

14-16 MAY 2018
**SCIENCE ON TAP IN A
PUB NEAR YOU**



POWERED BY



PINTOFSCIENCE.COM.AU

#PINTAU18



GRYPHONS CAFFE BAR
16 BARKER ST, GRIFFITH ACT 2603

CANBERRA

MAY 14 THE DIGITAL AGES

**MAY
14**

PSYCHOLOGY MEETS CYBERSECURITY

In the modern age, technology's influence over every aspect of our lives continues to grow. With its ability to enhance, influence or monitor our lives, we've come a long way from traditional human-computer interaction.

DR MARTHE GROBLER, SENIOR RESEARCH SCIENTIST
CSIRO'S DATA61

DIGITAL EARTH AUSTRALIA

ADAM LEWIS
GEOSCIENCE AUSTRALIA

MAY 15 B-CAUSE THE DATA TOLD ME SO

**MAY
15**

MACHINE LEARNING FOR HEALTH DATA ANALYTICS

The goal was to fill out a clinical handover form automatically for clinical proofing as a way to make documentation more efficient, improve availability of existing documents, and thereby contribute to health and healthcare.

PROFESSOR HANNA SUOMINEN, TEAM LEADER
THEORY AND APPLICATIONS IN MULTIMODAL PATTERN ANALYSIS (TAMPA),
AUSTRALIAN NATIONAL UNIVERSITY

A BEGINNER'S GUIDE TO THE BASICS OF B CELLS

Modern vaccines depend on B cells to provide protection against deadly diseases. Some diseases have no vaccine that provides protection. Studying the basics of how B cells respond to these diseases, we hope to understand how to make better vaccines.

HENRY SUTTON, PHD CANDIDATE
AUSTRALIAN NATIONAL UNIVERSITY

MAY 16 CHALLENGING OUR SOCIETY

**MAY
16**

PATHWAYS FOR SUSTAINABLE CITIES AND REGIONS

Sustainable Pathways for our Cities and Regions- I propose seven sustainable pathways and discuss the positive contribution planning can make in preparing urban and regional communities for significant change in the twenty-first century city.

PROFESSOR BARBARA NORMAN, DIRECTOR
CANBERRA URBAN & REGIONAL FUTURES, UNIVERSITY OF CANBERRA

CAN WE IMPROVE REGULATION WITH AI?

Many Australians don't understand the laws they obey. Much of our regulation is too complex for businesses. Artificial Intelligence and Machine Learning are impacting law firms. Can we use the new power of computation to improve regulation for all?

DR LEIF HANLEN, NEW INDUSTRIES LEAD
CSIRO

KING O'MALLEY'S
131 CITY WALK, CANBERRA ACT 2601

CANBERRA

MAY 14 YOU ARE WHAT YOU... EAT?

**MAY
14**

ARSENIC IN YOUR SEAFOOD: ARSE OR AWESOME?

Seafood lover? If so, you may be ingesting arsenolipids. WHAT!? Toxic? What happens with them in my body? I'll explain what I found out after experimenting with arsenolipids, gastric juices and human liver cells. Your worries will be gone...or not.

DR TERESA CHAVEZ-CAPILLA, RESEARCH FELLOW
UNIVERSITY OF CANBERRA

NEXT GENERATION TOOLS FOR STOPPING CANE TOADS

I am using new tools known as gene editors to figure out which genes are involved in cane toad toxin synthesis and reproduction, with the hope use using this knowledge to develop new eradication strategies for this notorious invasive species.

DR CAITLIN COOPER, POSTDOCTORAL RESEARCHER
CSIRO HEALTH AND BIOSECURITY

MAY 15 AN ENTOMOLOGIST AND A CHEMIST WALK INTO A BAR

**MAY
15**

WE ONLY KNOW ABOUT HALF OF THE AUSSIE MOSSIES

Notorious for spreading malaria and zika virus overseas, mosquitoes also cause thousands of cases of disease in Australia each year. But only half of Australia's approximately 400 different species are described and named. The rest are a mystery.

DR BRYAN LESSARD, ENTOMOLOGIST
CSIRO

MONITOR YOUR FOOD IN THE EYES OF A CHEMIST

Perhaps the word "pesticides" sounds terrible while "organic" sounds great. But is organic really organic? How do we know our food is free from pesticides? I will explore what chemists do to ensure our food is safe!

DR ELIZABETH SUK-HANG LAM, CHEMIST
AUSTRALIAN NATIONAL UNIVERSITY

MAY 16 IN THE CLOUD WITH BANGIN' BLOCKCHAIN

**MAY
16**

INTRODUCTION TO BLOCKCHAIN

What is blockchain? How does it work? What can it do? Come find out.

ROB HANSON, SENIOR RESEARCH CONSULTANT
AUSTRALIAN NATIONAL UNIVERSITY; DATA61 | CSIRO

GET YOUR HEAD IN THE CLOUDS!

The question nowadays is not if you will use cloud computing, but when and how. We will show how clouds can solve cyber security problems, provide cheap solutions to analyse big data, and integrate a swarm of robots, drones and other IoT devices.

DR FABIANA SANTANA, SENIOR LECTURER
UNIVERSITY OF CANBERRA



THE LOFT @ THE DUXTON
MACPHERSON ST & SARGOOD ST, O'CONNOR ACT 2602

CANBERRA

MAY 14 PLANTS AND PINTS AND...

**MAY
14**

SYNTHETIC BIOLOGY FOR SUSTAINABLE CROPS

Global agriculture is dependent upon factory-produced nitrogen, but it is both expensive and environmentally damaging. I will outline how advances in genetic engineering are being used to make crops produce fertiliser from thin air

DR CRAIG WOOD, INVESTIGATOR AND TEAM LEADER
CSIRO

FROM CANCER SIGNALLING TO PLANT DEVELOPMENT

"Cancer-related genes" are essential in mammalian development and metabolism. Targets of anti-cancer drugs are required for normal developmental processes. Those genes are very conservative across animals and plants, controlling plant development too

DR XIN HOU, RESEARCH SCIENTIST
THE AUSTRALIAN NATIONAL UNIVERSITY

MAY 15 THERE'S SUNBLOCK FOR UV, BUT WHO IS PROTECTING YOU AND ME?

**MAY
15**

PRIVACY OF HEALTH DATA WHILE IMPROVING HEALTH

Your health data is collected to provide you personally with the best health care. When brought together in databases, such data can help us see patterns that would otherwise be invisible. But how is privacy protected when using health data?

DR CHRISTINE O'KEEFE, RESEARCH SCIENTIST
CSIRO

SUPPLEMENTING SUNSHINE

We naturally make vitamin D when exposed to the sun's UV radiation, yet 1 in 4 Australians are deficient. How do we balance the benefits and risks of sun exposure and vitamin D supplementation for optimal health? Is vitamin D important for animals?

DR RACHAEL RODNEY HARRIS, RESEARCH FELLOW
THE AUSTRALIAN NATIONAL UNIVERSITY

MAY 16 FAR OUT! OF THIS WORLD

**MAY
16**

STUDYING THE STARS TO KNOW THEIR PLANETS

We have now discovered thousands of planets orbiting stars other than our own. Such planets are as diverse as they are numerous, but we can only know them to the extent we understand their stellar hosts. But just how much can we learn from starlight?

ADAM RAINS, PHD CANDIDATE
AUSTRALIAN NATIONAL UNIVERSITY

EXPLODING STARS AND PROBLEM SPACE TELESCOPES

Most stars end their lives in brilliant explosions known as supernova, briefly outshining their galaxy. I will show how our understanding has been revolutionized using the Kepler and Hubble Space Telescopes and what this means for the Universe.

DR BRAD TUCKER, ASTROPHYSICIST AND COSMOLOGIST
MT STROMLO OBSERVATORY, AUSTRALIAN NATIONAL UNIVERSITY

MAY 14 CONQUERING CANCER

MAY 14

CAN WE MAKE CANCER TURN ON ITSELF?

Cancer treatments work by causing so much DNA damage that the tumour cells die. When tumours become resistant they accumulate the DNA damage and become more aggressive. What if we could use this to make the tumour turn on itself, and die?

NIKOLA BOWDEN, CANCER RESEARCH GROUP LEADER, UNIVERSITY OF NEWCASTLE AND HUNTER MEDICAL RESEARCH INSTITUTE

MAY 15 THE FUTURE OF FARMING

MAY 15

MANAGING SHEEP WITH INVISIBLE FENCES

I will be talking about the basics of virtual fencing, how it is implemented in livestock and how they learn to respond to the fence.

DR DANILA MARINI, POST-DOCTORAL FELLOW
UNIVERSITY OF NEW ENGLAND, CSIRO

COMPUTER AI AND ITS IMPLICATIONS

WILLIAM BIGSBY

MAY 16 BREEDING BETTER BURGERS

MAY 16

THE BEAUTY OF THE BEAST

Genetic diversity in our domestic livestock is fascinating and breeding on farm is much more high tech than one might expect. I will talk about ancestry.com for livestock, cattle going to the poll and how to find the black sheep.

DR SONJA DOMINIK, RESEARCH SCIENTIST
CSIRO AGRICULTURE AND FOOD

SIX STRING BREWING COMPANY

4/330 THE ENTRANCE RD, ERINA NSW 2250

CENTRAL COAST

MAY 14 SCIENCE AND TECHNOLOGY WALK INTO A BAR...

MAY 14

INNOVATION AND RELIABILITY IN DATA SCIENCE

I will discuss how to integrate innovative thinking in data analytics without compromising reliability, based on some current work undertaken at CWHS.

