what it means for your Amazon order.

Quantum computers introduced properly *Dr Yuval Sanders*

Improving Amazon with quantum physics *Mr Christian Marciniak*



WED 22ND ENTER THE DEAD STAR

An astrophysicist and a curator walk into a bar ... and talk about dying stars, space exploration and how our space history is being captured for future generations.

The cosmic tango *Dr Devika Kamath*

What's an astronomer doing in a museum? *Dr Sarah Reeves*

COLLECTOR HOTEL

100 GEORGE ST, PARRAMATTA DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH ANIMAL PLANET

Have you ever wondered how things work in polar and outer-Earth environments? How are our forests coping with the current climate? Come hear two researchers on our environments and what's happening to them.

Antarctica: Life in the Frozen Continent *Associate Professor Juan Salazar*

Tree mortality, drought and climate change *Professor Belinda Medlyn*



TUE 21ST LETTERS AND NUMBERS

Have you ever thought about the politics of data? Hear two researches talk about how decisions are made and how a society can become more knowledgeable.

Algorithmic governance and data politics *Professor Ned Rossiter*

Automation, knowledge, power and governance *Dr Liam Magee*



WED 22ND TUNE IN

How do we process external stimuli? Want to know how music affects your health? Tune in to hear two scientists explore this!

Blooming beautiful *Dr Matthew Patten*

Music, mind and the brain *Dr Jennifer MacRitchie*

CROWN HOTEL

160-162 ELIZABETH ST, SYDNEY DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH WET YOUR PLANTS

How can we fight waste and improve crops to feed us all? Two scientists share their solutions to some of our world's biggest problems!

Pee-cycling: creating value from our urine *Mr Federico Volpin*

Know your enemy *Ms Michelle Demers*



TUE 21ST MIND OVER MATTER

Could your next therapy session come from your pocket? What happens when your "reward molecule" misfires? Come find out about mental health and modern therapies.

Dopamine: the magic molecule *Dr Asheeta Prasad*

Internet-delivered CBT: handheld help *Dr Ashna Basu*



WED 22ND SOFT BODIES AND THICK SKINS

Curiouser and curiouser ... cholesterol and collagen are two cool molecules our body creates, but why are two innovative scientists studying them?

How to make cholesterol (but not too much) *Ms Isabelle Capell-Hattam*

Changing the world one shoe at a time *Dr Katie Sizeland*

HAROLD PARK HOTEL

70A ROSS ST, FOREST LODGE, SYDNEY DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH NANO-BATTLERS

Love a good Marvel movie? Come along to find out about the real-life tiny super heroes healing and defending our bodies against disease.

Cage fighting with cancer *Dr Andrew Care*

The sweet kiss of platelets *Dr Dianne van der Wal*



TUE 21ST OCEAN SEDIMENTS TO ANIMAL INTELLIGENCE

Delve deeper into the depths of the ocean and the complexity of our intelligence.

Ocean mud: a window into the past? *Dr April Abbott*

How smart can they be? *Fonti Kar*



WED 22ND DANCING FOR DATA

From machine learning to robots in space - we've created some clever, fast learning tech. What is the future of machine learning? And what are clever robots teaching us about the universe?

Machine learning: a Cambrian Explosion for data science? *Dr Richard Nock*

Starbugs: the little astronomy robots *Ms Rebecca Brown*

THE OCCIDENTAL HOTEL

43 YORK ST, SYDNEY DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH SPYING ON SPACE

Has traveling to the moon or other planets ever intrigued you? With all the asteroids out in space what are the chances that we are in danger? Can we defend earth or must we escape?

What's up? CSIRO's space research program *Mr Robert Hollow*
Southern-hemisphere asteroid monitoring *Dr Jamie Stevens*



TUE 21ST HOW 'BOUT STEM APPLES

Are stem cells the answer to our medical problems? Come along to discover the cutting-edge research behind these intriguing cells!

Stem cell therapies: hope or hype? *Naomi Koh Belic*
What is an embryonic stem cell? *Dr Pierre Osteil*



WED 22ND DOPE DESIGNS

Designer drugs: What are they? New and improved? Risky or Safe? Come find out the latest research!

New psychoactive substances *Dr Samuel Banister*
Synthetic cannabinoid madness #NOTpot *Miss Shivani Sachdev*

WESTERN SYDNEY UNIVERSITY



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424 RUTHVEN ST, TOOWOOMBA DOORS: 6:30PM STARTS: 7PM ENDS: 9PM



MON 20TH BEAUTIFUL MINDS

Exploring the complexity of the human mind.

