Research Capabilities Showcase is a unique platform where UQ research capabilities showcase their leading-edge research initiatives, services and impacts. On 20 September 2019, a packed day awaits filled with presentations, trade displays, workshops, capability tours and more. Choose from your favourite streams in the morning or head to capability tours or workshops in the afternoon. Visit the pop-up facility displays anytime of the day.

On the Friday of Research Week, take the opportunity to hear from research and tech experts, meet the specialists behind your favourite research technology, get hands-on with immersive tech workshops, venture into the labs that are developing tomorrow’s research, share ideas, pick up best practices, build your network and more - all in the space of a day.

Spaces are limited so please register in advance.

For registrations and the latest up-to-date program, visit the website: research.uq.edu.au/research-capabilities-showcase
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<tr>
<th>TIME/VENUE</th>
<th>UQ UNION</th>
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<td>8:15 AM</td>
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<td>BIOPRODUCTION</td>
<td>MACROSCOPIC TO ATOMIC – IMAGING AND BEYOND</td>
<td>DEVELOPMENTAL BIOLOGY AND CHILDREN’S HEALTH</td>
<td>GENOTYPING, CLINICAL GENOMICS, DATA MANAGEMENT AND STATISTICS</td>
<td>INDIGENOUS KNOWLEDGE MEETS SCIENCE + BUSINESS</td>
<td>UQ INDUSTRY PARTNERSHIPS</td>
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<td>11 AM - 12:30 AM</td>
<td>ENERGY AND ADVANCED MATERIALS</td>
<td>MASS SPECTROSCOPY</td>
<td>DIAGNOSTICS AND THERAPEUTICS</td>
<td>APPLICATION AND DATA ANALYTICS IN THE SOCIAL SCIENCES</td>
<td>PLANT AND ANIMAL SYSTEMS AND PRODUCTION</td>
<td>UQ INDUSTRY PARTNERSHIPS</td>
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<td>12:30 PM - 1:30 PM</td>
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## TOURS

1. Advanced Electron Microscopy
2. Faculty of Engineering, Architecture and Information Technology - UQ Innovate Space
3. Faculty of Engineering, Architecture and Information Technology - Tsunami Research
4. Faculty of Medicine, School of Biomedical Sciences - Histology & Imaging, Analytics & Radiation Services
5. Faculty of Science, School of Chemistry and Molecular Biosciences - Mass Spectrometry Facility
6. Institute for Molecular Biosciences - Community for Open Antimicrobial Drug Discovery & Antimicrobrial Research
7. School of Chemistry and Molecular Biosciences - UQ-PULSe
8. Institute for Social Science Research - Sleep and Experimental Lab (Bus to Long Pocket)
9. National Biologics Facility, Protein Expression Facility & Bioplatforms Australia
10. Centre for Advanced Materials Processing & Manufacturing
11. University of Queensland Centre for Clinical Research - Genome editing laboratory (Transport to Herston)
12. Centre for Advanced Imaging
13. Spinifex Nanomaterials and Polymer Processing Facilities at AIBN Long Pocket (Bus to Long Pocket)
14. Centre for Mined Land Rehabilitation / Sustainable Minerals Institute Glasshouses
15. R. D. Milns Antiquities Museum
16. Queensland Brain Institute
17. School of Earth and Environmental Sciences - Centre for Geoanalytical Mass Spectrometry
18. Institute for Molecular Biosciences - Biological Mass Spectrometry Facility
19. University of Queensland Centre for Clinical Research - Clinical Research Facilities (Transport to Herston) LONGER TOUR
20. Sustainable Minerals Institute (Bus to Indooroopilly) LONGER TOUR
21. School of Agriculture and Food Sciences Facilities
22. AEGRC Genotyping and Sequencing Facility

## WORKSHOPS

1. Terrestrial Ecosystem Research Network: What TERN, Australia’s ecosystem observatory can do for you
2. An Introduction To Social Science Methods To Address Big Social Questions
3. Research Computing Centre - Hacky Hour
4. School of Agriculture and Food Sciences Workshop
5. National Imaging Facility / Centre for Advanced Imaging - Fair Data and Software
6. Demonstrations - Research Data Manager & Digital Research Notebooks

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# RESEARCH CAPABILITIES SHOWCASE