DR GREGORY ZELIC,
INSIGHTS AND ANALYTICS MANAGER
CENTRE FOR WORK HEALTH AND SAFETY

SUPER SOLAR: HOW TECH CAN HARNESS A SUPERHERO

Globally there is an energy revolution where renewable technologies are front and centre. In this talk, I'll speak to the origins of this modern day superhero in an attempt to demystify all things solar and answer: is solar the saviour for energy?

DR GREGORY WILSON, RESEARCH GROUP LEADER,
CSIRO ENERGY

TECH FOR SPORT

I will discuss technology in high performance sport, including the use of mobile apps and VR to quantify athlete decision-making ability, use of athlete monitoring systems, and the development of new data visualisation methods.

DR ANDREW NOVAK,
SPORTS PERFORMANCE SCIENTIST
RUGBY AUSTRALIA

MAY 15 BENEATH YOUR SKIN

MAY 15

THE INTERSECTION OF AGEING AND SEXUALITY

I will be talking about an exercise intervention for elderly people who identify as same-sex attracted or gender diverse (SSAGD).

DAMON KENDRICK,
SENIOR RESEARCH OFFICER
CENTRE FOR WORK HEALTH AND SAFETY

THE MASTERS ATHLETE: WHEN IS IT TIME TO QUIT?

Masters or older athletes are rewriting what we know about what the "normal ageing process" is. I will discuss the physical performance of masters athletes and the lessons learnt from this population i.e. if you work at it, you can maintain it!

DR NATTAI BORGES, LECTURER IN EXERCISE AND SPORT SCIENCE
UNIVERSITY OF NEWCASTLE

OUR UNCONSCIOUS MIND

Our unconscious mind is an amazing thing. It is constantly eaves dropping and following orders from our conscious mind. I will give you insight on how the mind and body are connected.

ADAM RICE, CREDENTIALLED MENTAL HEALTH CLINICIAN, MASTER NLP PRACTITIONER, AJR COUNSELLING, COACHING & CONSULTING

MAY 16 FROM DINOSAURS TO DEEP WATER

MAY 16

EXPLORING THE OCEAN FLOOR

We know more about the surface of the Moon than we do about the ocean floor. I will highlight some of the techniques being used to explore the seafloor and outline some of the geological features that have been discovered so far.

DR JOANNA PARR, GROUP LEADER
ORE DEPOSIT GEOLOGY, CSIRO

DINOSAURS... WHAT DO WE ACTUALLY KNOW?

Dinosaurs are usually something that we love as kids but forget about (until the new Jurassic World is released) but what do we really know about these ancient creatures? What exactly is a dinosaur? And are they all extinct?

DANIEL CRAIG, SENIOR SCIENCE OUTREACH OFFICER, CENTRE FOR WORK HEALTH AND SAFETY

GETTING TO KNOW ESTUARIES: CATCHMENT TO COAST

Estuaries are among the most diverse ecosystems on Earth and are traditionally where human settlements lie. But how do we really know what happens from the catchment to the ocean? What is there? How does it work, and why must it be healthy?

AMANDA CLARKE, PHD CANDIDATE
UNIVERSITY OF NEWCASTLE



MAY 14 A CLIMATE CRISIS: WHERE TO NOW?

**MAY
14**

ENERGY- THE WORLD IS A-CHANGIN'

I will discuss some of the latest trends in our energy world, and what it might mean for us all.

DR GLENN PLATT, RESEARCH DIRECTOR
CSIRO

WHY CAN'T WE BE FRIENDS?

Battle lines are clear between advocates of renewables and the mining/ fossil fuel industry. The message is if you are not with us, you are against us. But technology from both fields is needed as we transition towards a sustainable energy future.

DR JESSICA ALLEN, LECTURER
UNIVERSITY OF NEWCASTLE

WHAT WE CAN LEARN FROM UNNATURAL DISASTERS

My presentation will focus on the structural injustice that is built into our societies and how the resulting "unnatural" disasters impact the most marginalized disproportionately. In the midst of trauma, we see the best of human "nature"

DR JASON VON MEDING, SENIOR LECTURER
UNIVERSITY OF NEWCASTLE

MAY 15 BRIGHT IDEAS

**MAY
15**

A SENSORY EXPERIENCE OF ART

I will share my experience living with Tourette syndrome and how this led to my PhD research, exploring how the benefits of engaging with art, nature and sensory rooms informed the design of a new space to support mental health.

BLISS CAVANAGH, PHD CANDIDATE
UNIVERSITY OF NEWCASTLE

INSIDE A BABY'S MIND

Have you ever wondered how babies think? How they are able to learn and make sense of their world? For many years, scientists described a baby's brain as nothing more than 'buzzing confusion'. Thankfully, we've come very far in the last 30 years...

OLIVIA WHALEN, PHD STUDENT
UNIVERSITY OF NEWCASTLE

DROUGHT AND RESILIENCE: VOICES FROM RURAL NSW

Drought is a pervasive, reoccurring element of the Australian climate, affecting the mental health and wellbeing of rural residents. Promoting and maintaining resilience is essential when adapting to current and future drought.

EMMA AUSTIN, PHD RESEARCHER
UNIVERSITY OF NEWCASTLE

CONFESSIONS OF A TECHNOLOGY OPTIMIST

I will share my experience living with ToThe energy sector is obsessed with understanding the future because of the long-lived nature of projects. So why do we get forecasts so badly wrong? What are we missing right now that might help us to navigate a better way forward?

PAUL GRAHAM, CHIEF ECONOMIST ENERGY
CSIRO

MAY 16 A STROKE IN TIME

**MAY
16**

ENHANCING THE BRAIN'S WAY OF HEALING

My talk shares the phenomenon of brain plasticity. The brain has remarkable ability to change its own structure and function in response to stroke or injury. Excitingly, I will highlight ways to promote brain plasticity.

DR LIN KOOI ONG, POST DOCTORAL RESEARCH FELLOW,
UNIVERSITY OF NEWCASTLE

DOING THE LEGWORK FOR ARM AND HAND RECOVERY

I'm going to be telling you how and why doing exercise can improve recovery from stroke, including the parts of your body that you don't even move! I'll also be doing some myth-busting about what you need to do and how.

SARAH VALKENBORGHES, PHD STUDENT
UNIVERSITY OF NEWCASTLE

THE BRAIN IS PLASTIC, FANTASTIC

I will explain how exercise can tap into the potential of the human brain and body to recover from a stroke. I'll also answer the questions you didn't know you had, like, "What is BDNF?" and "How can my granny get max gym gains?"

GILLIAN MASON, CLINICAL TRIALS MANAGER / SCIENCE TRANSLATOR
UNIVERSITY OF NEWCASTLE

**MAY
14**

MAY 14 THE BIG AND SMALL OF IT

FROM BLACK HOLES TO WIFI

I'll tell a story how Albert Einstein's theory of gravity lead to the invention of WiFi with some geeky detours via a royal astronomer, anti-whales, energetic swimmers, and cutting-edge results from Australia's world-leading radio telescopes.

DR KEITH BANNISTER, ASTRONOMER
CSIRO

FUTURE OF NANOTECHNOLOGY IN HEALTHCARE

Nanotechnology is a buzzword in a healthcare due to potential to reinvent traditional perception of disease diagnosis and treatment. In this talk I will highlight the importance of nanoscience in a future of public health, especially in a diagnostics area.

DR OLGA SHAMONI, SENIOR LECTURER
UTS

**MAY
15**

MAY 15 DUDE, WHERE'S MY HOVERBOARD?

WHAT CAN BE DONE WITH NANOTECHNOLOGY?

From computers to sports gear, nanotechnology plays an important role in the manufacture of numerous products that we employ in our everyday lives. I will give an overview of how these nanotechnologies impact our lives.

NEKANE RETA MURUA, PHD STUDENT
UNISA

SUPERCONDUCTIVITY: HAS IT TOUCHED YOUR LIFE?

Superconductivity was accidentally discovered over 100 years ago. What is it and is it just a laboratory curiosity or does it have any value?

DR CATHERINE FOLEY, DEPUTY AND SCIENCE DIRECTOR
CSIRO

**MAY
16**

MAY 16 #DANCING

WE FEEL: THE EMOTIONAL PULSE OF THE WORLD

Discussions on Twitter provide a wealth of data of how people feel and experience various events. I will show how we can explore the emotional state of a population by mining the vast amount of available public social media data in real time.

DR CECILE PARIS, DATA61 ACTING CHIEF SCIENTIST
AND CHIEF RESEARCH SCIENTIST, CSIRO

IMPROVE YOUR DANCE SKILLS USING A SMARTPHONE

In this presentation I will show you how a simple device like a smartphone can generate useful information to help people learn how dance and much more.

AUGUSTO DIAS, PHD CANDIDATE
THE UNIVERSITY OF SYDNEY

**MAY
14**

MAY 14 SIZE ISN'T EVERYTHING

A CLOSER LOOK: SAVING THE WORLD ATOM BY ATOM

How many atoms in a pint of beer? Roughly 2×10^{26} . That many grains of sand would make up 100 million Earths. I'll talk about how we can look at these atoms, from huge electron microscopes to 3D atomic-scale mapping tools.

PROFESSOR JULIE CAIRNEY, PROFESSOR
THE UNIVERSITY OF SYDNEY

ATOM-THICK MEMBRANE: WATER THEY THINK OF NEXT!

Imagine a new water membrane that works simpler, lasts longer, and is extraordinarily effective- perhaps the best ever! Found out how CSIRO cleaned Sydney Harbour water using graphene, a one-atom-thick material, and their hopes to clean water for all.