Thinking about thinking *Dr Liam Hendry*

Thinking about work *Dr Erich Fein*



TUE 21ST STARRY, STARRY NIGHTS

The new frontier is now much closer.

Faking a Moon landing in 1969 *Mr Jake Clark*

Our Sun: the early years *Dr Belinda Nicholson*



WED 22ND DIVERSITY IN AGRICULTURE

So you think you know about agriculture? Come and explore complex data and micro-fossils to better understand agriculture.

The cost of convenience *Associate Professor Andy Le Brocque*

Hidden treasures: digging up dirt on the past *Ms Loraine Watson-Fox*



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HERITAGE EXCHANGE



151 FLINDERS STREET, TOWNSVILLE CITY DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH REEF RESTORATION: TWO SIDES OF THE COIN

Is reef restoration a cure-all or a band-aid solution? You decide. Hear from two of the world's renowned coral scientists.

Reef restoration: the good, the bad, the ugly *David Bourne*

Reef restoration: a case study *Professor Andrew Baird*



TUE 21ST WONDER WOMEN

How we are raising the profile of women's capacities.

What should we call people who fish? *Dr Danika Kleiber*

From stats to Antarctica *Dr Patricia Menéndez*



WED 22ND IT'S TURTLE TIME

How do we save our sea turtles? Marine biologists share their research about turtles and plastic pollution.

Turtles vs. plastics: the phantom hazards *Daniel Gonzalez-Paredes*

Measuring sea turtle health *Sara Kophamel*

TOWNSVILLE BREWERY TAVERN



252 FLINDERS STREET, TOWNSVILLE CITY DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH SHARK TALES

Researchers team up with local communities in developing countries to conserve sharks and rays.

Studying sharks and rays with local help *Ms Samantha Sherman*

Coastal sharks in the Gulf of Papua *Ms Leontine Baje*



TUE 21ST A TASTE OF FISH TAILS

Fish are the most diverse group of vertebrate animals on the planet, reaching their peak on coral reefs. Come and hear about coral reef fish evolution, feeding, colourful patterns, and role in food production

Predation on coral reefs *Michalis Mihalitsis*

Wild fish farms under threat *Mr Renato Morais*

Fish in space and time *Alexandre Siqueira*

Fishy features *Mr Sterling Tebbett*

Your neighbour determines your style *Mr Christopher Hemingson*



WED 22ND CONSERVATION CONVERSATION

How to preserve biodiversity based on evidence to make informed conservation decisions.

Using big data to save species *Stephanie Hernandez*

Galapagos: trouble in paradise? *Maximilian Hirschfeld*

TOWNSVILLE BREWERY MALT



253 FLINDERS STREET, TOWNSVILLE CITY DOORS: 6PM STARTS: 6:30PM ENDS: 8:30PM



MON 20TH INSPIRING SCIENTIFIC CURIOSITY

Did your teacher make science fun? Find out how we are engaging young minds in the classroom: a biological and psychological approach.

Person centered learning *Mr Toby Bartle*

Engaging and empowering girls in STEM *Annie Van Homrigh*



TUE 21ST NO STONE UNTURNED

Using new technology to answer very old questions about dinosaurs and the formation of earth.

Mapping the Earth under our feet *Mr Christopher Yule*

Deep time and dating dinos *Ms Tegan Beveridge*



WED 22ND A NIGHT AT THE MUSEUM

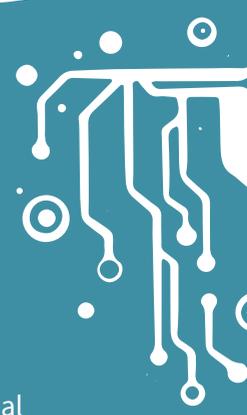
Two museum curators share their new research about dinosaur smarts and corals that live in twilight.

Dinosaurs in the 21st Century *Dr Espen Knutsen*

The deeper we go, the less we know: exploring the dark depths of Queensland's Great Barrier Reef *Dr Tom Bridge*

DID YOU KNOW?

Not just for video games - Virtual Reality (VR) therapy can reduce pain and anxiety in patients with acute and chronic pain conditions.



MALT SHED WANGARATTA**8-10 TONE ROAD, WANGARATTA****DOORS: 6PM STARTS: 7PM ENDS 8:30PM****WED 22ND COD IN PUBS AND YOUR HEALTH**

The health of country people and the mystery of the mighty Murray Cod.