**20 SEPTEMBER 2019 | UQ ST LUCIA CAMPUS**

## POP-UP DISPLAYS

1. and 2. Registrations  
2. Research Infrastructure  
3. School of Biomedical Sciences (SBMS)  
4. UQ Centre for Clinical Research (UQCCR)  
5. Translational Research Institute (TRI)  
6. Institute for Molecular Bioscience (IMB)  
7. Faculty of Science  
8. National Biologics Training Program ARC Training Centre for Biopharmaceutical Innovation  
10. UQ Protein Expression Facility (PEF)  
11. Australian National Fabrication Facility’s Queensland Node (ANFF-Q) within AIBN  
12. Centre for Geoanalytical Mass Spectrometry (CGMS)  
13. Centre for Advanced Imaging (CAI)  
14. Terrestrial Ecosystem Research Network (PVC RI)  
15. Centre for Microscopy and Microanalysis (CMM)  
16. Research Computing Centre (RCC)  
17. National Imaging Facility (CAI, PVC RI)  
18. UniQuest (Queensland Emory Drug Discovery Initiative)  
19. UQM Materials Performance (UQMP)  
20. UQBR Queensland Animal Science Precinct (QASP) and AEGRC  
21. School of Veterinary Science  
22. Australian Intitute for Bionengineering and Nanotechnology (AIBN)/StemCore  
23. Spinifex-based Advanced Materials - AIBN  
24. Queensland Alliance for Agriculture and Food Innovation (QAAFI); QAAFI-Centre for Nutrition & Food Sciences; QAAFI - Centre for Crop Science

*Program and venues are subject to change. For all the latest information, visit the website: [research.uq.edu.au/research-capabilities-showcase](http://research.uq.edu.au/research-capabilities-showcase)*
Click on any of the talks below to view speaker and presentations details.

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<td>Centre For Advanced Imaging</td>
<td>Genotyping and Sanger sequencing</td>
<td>CRISPR/Cas9 Genome Editing: An Invaluable Tool to Study The Development of Sex and The Reproductive System</td>
<td>Rediscovering The Value Of Uniquely Australian Foods For Diet Diversification And Health</td>
<td>How will UQ Industry Connect work</td>
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<td>A Continuing Professional Development Program For Training And Education In Biopharmaceuticals</td>
<td>Core Facilities Of The Translational Research Institute – An Overview Of Open Access Equipment, Services And Expertise From Laboratory To Clinical Settings</td>
<td>eResearch And Informatics Capability For Ecosystem Science</td>
<td>Novel Approaches To Study Brain Formation</td>
<td>Corporate reporting for sustainability: supporting the transition to sustainable companies and economies</td>
<td>UQ and CRCs and CRC-Ps</td>
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<td>Assisting The Transformation Of The Biopharmaceutical Industry In Australia</td>
<td>From Bones To Atoms: Microscopy And Spectroscopy Beyond Imagination</td>
<td>Sleep Health And Circadian Function</td>
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<td>UQ’s Industry PhD Programs</td>
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### RESEARCH CAPABILITIES SHOWCASE

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<td>Mass Spectrometry For The Masses</td>
<td>Undertaking transformational research to solve critical social challenges</td>
<td>Supercritical Transformational Electric Power For Off-Grid And Fringe-Of-Grid Power Generation</td>
<td>ACRF Australian Centre Of Excellence In Melanoma Imaging And Diagnosis</td>
<td>Plants And Crops</td>
<td>Leveraged Schemes with UQ like ITRP, Linkages, etc.</td>
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<tr>
<td>Centre for Geoanalytical Mass Spectrometry: Isotope And Trace Element Geochemistry Research Capability At The University Of Queensland</td>
<td>The Global Policing Database: Evidence For Best Practice Policing</td>
<td>Solar Cells And Batteries</td>
<td>Antimicrobial Research At The Institute For Molecular Bioscience</td>
<td>Research Computing And Data Services At UQ</td>
<td>Partnering for impact: working with UQ’s global network</td>
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<td>Radiogenic Isotope Facility: High-Resolution Isotope Dating And Characterization For Cutting-Edge Earth, Environmental, Archaeological And Biomedical Research</td>
<td>Improving Equity In Education</td>
<td>Research Computing And Data Services At UQ</td>
<td>Infectious Disease Diagnostics</td>
<td>Modelling Plant Success in Crop Systems</td>
<td>Working with UniQuest - IP &amp; Commercialisation</td>
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<tr>
<td>Geochemical Tools For Coral Reef Research</td>
<td>AustLit And BlackWords – Platforms For Storying Research</td>
<td>Engineering nanomaterials and polymers for improving sustainability and performance of building construction materials</td>
<td>Centre For Translational Anti-Infective Pharmacodynamics - In Vitro Antibiotic PK/PD Facility</td>
<td>High-throughput Field Phenomics For Nextgen Plant Breeding</td>
<td>Working with Student Employability and Internships</td>
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<td>Metal mobilisation and re-precipitation with CO2 storage: Geochemical and experimental data input for predictive models</td>
<td>Implementing School-Based Support Infrastructure For Digital Humanities Research At UQ: The Language Technology And Data Analysis Laboratory (LADAL)</td>
<td>Exploring the Nano-Frontier</td>
<td>Centre For Clinical Research – Antibiotic Optimisation Facility</td>
<td>Hidden Vale Wildlife Centre: Innovation, Conservation And Collaboration</td>
<td>Ventures: collaborating with UQ’s entrepreneurship programs</td>
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<tr>
<td>Developing Industrial Systems Biotechnology tools for Metabolomics and Proteomics</td>
<td>Research Computing And Data Services At UQ</td>
<td>Human Factors and Risk Control and Management</td>
<td>The Queensland Emory Drug Discovery Initiative, A Partner In Drug Discovery</td>
<td>Research Capabilities Within The Queensland Animal Science Precinct</td>
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<td>Research Computing And Data Services At UQ</td>
<td>There Is No National Culture: Diversity And Unity Of The Global Mosaic</td>
<td>Photochemistry and Ultrafast Laser Spectroscopy</td>
<td>TetraQ Preclinical And Clinical Therapeutic Development Services</td>
<td>OneHealth Comparative Bioscience Capacity At Gatton Campus</td>
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<td>The Value of Psycho-physiological Data in Understanding Human Emotion</td>
<td>Superconducting Quantum Devices</td>
<td>Research Computing And Data Services At UQ</td>
<td>Agronomy and Farming Systems</td>
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Biography