DR ADRIAN MURDOCK, POSTDOCTORAL RESEARCH FELLOW
CSIRO

**MAY
15**

MAY 15 IT'S GETTING HOT IN HERE

INTELLIGENT ENERGY

My presentation will explore how "energy" is evolving, as all other systems and industries, through data, the internet of things, automation, predictive analytics, machine learning and artificial intelligence.

KARL RODRIGUES, DEPUTY DIRECTOR
CSIRO ENERGY, CSIRO

STUDYING THE OCEAN: FROM THE REEF TO ANTARCTICA

Through scientific trips to the Great Barrier Reef and Antarctica, we will discover that the tiny cells of plankton that live in the ocean have an important effect on climate

EVA FERNANDEZ FERNANDEZ, PHD STUDENT
UTS AND SRAP-IEAP

**MAY
16**

MAY 16 DENATURED

VISUALISING BIOMEDICAL DATA

I will describe visualisations we use to explore and understand cutting-edge biomedical data, including human populations, biomolecules and cells. These visualisations help to explain scientific breakthroughs and engage the community in biomedicine.

PROFESSOR SEAN O'DONOGHUE, SENIOR RESEARCH FELLOW AND LAB
HEAD, GARVAN INSTITUTE OF MEDICAL RESEARCH
CSIRO

FOOD FACTS: GMOS, PLANT BREEDING AND ORGANICS

What are GMOs? Are regular plants still genetically modified? Where does organic food fit in, and how does this impact nutrition and the environment? My talk will de-mystify how gene technology works and influences what's on your dinner plate.

MICHELLE DEMERS, PHD CANDIDATE
THE UNIVERSITY OF SYDNEY

MAY 14 YOU MAKE ME SICK!

MAY 14

HEY, WHAT'S THAT FUR ON MY FOOD?

Understanding what is the good, bad or indifferent fungi in our foods and what we do about it. I will be answering some of the questions that we all ask such as: Will it make me sick? How did it get there? Can we chop it off the food and still eat it?

MARK WILSON, MICROBIOLOGIST AND MICROBIOLOGY SERVICES MANAGER, CSIRO

A NEW SWISS ARMY KNIFE TO FIGHT SUPERBUGS

Since the discovery of penicillin in the 20th century, mortality rates due to infections have decreased. Today, resistant bacteria have appeared after decades of misusing antibiotics, threatening public health. It's the time to jump into action!

ANA MONSERRAT-MARTINEZ, PHD STUDENT
EMBL AUSTRALIA - UNSW

MAY 15 SKYNET

MAY 15

TAIPAN: WATCHING THE SKY WITH ROBOTIC EYES

TAIPAN is a new instrument installed on the UK Schmidt Telescope at Siding Spring Observatory. It uses "Starbug" robots to simultaneously coordinate the positions of hundreds of optical fibres in order to see hundreds of stars or galaxies at once.

CARLOS BACIGALUPO,
AUSTRALIAN ASTRONOMICAL OBSERVATORY

AI AND OUR FUTURE

What is AI doing? How to embrace a new era of AI? How to make use of machine intelligence together with human intelligence? How to educate our future younger generations better, to enhance human ability and make a better world for all of us.

DR FANG CHEN, RESEARCH GROUP LEADER
CSIRO

MAY 16 WHAT THE QUARK?

MAY 16

BEYOND THE STANDARD MODEL

The standard model of particle physics goes part way towards a theory that unifies the forces of nature. I will discuss its successes, why we expect something new, and how we are searching for this at high-energy and high-precision frontiers.

DR JACINDA GINGES, AUSTRALIAN RESEARCH COUNCIL FELLOW
THE UNIVERSITY OF QUEENSLAND

SUPERCONDUCTIVITY: HAS IT TOUCHED YOUR LIFE?

Superconductivity was accidentally discovered over 100 years ago. What is it and is it just a laboratory curiosity or does it have any value?

DR CATHERINE FOLEY, DEPUTY AND SCIENCE DIRECTOR, CSIRO

MAY 14 SPACE INVADERS

MAY 14

SETI AND BREAKTHROUGH LISTEN: ARE WE ALONE?

The CSIRO Parkes radio telescope is a key facility in the Breakthrough Listen project. This is the largest and most sensitive search yet for extra-terrestrial intelligence (SETI) conducted to date and involves telescopes in both hemispheres.

ROBERT HOLLOW, EDUCATIONS SPECIALIST, ASTRONOMY AND SPACE SCIENCE
CSIRO

CSI: SUPERNOVA

Why do some stars end their lives in catastrophic supernova explosions? Those of us who study supernovae are the "forensic detectives" of astronomy, piecing together clues about the star that exploded using everything from X-rays to radio waves.

DR STUART RYDER, HEAD OF INTERNATIONAL TELESCOPE SUPPORT,
AUSTRALIAN ASTRONOMICAL OBSERVATORY

MAY 15 CELL-OUT

MAY 15

BACTERIAL SPORE SMACK DOWN: CONTROL IN FOODS

One of the toughest challenges in ensuring the safety and stability of foods is overcoming the extreme resistance of bacterial spores. Learn about these elusive cell forms and some of the traditional and innovative approaches used to control them.

SANDRA OLIVIER, FOOD RESEARCH MICROBIOLOGIST
CSIRO

TREATING AUSTRALIA'S DEADLIEST CANCER

My talk will focus on a nanomedicine that could improve treatment for Australia's deadliest and most drug-resistant cancer: pancreatic cancer. This type has very low survival rates and this nanomedicine could increase the patients' survival rate.

DR ORAZIO VITTORIO, PROJECT LEADER
CBNS & CCIA

MAY 16 WHAT'S THE BUZZ?

MAY 16

BEEES WITH BACKPACKS

Bee population is declining and science is struggling to understand why. Scientists worldwide are attaching micro-devices on bees in an effort to increase our knowledge about their behaviour in response to stressors in a quest against time.

PROFESSOR PAULO DE SOUZA, OCE SCIENCE LEADER
DATA61, CSIRO

WORLDWIDE DECLINE OF THE 4BS AND THEIR CAUSES

Declines in populations of birds, bats, bees and butterflies in various regions of the world have taken place during the past two decades. The underlying cause is the indiscriminate and constant use of pesticides in agricultural and urban landscapes.

DR FRANCISCO SÁNCHEZ-BAYO, HONORARY ASSOCIATE
THE UNIVERSITY OF SYDNEY

MAY 14 ATOMIC BONDS, COLOR BONDS AND SILICONS

MAY 14

NOT JUST A PRETTY FACE! THE SCIENCE OF PAINT

From high-tech paint on your car to the paint on your wall, many types of surface coating are encountered in day-to-day life. Here the components of paint will be viewed from a molecular level and factors affecting performance in-service are described.

DR PHIL BARKER, RESEARCH FELLOW
UNIVERSITY OF WOLLONGONG

BEYOND THE SILICON AGE

Silicon has been the miracle material behind the rise in miniature computers in the past fifty years. In this talk, I will discuss the challenges in the future of silicon, and the international race to find a replacement.

DR DAVID CORTIE, RESEARCH FELLOW
UNIVERSITY OF WOLLONGONG

MAY 15 MINUTE MOLECULAR MECHANICS AND BEST BRAS

MAY 15

FIGHTING DISEASE, ONE MOLECULE AT A TIME

Physics and medicine come together in the development of microscopy so powerful that we can visualise individual protein and DNA molecules. The ability to see how they behave helps us better understand how they might play a role in disease.

PROFESSOR ANTOINE VAN OIJEN, ARC LAUREATE FELLOW
DISTINGUISHED PROFESSOR
UNIVERSITY OF WOLLONGONG

THE BIOMECHANICS OF BETTER BRAS

My talk will provide an overview of how biomechanical research is used to improve bra fit and bra design so that all women, irrespective of age and breast size, can enjoy the health benefits associated with an active lifestyle.

PROFESSOR JULIE STEELE, SENIOR PROFESSOR (BIOMECHANICS)
UNIVERSITY OF WOLLONGONG

MAY 16 ENVIRONMENTAL SCIENCE AND CHILL

MAY 16

ANTARCTIC RESEARCH: MY JOB IS THE COOLEST!

Antarctica, a pristine frontier. In 1998 the Protocol on Environmental Protection to the Antarctic Treaty System came into force. Now nations have to clean up their waste, historic and present. I'll share my journey as a scientific expeditioner.

PROFESSOR DIANNE JOLLEY, ASSOCIATE DEAN INTERNATIONAL
UNIVERSITY OF WOLLONGONG

HOW UNUSUAL ARE 21ST CENTURY EL NIÑO EVENTS?

The El Niño-Southern Oscillation is the largest source of interannual climate variability on the planet and profoundly influences droughts and floods in Australia. Recent El Niños stand out but are they different from events in the geological record?

ASSOCIATE PROFESSOR HELEN MCGREGOR,
AUSTRALIAN RESEARCH COUNCIL FUTURE FELLOW
UNIVERSITY OF WOLLONGONG

THE BRAT CAVE

47 BALACLAVA ST, WOOLLOONGABBA QLD 4102

BRISBANE

MAY 14 MANY DISEASES, ONE NAME: CANCER

MAY 14

MAKING MELANOMA AND THE BOB MARLEY PHENOMENA

My research into melanoma genetics can be summarized in four words: find mutations, improve treatment. This talk will focus on how genetics can reveal the causes of cancer and be used to treat patients more effectively.