Is country living a health hazard? *Dr Kristen Glenister*
Science with stuffed Murray cod! *Matthew O'Connell*

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ADELAIDE: CSI: Animalia Australia • Preserve the Earth • Searching for cures • Through space and time • Mind your mind • Historic science ... served with beer • The Story of You • Under the sea • Decimals have a point • **ARMIDALE:** Healthy me: Living longer and loving it? • Our planet: From flowers to fossils • Fields of technology: From farming to footy • **BENDIGO:** Bodies: human and plant • Science, sex and art • **BRISBANE:** Making sense of the brain • Evolution makes perfect • Regenerating sustainability • Printed tissue and silky eyes • Looking into your future • It's hailing drop bears! • Deadly as • Extra! Extra! Hear all about it • The good, the bad and the yeasty • New thoughts on the Big C • Robotica astronautica • Rocking about a bar • Amongst the rock and sea • Fishy venom drugs OR deadly drugs • Living with the grid • Who thought it best • Be more Pacific • Mind over gut • Little creatures, big cures • A hearty catheter • Ride the wave of the stars • Fighting Superbugs? Metal as! • Judge, jury and executioner • When Nero saw Troy run and hide amongst the corn • Upgrade your genetic knowledge • Get out of this world • Mental illness and hallucinations • Electrifying energy • Versatile ba(t)terias • Complex terra systems • Medical detectives • Inflaming pathogens • How do you wear your genes? • Location, location, location • Delving into the past • Delving into the past • A Zika-y situation • **WARRAWONG:** Mapping the reef: From sky to sea • Planet of the plants • Slimy Secrets • Hacking the Brain • Reef Rescue • The birds and the bees • **CANBERRA:** "Give me hypersonic speed, Y-Sulu" • A material in an aging world • What's the matter with lasers? • What cake should you bring to a quantum party? • In the end, the green standard • Engineering a fail-safe future • Take a bite out of health • Living in the deep • Bending the demand • Climate, current affairs, fires, and the future is here • It looks and tastes great • Forget farm, these genes are Australian made • What's the buzz about wine? • **CENTRAL COAST:** Brain bit betters • Frothies with the fish • "A little bit of ocean" jump • **DARWIN:** Designer drugs, microbes and zoology: health in the North • Happiness and mindfulness: what does the science say? • Ants, bees and drugs: science in the hive • **ELONG:** The grass and the froth • It's about your guts • From cure to spore • **GOLD COAST:** Beyond the Beach • Conservation, Conversation and Chemistry • Cuddly and curfouse • From the beach to the bar ... it's all biology to me • Floods, fire, fury • A wee bit o' chemistry • **HOBART:** Coastline • Ocean secrets • Beaver to bedside • **MELBOURNE:** Social sciences • The genome • If the genome could talk • From small creature to vast ecosystems • Unconventional • Men and things • The little creature • Novel neuroscience • Let's Dive • Nature • Fighting • Magic • Community • Digitise me • The great web of • Health and death • In the beginning • Native nature • Cosmic perspectives • Revolutionary • Science of survival • Hungry for knowledge • Old threats and new • Understandings • The big • The chemistry of thoughts and brain function • Old habits die hard • Genes to bedside • **NEWCASTLE:** Sexy science • The battle • As with it • Some like it hot (and wet) • Painful night • Exercise vs physical activity • Make up your mind • **NOOSA:** Glaciers and gecko skin • The importance of the incredibly small and large • Unlocking the building blocks of life • Red foot • Using our lives • Science in the community • Stimulating jellies • Feeding our future • Uncovering • Hidden treasures • From food to faces • Discoveries in astronomy • **SYDNEY:** Data-betes • Good things come in small packages • Enter the dead star • Animal planet • Letters and numbers • Tune in • Wet your plants • Mind over matter • Soft bodies and thick skins • Nano-battlers • Ocean sediments to animal intelligence • Dancing for data • Spying on space • How 'bout stem apples • Dope designs • **TOOWOOMBA:** Beautiful minds • Starry, starry nights • Diversity in agriculture • **TOWNSVILLE:** Reef restoration: two sides of the coin • Wonder women • It's turtle time • Inspiring scientific curiosity • No stone unturned • A night at the museum • Shark tales • A taste of fish tails • Conservation conversation • **WANGARATTA:** Cod in pubs and your health •



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