David is a Professor of Computer Science, and currently heads the University of Queensland Research Computing Centre. David has expertise in High Performance Computing, distributed and parallel computing, computer architecture and software engineering. He has produced in excess of 230 research publications, and some of his work has also been integrated in commercial products. One of these, Nimrod, has been used widely in research and academia globally, and is also available as a commercial product, called EnFuzion, from Axeleon. His world-leading work in parallel debugging is sold and marketed by Cray Inc, one of the world’s leading supercomputing vendors, as a product called ccdb.

David is a Fellow of the Association for Computing Machinery (ACM), the Institute of Electrical and Electronic Engineers (IEEE), the Australian Academy of Technology and Engineering (ATSE), and the Australian Computer Society (ACS). He is currently a visiting Professor in the Oxford e-Research Centre at the University of Oxford.

PRESENTATION: Research Computing and Data Services at The University of Queensland (Co-presenting with Dr David Green)

In this talk we will introduce the systems and services offered by the Research Computing Centre. The Centre leverages research technologies to enable researchers at The University of Queensland to collaborate with others, store and share their research data and improve the efficiency of their research practice through the use of supercomputing systems.

Dr Alicia Allan
Research Fellow
Institute for Social Science Research (ISSR)

Biography

Dr Alicia Allan is a Research Fellow at the Institute for Social Science Research (ISSR). Dr Allan is part of a group led by Associate Professor Simon Smith that examines the relationship between sleep, health and behaviour in real-world contexts via numerous large-scale funded projects. Alicia is has a particular research interest in how sleep occurs in context, and how aspects of the physical environment can affect sleep and wellbeing. Her research has involved a range of populations, including older adults, children, young adults, people with concussion, and office workers. Alicia has expertise in a wide range of methods for assessing human health and behaviour and the environment in which it occurs. She is currently involved in the delivery of a large-scale longitudinal study tracking the developmental significance of sleep transitions in early childhood, funded by the ARC, and an NHMRC-funded study of a sleep intervention in young drivers.

PRESENTATION: Sleep Health and Circadian Function

Alicia will discuss approaches for measuring human experience and wellbeing in context, with a particular focus on children. Her group at ISSR combine in-lab and naturalistic outcome measurement, and triangulate data from multiple methods and sources to address significant social problems relating to human health and wellbeing.
Biography

Dr Pratheep Annamalai is an Advance Queensland Research Fellow, passionate about engineering and designing materials towards improving sustainability using nanotechnology and materials engineering tools and he has extensive expertise in both translational and fundamental research. He is broadly interested in valorisation of native and alternative feedstock into reactive, nano-building blocks for improving performance and utility of materials for infrastructure, agriculture, and food. Currently, his research focuses on nano-enabled construction materials, sustainably engineered polymers and insulation materials. He has been instrumental in the discovery of spinifex nanofibre nanotechnology and establishing Australia’s first nanocellulose pilot-plant and awarded a UQ Excellence award for leadership for 2019. Before joining UQ, Pratheep studied Chemistry in University of Madras, received PhD in Chemistry from University of Pune (India), then went on to work as a postdoctoral researcher on hydrophobic membranes at the Université Montpellier (France) and on ‘stimuli-responsive smart materials’ at the Adolphe Merkle Institute (Switzerland).