DR KEN DUTTON-REGESTER, NHMRC EARLY CAREER FELLOW
QIMR BERGHOFER MEDICAL RESEARCH INSTITUTE

BLOOD STEM CELLS IN HEALTH AND DISEASE

New blood cells are continually produced throughout our entire lives. This endless supply is only possible because of the special properties of blood stem cells. Sometimes these properties are corrupted and give rise to leukaemia.

DR CHRIS SLAPE, SENIOR RESEARCH FELLOW
UNIVERSITY OF QUEENSLAND

MAY 15 STEWARDS OF THE SEAS

MAY 15

FISHING FOR SOLUTIONS ON AQUACULTURE

I will discuss how scientific knowledge can be employed to alleviate environmental concerns often associated with aquaculture practices and, therefore, contribute to a more sustainable source of food production.

DR PAULA LIMA, POSTDOCTORAL FELLOW, CSIRO

CORALS OF THE GREAT BARRIER REEF 101

I will give you an insight into the private life of coral. Looking at what coral actually are, how they behave, what is threatening them, and why.

BRETT LEWIS, RESEARCH SCIENTIST, QUT

MAY 16 SCIENCE COULD, BUT SHOULD IT?

MAY 16

WHAT IS RESPONSIBLE SCIENCE AND TECHNOLOGY?

Assessing the benefits, risks and uncertainties that new science and technologies present for society has emerged as a challenge around the world. What constitutes socially and ethically responsible science and technology and who decides?

JUSTINE LACEY, PRINCIPLE RESEARCH SCIENTIST, CSIRO

OPEN SCIENCE & LAW

Both science and expert evidence law are undergoing significant changes. In this presentation, I will compare these two movements – the open science movement and the evidence-based evidence movement.

JASON CHIN, LECTURER, TC BEIRNE SCHOOL OF LAW

CATCHMENT BREWERY

150 BOUNDARY ST, WEST END QLD 4101

BRISBANE

MAY 14 RETHINKING ENERGY AND COAL

MAY 14

ELECTRICITY IS (SORT OF) LIKE BEER

Using beer as an example, I'll explain how the electricity network in Australia operates, why prices have increased, and what the future might bring.

DR JOHN GARDNER, SENIOR RESEARCH SCIENTIST
CSIRO

BACK IN BLACK

It may have a black reputation, but did you know coal is critical to understanding evolution on land? Let's take a trip through the past 300 million years and discuss the amazing fossil records in coal from Australia and all over the planet!

NIKOLA VAN DE WETERING, HDR STUDENT
UNIVERSITY OF QUEENSLAND

MAY 15 THE MANY FACES OF VENOM AND ART

MAY 15

ART + SCIENCE = ?

When art and science meet, what comes out the other end? Is it art? Is it science? Is it something entirely different? Can each field drive the other to greater heights? Or what crazy stuff can we all do together?

DAVID HARRIS, ARTSCIENCE RESEARCHER
QCA-GRIFFITH UNIVERSITY / PHYSICS MUSEUM CURATOR
UNIVERSITY OF QUEENSLAND

FIGHT CREEPY WITH CRAWLY

What if the key to fighting blood-sucking, wriggling parasitic worms was hidden in hairy tarantulas? I am developing molecules from spider venoms into new drugs to protect humans and animals from the real creepy crawlies - parasites.

SAMANTHA NIXON PHD STUDENT
INSTITUTE FOR MOLECULAR BIOSCIENCE, UNIVERSITY OF QUEENSLAND;
CSIRO AGRICULTURE AND FOOD

MAY 16 BLOCKCHAIN BUZZ AND THE INTERNET OF THINGS

MAY 16

AVOIDING MACHINE OVERLORDS

My talk introduces how Artificial Intelligence is being applied to Internet of Things (IoT) and forewarn on the potential issues with the coming wave of interconnected devices that learn during their lifetimes.

DR PHILIP VALENCIA, SENIOR RESEARCH ENGINEER
CSIRO

BLOCKCHAIN, CRYPTOCURRENCY, AND GENOMICS?

Blockchain is the basis of Bitcoin but it may have many other uses. How could it apply to genomics? Several blockchain start-ups want to let you control and sell access to your genetic data for cryptocurrency, but is this a good idea?

DR CAITLIN CURTIS, RESEARCH FELLOW,
THE UNIVERSITY OF QUEENSLAND
DR JAMES HERWARD, RESEARCH FELLOW
THE UNIVERSITY OF QUEENSLAND

QUEENSLAND

MAY 14 CHOOSY BRAINS AND BABIES' BRAINS

MAY
14

MAKING DECISIONS IN THE HUMAN MIND

I'll explore some of the science behind how humans make decisions. Why do we sometimes struggle to do two or more things at once? Can we 'train' ourselves to be better multi-taskers? I'll present some recent research that addresses these questions.

CLAIRE NAUGHTIN, SENIOR RESEARCH CONSULTANT
CSIRO'S DATA61

FRISKY WHISKY AND CHEEKY PINTS

It's well established that alcohol consumption during pregnancy is not recommended, but what are the risks of drinking around conception and prior to pregnancy recognition when considering the long term health outcomes of the fetus?

DIANA LUCIA, PHD STUDENT
UNIVERSITY OF QUEENSLAND

MAY 15 DISRUPTIVE TECHNOLOGIES: ROBOTS AT WORK

MAY
15

CSIROBOTICS: ROBOTICS RESEARCH AT CSIRO

Assisted by my colleagues, I will take you through the past, present, and future of robotics research at CSIRO, where we develop transformational technology to tackle the unique challenges that Australia provides.

DAVID HOWARD, RESEARCH SCIENTIST
CSIRO

SOCIAL ROBOTS IN THE HEALTHCARE FIELD

Social robots that can interact and communicate with people hold prospective benefits to be used as assistive tools for people in the health and wellbeing process.

NICOLE ROBINSON, RESEARCHER
QUEENSLAND UNIVERSITY OF TECHNOLOGY

MAY 16 FORTUNE-TELLING OCEANS

MAY
16

TINY AND POWERFUL

This presentation is the opportunity to see a world that is usually invisible. I will explore the concept of plankton, what creatures are part of it, how we are part of this picture and finally why we should care.

JULIAN URIBE-PALOMINO, PLANKTON RESEARCHER
CSIRO

WAVES AND WEATHER

Embrace your inner weather guru and venture beyond the Mt Stapylton radar! In this talk, I'll discuss the science behind the tools and techniques we use at BOM to predict severe weather events, surf conditions and everyday weather.

JAMES THOMPSON, METEOROLOGIST
BUREAU OF METEOROLOGY

MAY 14 THE SMALL SCALE: MOLECULES AND DISEASE

MAY
14

A KINGDOM BESIEGED: BOLSTERING CROP DEFENCES

A peril posed by rusting blades. A golden reign threatened by a rotten crown. Sounds like the prelude to a fantasy novel? Sadly, cereal diseases like rusts and rots are not works of fiction. Come along and learn how plants fight back!

DR JONATHAN POWELL, POST-DOCTORAL RESEARCHER
CSIRO

WHAT MAKES THIS CELL DIFFERENT TO THAT CELL?

I'll be talking about how recent advances in biology have given us the ability to look at the differences between individual cells using cutting edge technology and big data, and how it is already changing the way we understand health and disease.

DR SAM LUKOWSKI, SENIOR RESEARCH OFFICER
UNIVERSITY OF QUEENSLAND

MAY 15 HERE COMES THE FUTURE: AI AND 3D PRINTING

MAY
15

SEEING THE FUTURE

Ok, so we can't see the future. But we can use scenario planning, horizon scanning, megatrends analysis, statistical forecasting and other tools to explore multiple plausible futures. My talk is about the emerging field of strategic foresight.

DR STEFAN HAJKOWICZ, PRINCIPAL SCIENTIST
DATA61, CSIRO

3D PRINTING: FUTURE FOR DIY

Get an insight to the medical applications of 3D printing and easy ways to start experimenting at home with exotic filaments and techniques. I will also speak on the potential with 3D printed fabric and textiles.

STEPHANIE PIPER, COMMUNITY ENGAGEMENT
UNIVERSITY OF SOUTHERN QUEENSLAND

MAY 16 ALL IN YOUR HEAD

MAY
16

INFLAMMATION, THE BRAIN AND ALZHEIMER'S DISEASE

Alzheimer's disease usually doesn't have a genetic link, so understanding the underlying causes and finding treatments can be difficult. One common feature of many diseases is inflammation, but what does inflammation mean in the context of the brain?

DR ESTELLA NEWCOMBE, POSTDOCTORAL RESEARCH FELLOW
QUEENSLAND BRAIN INSTITUTE, UNIVERSITY OF QUEENSLAND

REVERSING ALCOHOL-INDUCED BRAIN DAMAGES

Prolonged consumption of alcohol produces brain damages, including deficits in the ability to produce new neurons (neurogenesis). We found that a chronic treatment with the anxiolytic tandospirone reverses this reduction in neurogenesis in mice.

DR ARNAULD BELMER, POSTDOCTORAL RESEARCHER QUEENSLAND
UNIVERSITY OF TECHNOLOGY

THE PADDO (RESTAURANT)

186 GIVEN TCE PADDINGTON QLD 4064

BRISBANE

MAY 14 DISRUPTIVE TECHNOLOGIES: VR AT WORK

MAY 14

VIRTUAL REALITY IS SERIOUSLY FUN STUFF

VR/AR tech has developed rapidly in the past few years. It is now practical, reliable and affordable for serious applications. Come along and we'll try to help demystify the hype around these useful technologies.

CRAIG JAMES, SENIOR RESEARCH PROJECTS
CSIRO ENERGY

VIRTUAL AND AUGMENTED REALITY IN MEDICINE

I will discuss augmented and virtual reality environments in health-care and medical research, and how they will form an integrated platform technology within the hospital of the future.

MATHILDE DESSELLE, PROJECT MANAGER
QUEENSLAND UNIVERSITY OF TECHNOLOGY

MAY 15 LEARNING AND THE AGEING BRAIN

MAY 15

HOW YOUR BRAIN LEARNS TO MOVE

As babies we can't walk, talk or clap. Without formal instruction, practice means we can perform these tasks effortlessly. How is this possible? I will talk about research performed by CSIRO & UQ to uncover how physical challenges rewire your brain.

DR LEE REID, POST-DOCTORAL RESEARCH FELLOW
CSIRO

OPTIMISING EXERCISE FOR BRAIN HEALTH

I aim to understand the mechanisms that mediate the effects of exercise on cognitive function in health and disease. We aim to develop public health recommendations that optimise the benefits of exercise for brain health and cognition during ageing.

DR MIA SCHAUMBERG, LECTURER
PHYSIOLOGY, UNIVERSITY OF THE SUNSHINE COAST

MAY 16 MENTAL HEALTH: THERE'S AN APP FOR THAT

MAY 16

THE DR IS IN ... THE PHONE

Smartphones come with sensors that track behaviours such as our internet history, where we go, music we listen to, and to whom we speak. The habitual nature of people means this data could be used to gain insight into our mental wellbeing.

DR DANA BRADFORD, SENIOR RESEARCH SCIENTIST
AUSTRALIAN EHEALTH RESEARCH CENTRE, CSIRO

INSPIRE: ATHLETE WELLNESS SYSTEM

I will be presenting information on my start up company called Inspire. It works with young, up and coming athletes on improving and tracking their mental and physical well-being. I will also present some research on this area that prompted us to start.

ANNIE FLAMSTEED, CEO AND FOUNDER
INSPIRE

THE PADDO (TROPHY ROOM)

186 GIVEN TCE PADDINGTON QLD 4064

BRISBANE

MAY 14 DISRUPTIVE TECHNOLOGIES: AI AND ROBOTS

MAY 14

NAVIGATION, NEUROSCIENCE & NEURAL NETWORKS

I'll cover a lifelong research journey into understanding the fundamental nature of intelligence via spatial cognition, so that we can both shed light on how the brain functions, and create intelligent, autonomous systems that transform society

PROFESSOR MICHAEL MILFORD
QUEENSLAND UNIVERSITY OF TECHNOLOGY

SEEING THE FUTURE

Ok, so we can't see the future. But we can use scenario planning, horizon scanning, megatrends analysis, statistical forecasting and other tools to explore multiple plausible futures. My talk is about the emerging field of strategic foresight.

DR STEFAN HAJKOWICZ, PRINCIPAL SCIENTIST
DATA61, CSIRO

MAY 15 UNDER THE MICROSCOPE: BEER AND INFLAMMATION

MAY 15

WHAT'S IN YOUR PINT?

There's nothing better than enjoying a chilled pint of beer after a long day, but have you ever considered what's in there? Did you realise that brewing is the oldest biotechnological process known to mankind? Is beer good or bad for you?

DR MICHELLE COLGRAVE, PROTEOMICS
RESEARCH SCIENTIST, CSIRO

INFLAMMATION AND DISEASE

Inflammation is the body's response to infection or injury. Overactive inflammation can become harmful. I will discuss a few diseases, such as Alzheimer's disease and arthritis, and how we can develop treatments by targeting the inflammatory pathway.

CAROLINE HOLLEY, PHD CANDIDATE
UNIVERSITY OF QUEENSLAND

INFLAMMATION AND SEPSIS: STOPPING THE CYCLE

Sepsis occurs when the body's immune response to infection damages its own tissues. My research aims to discover how immune cells sense bacterial infection to launch an attack. Ultimately, our goal is to control immune responses during sepsis

AMY CHAN, PHD STUDENT, INSTITUTE FOR
MOLECULAR BIOSCIENCE

MAY 16 MIND MATTERS

MAY 16

CAN WE CONTROL BRAIN CELLS TO REPAIR DAMAGE?

I am developing models to examine how human neural stem cells (hNSCs) and mesenchymal stem cells (hMSCs) are regulated in humans as well as how numerous neurological and brain disorders occur.

LARISA HAUPT, SENIOR RESEARCH FELLOW/LAB MANAGER
IHBI-QUT

NEUROSCIENCE BEYOND NATURE VS NURTURE

The debate of nature vs nurture remains popular in some circles, especially when it comes to behavioral and cognitive traits. Discoveries in the fields of epigenetics and neuroplasticity prove such question is outdated.

OMAR IBRAHIM, PHD CANDIDATE

QUEENSLAND

MAY 14 TAKING FLIGHT

**MAY
14**

DEBUGGING DENGUE

The insecticidal dengue control method has been challenged by releases of mosquitoes. Cairns leads the way, with two programs that use the bacteria Wolbachia to either prevent dengue transmission or get rid of the mozzie all together.

PROFESSOR SCOTT RITCHIE, MEDICAL ENTOMOLOGIST
JAMES COOK UNIVERSITY

OH LORDY, TROUBLE WITH FLYING-FOXES

For 200 years we have struggled to manage our interactions with flying-foxes. Ranging from the farcical to the murderous our efforts have had limited success. Might understanding the ecology and behaviour of these animals improve our performance?

DR DAVID WESTCOTT, SENIOR PRINCIPAL RESEARCH SCIENTIST
CSIRO

MAY 15 WORKING WITH NATURE

**MAY
15**

TURTLE REHABILITATION IS IT SUCCESSFUL

Turtles that are bought in from the GBR and surrounding waters suffering horrendous injuries or illnesses are sent to CTRC. How long is the process of rehabilitation, how many people are involved and what injuries or illnesses do they suffer.

JENNIE GILBERT, PRESIDENT CO-FOUNDER
CAIRNS TURTLE REHABILITATION CENTRE

SOCIAL ROBOTS IN THE HEALTHCARE FIELD

Most venomous animals have the ability to kill you in more than just one way. These can vary from attacking your heart, your nervous system or your blood through to turning you into a zombie

./PROF JAMIE SEYMOUR, ASSOCIATE PROFESSOR
JAMES COOK UNIVERSITY

MAY 14 ET PHONE DALBY

**MAY
14**

PLANET HUNTING

We're going on a planet hunt... we're gonna find a big one! I will talk about how astronomers search for planets around other stars, from the big, hot planets, to pushing the boundaries of technology and physics to find a twin to our Earth.

BELINDA NICHOLSON, PHD CANDIDATE
UNIVERSITY OF SOUTHERN QUEENSLAND

WHICH EXOEARTHS SHOULD WE SEARCH FOR LIFE?

In the coming years, we will find the first true exoEarths - planets like our own orbiting distant stars, and the search will be on for life elsewhere. But will we choose which planets to target for that search? Come along for a Pint of Astrobiology!

PROFESSOR JONTI HORNER, PROFESSOR OF ASTROPHYSICS
UNIVERSITY OF SOUTHERN QUEENSLAND

MAY 14 NARROWING MISHAPS

**MAY
14**

WHAT IS PAD?

For a disease that affects up to a quarter of the adult population, peripheral artery disease (PAD) is surprisingly neglected. I will discuss some of our ongoing work to improve patient care and wellbeing.

DR JOSEPH MOXON, SENIOR RESEARCH FELLOW,
JAMES COOK UNIVERSITY

JOIN THE NATIONAL FOOD ALLERGY WEEK!

Australia is the allergy capital of the world, where 1 in 10 kids suffer from food allergy. There are no cure for food allergies, so we all need to be aware. I will talk about the complexities of food allergies, and the vital work of the scientists at JCU.

DR AYA TAKI, RESEARCH FELLOW, JAMES COOK UNIVERSITY

MAY 15 FARMING FUEL

**MAY
15**

OPPORTUNITY FROM A MENACE: A FERAL PROBLEM

Feral animals are a massive problem in Australia. Every year land managers, state and federal governments spend millions of dollars controlling feral animals with limited long term success. Can we turn the menace into an opportunity?

DR JUSTIN PERRY, RESEARCH SCIENTIST, CSIRO

A NEW SPRAYABLE BIODEGRADABLE TECHNOLOGY

A new sprayable biodegradable product to replace petroleum based plastic mulch films used in crop production, which are polluting our soil and water systems.

DR KEITH BRISTOW, TEAM LEADER
SOIL PHYSICS AND HYDROLOGY, CSIRO

MAY 16 REEF REVOLUTION AND STINGER SAFETY

**MAY
16**

WHAT DOES A REEF REVOLUTION LOOK LIKE?

Coral reefs are in serious trouble. It can be overwhelming, but doing nothing is unthinkable. Local actions with a dash of rebellion are setting the stage for a Reef Revolution that can build resilience for a brighter future for coral reefs.

DR PAUL MARSHALL, DIRECTOR AND SENIOR SCIENTIST
REEF ECOLOGIC

JELLYFISH Q&A: TO PEE OR NOT TO PEE

Jellyfish are a hot topic as our seas warm up, with a lot of misunderstandings. Are they migrating south with climate change? Are they taking over? What is the right treatment? Join me for a lively look at these and other FAQ.

DR LISA-ANN GERSHWIN, RESEARCH SCIENTIST
CSIRO OCEANS & ATMOSPHERE

MAY 14 THE SOCIAL SIDE OF CONSERVATION

**MAY
14**

CULTURE MATTERS IN THE GREAT BARRIER REEF

What matters to people is often acknowledged in Reef management, but rarely incorporated. I will discuss the importance of positioning culture as a core concern in management, and how it could be leveraged to secure the future of the Reef.

DR NADINE MARSHALL, SENIOR SCIENTIST
CSIRO

SPORTFISHING FOR LIVELIHOODS IN PNG

Sportfishing in Papua New Guinea has the potential to provide sustainable livelihoods and support conservation. My talk is about the work I have been involved in in West New Britain to help local communities and business to achieve these goals.

DR AMY DIEDRICH, SENIOR LECTURER
ENVIRONMENTAL SCIENCE AND MANAGEMENT, JAMES COOK UNIVERSITY

MAY 15 PRESERVING LIFE, ONSHORE AND OFFSHORE

**MAY
15**

ROOTS, RAIN, RUNOFF AND THE REEF

Old-school and new-tech research methods combine in a 20-year study to improve our understanding of the factors that influence soil erosion and water quality on grazed land in the Burdekin.

ANNE KINSEY-HENDERSON, SPATIAL ANALYST
CSIRO LAND AND WATER

DATING ANTARCTIC ICE SHEET COLLAPSE

The Antarctic Ice Sheet will likely melt as a result of anthropogenic climate change, but the rate and proportion of that melt is unknown. We can use genetic signatures that exist within Antarctic marine animals to investigate this key question.

JAN STRUGNELL, ASSOCIATE PROFESSOR
JAMES COOK UNIVERSITY

MAY 16 HOW TO PLAN FOR CONSERVATION

**MAY
16**

CAN OZ DO MORE FOR MARINE MIGRATORY SPECIES?

Marine migratory species are difficult to manage because their movements are unconstrained by political boundaries. I discuss how marine migratory species are currently protected in Australia and make suggestions on ways to improve this protection.

RACHEL MILLER, PHD CANDIDATE, JAMES COOK UNIVERSITY

IMPACT OF MARINE PROTECTED AREAS

Conservation actions should be measured by their impact, or the actual difference they make. I will discuss how to measure the impact of marine protected areas and whether small communities can make a difference.

PATRICK SMALLHORN-WEST, PHD STUDENT
JAMES COOK UNIVERSITY

LITTLE BANG BREWERY

8A UNION STREET, STEPNEY SA 5069

ADELAIDE

MAY 14 MIRACLE MICROBES

MAY
14

FIRST FERMENT

Most believe Aboriginal people lacked the know-how, vessels or permanence to conduct ferments. Our work aims to dispel this misconception by documenting such practices, especially their starting materials, the microbes and the nature of the products.

PROFESSOR VLADIMIR JIRANEK, HEAD,
DEPARTMENT OF WINE & FOOD SCIENCE, UNIVERSITY OF ADELAIDE

HOW THE GUT WORKS (AND HOW YOU CAN HELP IT)

The human gut absorbs nutrients from the foods that we eat and is therefore central to life. I will be discussing how diet and lifestyle can improve the functionality of the gut and how this links to reduced disease risk and better quality of life.

DR IAIN BROWNLEE, SENIOR RESEARCH SCIENTIST
CSIRO NUTRITION & HEALTH PROGRAM

THE WHEATSHEAF HOTEL

39 GEORGE ST, THEBARTON SA 5031

ADELAIDE

MAY 14 AMAZING ATOMS

MAY
14

VORTEX FLUIDICS IN ACTION

The vortex fluidic device has remarkable applications in protein folding, targeted drug delivery, slicing carbon nanotubes, biodiesel production, and more, all under scalable continuous flow.

PROFESSOR COLIN RASTON
CLEAN TECHNOLOGY, FLINDERS UNIVERSITY

YOU ARE WHAT YOU EAT: A PILE OF ATOMS

Do you wonder where your food comes from? How certain are we that we get what we buy? We can use naturally occurring isotopes along with innovative mapping to determine the provenance of our food products as they move from the soil to our plates.

DR NINA WELTI, RESEARCH SCIENTIST, CSIRO

MAY 15 FOOD IS IN MY DNA

MAY
15

DO EATING PATTERNS DIFFER BETWEEN PEOPLE?

The average Australian has poor eating habits, but these habits differ from person to person. There are personal characteristics that predict how healthy people eat. This information is crucial for developing future healthy eating interventions.

JOYCE HADDAD, PHD CANDIDATE
CSIRO

EPIGENETICS: DNA DECORATION OR FATE?

Have you heard of your epigenome? Did you know that your DNA is decorated with glitter that determine your fate, but which is altered by your everyday activities? Did you know this happens long before you are born? Even inside your grandmother?!

DR HANNAH BROWN, CHIEF SCIENCE STORYTELLER
UNIVERSITY OF ADELAIDE

MAY 16 UNTIL WE FIND PLANET B

MAY
16

WATER FOR OUR CITIES

Australia is a land of drought and flooding rains; our largest cities have in the past struggled with both. Cities expecting further population growth will need a variety of water strategies to manage into the future.

DECLAN PAGE, RESEARCH GROUP LEADER
CSIRO

THE GREAT DYING OF THE MODERN ERA

I will outline the evidence for the accelerating onslaught of human expansion and development on ecosystems worldwide. I will focus on the less-publicised erosion of ecosystem services and how they denude human well-being and prosperity.

PROFESSOR COREY BRADSHAW, MATTHEW FLINDERS FELLOW IN GLOBAL ECOLOGY, FLINDERS UNIVERSITY

PARKWOOD TAVERN

OLSEN AVE & WINTERGREEN DR, PARKWOOD QLD 4214

GOLD COAST

MAY 14 ZINGY ZOOLOGY

MAY 14

JELLYFISH Q&A: TO PEE OR NOT TO PEE

Jellyfish are a hot topic as our seas warm up, with a lot of misunderstandings. Are they migrating south with climate change? Are they taking over? What is the right treatment? Join me for a lively look at these and other FAQ.

DR LISA-ANN GERSHWIN, RESEARCH SCIENTIST
CSIRO OCEANS AND ATMOSPHERE

COMPASSIONATE CONSERVATION

With seal numbers increasing as they return from near extinction, and visitor numbers rising as Tasmania is marketed for tourism, the island is a hot spot for human-wildlife conflict. Can interactions between these species be managed compassionately?

DR GEORGETTE LEAH BURNS, SENIOR LECTURER
FACULTY OF ENVIRONMENTAL SCIENCES, GRIFFITH UNIVERSITY

MAY 15 QUINTESSENTIAL QUANTUM PHYSICS

MAY 15

WHAT MAKES THE UNIVERSE TICK?

I'll show how time as we know it can be traced to a particular quantum effect. If this effect was absent, the universe would be stuck at one time. Adding the effect makes the universe extend over all times into the present and beyond.

PROFESSOR JOAN VACCARO
SCHOOL OF ENVIRONMENT AND SCIENCE, GRIFFITH UNIVERSITY

AN ATOM'S SHADOW

Shadows are a familiar sight. They are formed by the absence of light. Something dark in front of something bright. A child with a torch in the night can make shadow puppets with their hand. But what is the smallest thing that can cast a shadow?

DR ERIK STREED, SENIOR LECTURER
FACULTY OF BIOMOLECULAR AND PHYSICAL SCIENCES,
GRIFFITH UNIVERSITY

MAY 16 MAGNIFICENT MEDICAL SCIENCE

MAY 16

STOPPING THE WORLD'S GREATEST SERIAL KILLERS

Tuberculosis (TB) has likely killed over a billion people. Thought to be cured by antibiotics in the 1960's, multidrug-resistant strains are now an increasing concern and we have identified novel anti-TB compounds that block lipid metabolism.

DR TODD HOUSTON
SCHOOL OF ENVIRONMENT AND SCIENCE, GRIFFITH UNIVERSITY

CHRONIC FATIGUE SYNDROME: BIOLOGICAL BASIS

I will outline current research in the area of chronic fatigue syndrome

PROFESSOR SONYA MARSHALL-GRADISNIK, CO-DIRECTOR NATIONAL CENTRE FOR NEUROIMMUNOLOGY AND EMERGING DISEASES, GRIFFITH UNIVERSITY

THE IRISH CLUB HOTEL

80 RUSSELL ST . TOOWOOMBA CITY QLD 4350

TOOWOOMBA

MAY 14 WINE-ING ABOUT RENEWABLES

MAY 14

RENEWABLE ENERGY: THE POWER OF BULLSHIT

Discussion around renewable energy is dominated by the big 3 – hydro, wind, solar. I will talk about the little-known field of biogas production, pros and cons of this technology, and recent work regarding how we can boost financial returns.

PETER HARRIS, PHD CANDIDATE, NATIONAL CENTRE FOR ENGINEERING IN AGRICULTURE, UNIVERSITY OF SOUTHERN QUEENSLAND

THEY PUT WHAT IN WINE????!!!

Wine is what you get from the fermentation of grapes ... but it is also so much more! The history of wine goes back thousands of years during which we have discovered many other—often bizarre—magic ingredients that make our wine even better!

URSULA KENNEDY, LECTURER
WINE SCIENCE, UNIVERSITY OF SOUTHERN QUEENSLAND

MAY 15 SCINTILLATING TECH

MAY 15

AN APP A DAY KEEPS THE DOCTOR AT BAY

I will show how smartphone apps, monitoring devices and the Internet are used to remotely help manage people living with chronic conditions. This include heart, lung or kidney disease, diabetes and chronic pain.

DR MARLIEN VARNFIELD, RESEARCH TEAM LEADER, CSIRO

OOH, SHINY!

Observing the universe takes some serious technology. This talk looks at the shiny things astronomers use to look at shiny things: the technological developments that have allowed us to explore the universe from the comfort of our own planet.

BELINDA NICHOLSON, PHD CANDIDATE
UNIVERSITY OF SOUTHERN QUEENSLAND

MAY 16 OUTBACK TUCKER

MAY 16

DINGO POO AND RELATED DINNER-TABLE TOPICS

My presentation will focus on the diet, ecology and management of Australian dingoes. Audience members will leave with a greater understanding of dingoes, and some skills in scientific methods and interpretation.

DR BENJAMIN ALLEN, RESEARCH FELLOW
UNIVERSITY OF SOUTHERN QUEENSLAND

GRAZING SYSTEMS IN A CHANGING WORLD

Our growing human population, together with changing diets, economies and climates have placed considerable pressures on food security, the land and the environment. My research explores pathways for more sustainable grazing systems.

CECILE GODDE, PHD STUDENT
CSIRO, THE UNIVERSITY OF QUEENSLAND

QUEENSLAND

MAY 14 SENSING GALAXIES

MAY
14

TO MARS AND BEYOND

Our Planet and Mars have a common past. Eventually, they will share the same future. We will travel across time, getting an overview on how our knowledge on Mars was built and what to expect of the future exploration of the Red Planet.

PROFESSOR PAULO DE SOUZA, OCE SCIENCE LEADER
DATA61, CSIRO

THE SEARCH FOR EXOPLANETS: COLD WORLDS

I will discuss the search for planets far enough away from their suns that liquid or frozen water can condense on their surface, and discoveries including free-floating planets and the first moons discovered in other solar systems.

DR ANDREW COLE, ASSOCIATE PROFESSOR
UNIVERSITY OF TASMANIA

MAY 15 TASMANIANS SAVING THE DAY

MAY
15

CONSERVATION OF SPOTTED HANDFISH

Spotted handfish were the first marine fish to be listed as critically endangered on the IUCN red list. I will provide an overview of efforts to conserve them over the last 20 years.

DR TIM LYNCH, SENIOR RESEARCH SCIENTIST
CSIRO

NATURAL PRODUCTS FROM ESPRESSO MACHINES

The humble espresso machine now has a key role in the chemistry laboratory: extracting natural products. I'll discuss the science behind its success, share exciting research, and explain how it can uncover the secrets of Tasmania's native plants.

BIANCA DEANS, PHD CANDIDATE
SCHOOL OF NATURAL SCIENCES (CHEMISTRY), UNIVERSITY OF TASMANIA

MAY 16 WASTE NOT WANT NOT

MAY
16

PLASTIC POLLUTION ISSUES AND SOLUTIONS

I will focus on challenges and solutions to the global plastics pollution issue in the 21st century.

DR BRITTA DENISE HARDESTY, PRINCIPAL RESEARCH SCIENTIST
CSIRO

THE SEARCH FOR 'GREEN' METALS IN TASMANIA

Tonnes of mine waste are produced annually and can introduce toxic metals into the environment. Join me on a tour around Tasmania to see our world-class mine waste and learn about how these sites can be rehabilitated by exploring for 'green' metals.

DR ANITA PARBHAKAR-FOX, SENIOR RESEARCH FELLOW
UNIVERSITY OF TASMANIA

MAY 14 EARTH'S FUTURE

**MAY
14**

HIGH PRESSURE PROCESSING - EXTENDS SHELF LIFE

High Pressure Processing is a non-thermal process that can extend the shelf life of a wider range of food and provide improved product safety and quality. HPP uses high pressure to destroy food-borne pathogens by disrupting cellular activity.

SIEH NG, FOOD MICROBIOLOGIST
CSIRO AGRICULTURE AND FOOD

EVERYDAY NATURE FOR THE FUTURE OF CITIES

A perfect storm of ideas is generating unprecedented enthusiasm for embracing nature in cities. But it's more than just urban greening; it's generating daily doses of biodiversity.

PROFESSOR SARAH BEKESSY, PROFESSOR
RMIT UNIVERSITY

WHAT'S IN A (SPECIES) NAME?

Biological diversity is massive and sometimes blurry at the edges, so categorising and defining species is usually (always) difficult. Fortunately, modern genetics allows us to develop sharper, well-defined pictures of the ever-changing tree of life.

OLIVER STUART, RESEARCH STUDENT
UNIVERSITY OF MELBOURNE

MAY 15 SCIENCE AND THE CITY

**MAY
15**

ELIMINATING FOOD LOSS

Approximately one third of food we produce is not consumed, but instead lost from our food supply. I will discuss new initiatives to eliminate this loss of valuable food!

DR ED FOX, SENIOR RESEARCH
MICROBIOLOGIST, CSIRO

SAVING THREATENED SPECIES IN THE CITY

How can we have more nature in cities? We'll explore the opportunities and challenges for nature conservation in urban environments, and get to know a few of Australia's urban-occurring threatened species a little better.

DR KYLIE SOANES, RESEARCH FELLOW
UNIVERSITY OF MELBOURNE

SHOULD WE FEED BIRDS?

In Europe and America, feeding birds is a popular wildlife-human interaction. Recent studies show these interactions can provide mental health benefits. In Australia, the conservation message is to discourage bird feeding yet estimatedly over 50% of households do so. I will discuss the Australian Bird Feeding and Watering study, why people feed birds and what they feel are the pros and cons to doing so.

DR GRAINNE CLEARY, RESEARCH FELLOW
DEAKIN UNIVERSITY

MAY 16 THE BASICS OF BUILDING THE UNIVERSE

**MAY
16**

CARBON FIBRE: FROM RACKETS TO ROCKETS

Incredibly strong and lightweight, carbon fibre is a material of the future. It can be used in everything from bikes to satellites, fighter jets to high performance cars.

DR SALLY HUTCHINSON, SENIOR RESEARCH
SCIENTIST, CSIRO

MAGNIFYING THE DISTANT UNIVERSE

How do you use clumps of dark matter as a gigantic natural telescope? Einstein's General Relativity allows us to do just this through gravitational lensing. Find out how we use these natural telescopes to shed new light on the early Universe.

DR RACHAEL LIVERMORE, ARC DECRA FELLOW
UNIVERSITY OF MELBOURNE

LISTEN TO THE BIG BANG THROUGH COSMIC STATIC

The cosmic microwave background is the oldest light in the Universe -- emitted when the Universe was only 0.003% of its current age -- and it represents a fundamental tool in our quest to understand how the Universe began and what its future holds.

FEDERICO BIANCHINI, POSTDOCTORAL
RESEARCHER, UNIVERSITY OF MELBOURNE

MAY 14 GETTING BETTER (ALL THE TIME)

**MAY
14**

INFLUENCING INFLUENZA

Influenza is an acute viral infection that occurs worldwide, is easily spread and has a high cost to society. To protect those at risk, the solution is vaccination, however, producing enough doses can be challenging.

DR ANDREW BEAN, HEALTH DOMAIN LEADER
CSIRO

HIT 'EM WHERE IT HURTS

I will talk about the need for new painkillers -- why the drugs don't work, why they cause unwanted side-effects, and how recent discoveries in neuroscience and drug delivery may help us to make better ones.

DR NICHOLAS VELDHIJS, RESEARCH FELLOW
CENTRE OF EXCELLENCE IN BIO-NANO SCIENCE,
MONASH INSTITUTE OF PHARMACEUTICAL
SCIENCES, MONASH UNIVERSITY

MUSIC AND WELL-BEING

Recent research has begun to examine musical activity and well-being. But what are the benefits of playing and listening to music?

I will provide a short overview of what is known about how music can influence our well-being.

DR AMANDA KRAUSE, RESEARCH FELLOW
UNIVERSITY OF MELBOURNE

RICHMOND BOWLING CLUB

2 GLEADELL ST, RICHMOND VIC 3121

MELBOURNE

MAY 15 EARTH'S FUTURE

MAY 15

SICK SHEEP

Bluetongue virus causes an important disease in ruminants that has major impacts on animal health. Using a combination of conventional pathology and modern molecular techniques, my project hopes to provide further insights to this disease.

FABIAN LEAN, GRADUATE STUDENT / VETERINARIAN, AAHL CSIRO

STUDYING THE SECRET LIFE OF SEABIRDS

Seabirds spend almost their whole lives on the open ocean, so how do we go about protecting these natural wonders? Learn about how technological advances are uncovering seabird behaviour and aiding marine conservation.

DR HOLLY KIRK, POST DOC RMIT UNIVERSITY

WHAT'S IN A (SPECIES) NAME?

Biological diversity is massive and sometimes blurry at the edges, so categorising and defining species is usually (always) difficult. Fortunately, modern genetics allows us to develop sharper, well-defined pictures of the ever-changing tree of life.

ELLA KELLY, PHD STUDENT UNIVERSITY OF MELBOURNE

MAY 16 WINGING IT

MAY 16

SLEEPING WILD: HOW AND WHY ANIMALS SLEEP

Sleep plays a huge role in our daily lives, but have you ever wondered why we need it? When did sleep begin, and can any animal cope without it? By studying sleep in other (non-human) animals, scientists have made some surprising discoveries.

ANNE AULSEBROOK, PHD CANDIDATE UNIVERSITY OF MELBOURNE

THE LIFE AND ADVENTURES OF A VIRUS

I will give an overview of the ecology of beak and feather disease virus, an Australian virus that affects parrots, cockatoos, and lorikeets, and will discuss my current research on the transmission dynamics of this virus across different species.

DR SHANDIYA BALASUBRAMANIAM, IAN POTTER BIODIVERSITY RESEARCH FELLOW, MUSEUMS VICTORIA

THE HEAT IS ON FOR BIRD BILLS

The evolution of bird bills is famously linked to diet. But, surprisingly, bills also help control body temperature. I will show how this function has played a major role in the way birds adapt to climate, and climate change.

DR MATTHEW SYMONDS, SENIOR LECTURER IN ECOLOGY, DEAKIN UNIVERSITY

THE SPOTTED MALLARD

314 SYDNEY RD, BRUNSWICK VIC 3056

MELBOURNE

MAY 14 NOT QUITE NOAH'S ARK

MAY 14

TOAD IN A HOLE - AND HOW TO DEAL WITH IT

Cane toads have been the scourge of Northern Australia since the 1930's - the latest break-through in gene editing may provide a solution... but are gene tech and environmental issues awkward roommates?

DR MARK TIZARD, PRINCIPAL SCIENTIST CSIRO HEALTH & BIOSECURITY

NUDE AND SALTY SEA SLUGS

Sea slugs are colourful, clever, hermaphrodites and some can discard their penis and grow a new one, yet we know very little about them. That is why I organised people to take photos of them. I will tell you all about what we found.

KADE MILLS, REEFWATCH COORDINATOR VICTORIAN NATIONAL PARKS ASSOCIATION

REFUGE FOR URBAN ROBINS: WHY TREES ARE KEY!

Have you ever met a yellow robin? Once, this spunky little species was common across where our suburbs are now. Some robins remain but they're virtually isolated from each other, which isn't good news. Find out why the solution is simply: more trees!

CHRISTINE CONNELLY, LECTURER IN ENVIRONMENTAL SCIENCE, VICTORIA UNIVERSITY

MAY 15 CHEMISTRY AND THE COSMOS

MAY 15

FROM ANTI-MATTER TO POROUS MATTER

Metal-organic frameworks are amazing porous crystals which are promising for innovations in energy, health and the environment. Tailoring pores allows for greater storage capacity, faster kinetics and better selectivity for many future applications.

DR CARA DOHERTY, RESEARCH SCIENTIST CSIRO

THE MIDAS TOUCH

Medicinal chemists love fluorine, but organofluorine compounds are really hard to make. In this presentation, I'll discuss how we can go from completely weird off the wall chemistry to something useful to make fluorinated compounds on the cheap.

DR JASON DUTTON, ASSOCIATE PROFESSOR LA TROBE UNIVERSITY

WATCH THE FIREWORKS WHEN STARS COLLIDE

I will describe the discovery and follow-up of the first neutron star merger discovered by the Advanced LIGO Gravitational Wave Observatory.

PROFESSOR MATTHEW BAILES, DIRECTOR ARC CENTRE OF EXCELLENCE FOR GRAVITATIONAL WAVE DISCOVERY (OZGRAV), SWINBURNE UNIVERSITY OF TECHNOLOGY

MAY 16 BIG PROBLEMS, SMART SOLUTIONS, BETTER BODIES

MAY 16

MILK - HIGHLY EFFECTIVE TREATMENT FOR MALARIA

I investigate how the unique properties of milk impact the effectiveness of anti-malarial drugs. With a single dose, malaria could be cured, potentially eliminating the suffering of millions and preventing hundreds of thousands of deaths annually.

PROFESSOR BEN BOYD, CHIEF INVESTIGATOR CBNS/MONASH UNIVERSITY

GIVING YOU SOMETHING TO CHEW ON

Have you ever wished that your favourite snack food was actually good for you? We have built a computer model of the mouth to understand how changes to the recipes of processed food can be chosen to improve the health of the food that you want to eat.

DR SIMON HARRISON, SENIOR RESEARCH SCIENTIST, DATA61, CSIRO

PROMISES AND RISKS OF A NANO WORLD

Amazing products on the market: rainproofed jackets that keep you dry in extreme weather conditions, invisible sunscreens. All products with 'nanotechnologies', very tiny particles with very special properties. But how safe are they?

ARIANNA ODDO, PHD CANDIDATE MONASH UNIVERSITY



THE BOSTON

205 JAMES ST (ENTRY VIA MILLIGAN STREET), NORTHBRIDGE WA 6003

PERTH

MAY 14 SCOPING OUT THE ANSWERS

MAY
14

ASKAP: RADIO EYES ON THE SKY IN WA

The CSIRO is building the Australian Square Kilometre Array Pathfinder (ASKAP) in outback WA. This new radio telescope is testing innovative technologies as well as doing ground breaking astrophysics in the years before the SKA megascience project.

DR MINH HUYNH, SENIOR DATA SCIENTIST/RESEARCH ASTRONOMER, CSIRO

LITTLE THINGS - THE MICROSCOPIC WORLD

My presentation will showcase examples of research where the magic of microscopy has been used to reveal answers to complex biological questions.

PAUL RIGBY, ASSOCIATE PROFESSOR, MICROSCOPY AND BIOMEDICAL RESEARCH, THE UNIVERSITY OF WESTERN AUSTRALIA

MAY 15 USING NEW TECH TO STUDY WILDLIFE

MAY
15

SOLVING A WILDLIFE MYSTERY WITH DNA FORENSICS

DNA technologies are revolutionising how we find solutions to environmental problems. I will show how we used the latest forensic techniques to discover what caused the recent population crash of the endangered woylie.

OLIVER BERRY, LEADER ENVIRONOMICS FUTURE SCIENCE PLATFORM, CSIRO

ELECTRONIC DIARIES AND THE LIVES OF SHARKS

I will be talking about how new and exciting "smart" animal tags are revolutionising our understanding of animal ecology.

DR ADRIAN GLEISS, RESEARCH FELLOW MURDOCH UNIVERSITY

MAY 16 TALKING ABOUT TALKING, OVER A PINT

MAY
16

LANGUAGE REVITALIZATION - LINGUISTICS

UWA's Amy Budrikis will be talking with Talk the Talk's Daniel Midgley, Ben Ainsley, and Kylie Sturgess about her research on language revitalization, how families learn and teach their children endangered languages, and any other language-y topics that come up.

AMY BUDRIKIS, PHD CANDIDATE UNIVERSITY OF WESTERN AUSTRALIA

THE SILENT HISTORY OF LANGUAGE IN AUSTRALIA

What connects Australia's Deaf communities with Aboriginal languages? A lot more than you might think! Take a closer look at what makes signed languages tick, and how the histories of Australia's languages, signed or spoken, have so much in common.

TROY REYNOLDS, HONOURS GRADUATE LINGUISTICS, UNIVERSITY OF WESTERN AUSTRALIA

THE MARKET BAR AT MARKET GROUNDS

10 TELETHON AVENUE, PERTH WA 6000

PERTH

MAY 14 MASS EXTINCTION AND EVOLUTION

MAY
14

DEATH METAL, LINKING NICKEL AND MASS-EXTINCTION

The Noril'sk nickel deposit in Russia formed along with giant eruptions of lava 250 million years ago. These eruptions released nickel into the atmosphere, triggering the world's worst mass extinction event! How did the nickel get into the volcanic gases?

DR MARGAUX LE VAILLANT, RESEARCH SCIENTIST, CSIRO

WHAT ARE THE BENEFITS OF BEING SOCIAL?

Being social is something that we as humans inherently do. We live together in cities, we work together, we hang out together. I investigate what it is about being social that provides animals with considerable evolutionary benefits.

DR AMANDA RIDLEY, SENIOR LECTURER BEHAVIOURAL ECOLOGY, THE UNIVERSITY OF WESTERN AUSTRALIA

MAY 15 CALCULATING LIFE, THE UNIVERSE AND EVERYTHING

MAY
15

USING BIG DATA TO UNDERSTAND THE HUMAN BRAIN

By applying DNA sequencing techniques and large-scale computation to tiny 3D models of the human brain (grown in our UWA lab), we're advancing a global quest to solve the mysteries of the most complex structure in the universe - the human brain.

DR SAM BUCKBERRY, POSTDOCTORAL RESEARCH FELLOW COMPUTATIONAL GENOME BIOLOGY, THE UNIVERSITY OF WESTERN AUSTRALIA

USING BIG GALAXY SURVEYS TO STUDY DARK MATTER

By measuring the distances to millions of galaxies we can use their 3D spatial distribution to identify the imprint of Dark Matter, and how it has evolved over the 13 billion year timeline of the Universe.

PROFESSOR SIMON DRIVER, RESEARCH PROFESSOR INTERNATIONAL CENTRE FOR RADIO ASTRONOMY RESEARCH, THE UNIVERSITY OF WESTERN AUSTRALIA

MAY 16 CHEMISTRY ROCKS!

MAY
16

A PINT OF PROCESSING

At CSIRO Waterford, I use chemistry principles to research metal extraction. Mining is not as easy as digging up chunks of metals; in reality, the ore that is mined can require chemical processing to recover the metal (and treat the leftovers, too).

DANIELLE HEWITT, EXPERIMENTAL SCIENTIST, CSIRO

TRACING THE EVOLUTION OF LIFE ON EARTH

Learn about the history of life on Earth that began about 3.8 billion years ago, the organisms that produced the oxygen that we breathe today, and how life evolved through time.

DR ANAIS PAGES, RESEARCH SCIENTIST, ASTROBIOLOGY, CSIRO



PINT OF SCIENCE

POWERED BY CSIRO



PINTOFSCIENCE.COM.AU