PRESENTATION: Engineering nanomaterials and polymers for improving sustainability and performance of building construction materials

Imagine a world of buildings that are durable and for which we don’t have to pay huge amount electricity bills for heating and cooling rooms and. Our nanotechnology and polymer research helps in incorporating locally sourced and biomass derived into cement based construction and insulation materials to improve the performance and durability.

Associate Professor Dr Karen Barlow
Dr Paul Hopkins Chair of Paediatric Rehabilitation in Acquired Brain Injury; Consultant Paediatric Neurologist, Queensland Children’s Hospital; Child Health Research Centre, Faculty of Medicine

Biography

Dr Barlow is the Paul Hopkins Chair of Paediatric Rehabilitation in Acquired Brain Injury at the University of Queensland. She is an academic neurologist, clinical trialist, and specialist in acquired brain injury in children and adolescence. She graduated from medicine and paediatric neurology at the University of Edinburgh, and completed fellowships at the University of British Columbia in Canada. Having previously established a strong Pediatric Acquired Brain Injury research program at the University of Calgary, she moved to the Child Health Research Centre at the University of Queensland in 2017. Here, she founded and directs the first paediatric therapeutic non-invasive stimulation laboratory in Australia, the KidStim Lab. Her research focuses on the evaluation of therapeutic strategies to improve outcome after traumatic brain injury and concussion. She investigates the neurobiological signatures of treatment response using brain connectivity and neurophysiological indices. Current studies include a) the investigation of the neurobiological signatures of poor outcome following mild TBI using connectivity modelling and neurophysiological measures of plasticity, and b) randomized controlled trials of nutraceuticals and non-invasive brain stimulation to improve outcome of TBI.

PRESENTATION: Making connections: Insights into Post-Concussion Syndrome in children

A significant minority of children do not get better after a seemingly mild head injury. The Acquired Brain Injury Research Program at the Child Health Research Centre uses advanced neuroimaging and transcranial magnetic stimulation to find out why. This talk will highlight the research capabilities of the KidStim lab and how our current clinical trials may help to improve the outcome of childhood Traumatic Brain Injury and Concussion.
**Biography**

Professor Christine Beveridge conducts research on the hormonal control of plant development, particularly shoot architecture. She and her colleagues have made two major discoveries that will enable tailoring of shoot branching for improving yield, productivity or ornamental value of crops, trees and shrubs. The first was the discovery of strigolactones as a plant hormone. She has shown that this hormone affects shoot architecture and a number of other important developmental traits. The second major discovery is causing a paradigm shift in thinking of shoot architecture, namely that the initial growth of axillary buds is prevented when sugars are limited, and occurs only when the plant has an excess of sugars.

Christine has 20 years’ experience in research at UQ. Her research within the discipline of plant science is multidisciplinary and collaborative, spreading into areas of physiology, biochemistry, genomics and genetics as well as mathematics and computational modelling. She has led eight successful ARC Discovery grants or Fellowships and has been Chief Investigator of a UQ-led Centre of Excellence. She has balanced this work with several projects in industry including within a CRC and a major Hort Innovation project. In all, she has contributed to Centres and projects at UQ worth $28 million.

Christine gained her PhD in plant development at the University of Tasmania in 1994. She is a Highly Cited Researcher (2015-) and was elected President of the International Plant Growth Substances Association (2013) and Fellow of the Australian Academy of Sciences (2015).

**PRESENTATION: Plants and Crops**

This presentation will cover a few examples of the broad plant science capacity at UQ.

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**Dr Tracey Bjorkman**  
**Senior Research Fellow/Group Leader**  
**UQ Centre for Clinical Research**

**Biography**

Dr Tracey Bjorkman is a Senior Research Fellow and Group Leader at the Perinatal Research Centre and UQ Centre for Clinical Research. Her lab focuses on identifying and optimising neuroprotective strategies to treat newborn brain injury and impairment resulting from birth asphyxia, fetal growth restriction and premature birth. Her research group aims to evaluate potential therapeutic interventions to support clinical care of the newborn and to develop tools to inform diagnosis and assessment. The Perinatal Research Centre is widely recognised for the large pre-clinical neonatal animal models which allow direct translation of research outcomes into clinical practice - this animal model played a key role in the implementation of therapeutic hypothermia into neonatal ICUs worldwide to treat hypoxic-ischemic encephalopathy (HIE).

**PRESENTATION: Events at birth - Implications for newborn brain development**

Of the 300,000 babies born in Australia annually, most experience a healthy delivery. However for some complications can arise. Despite poor neurodevelopmental outcomes associated with complex deliveries and preterm birth, relatively few ‘new’ therapies or diagnostic tools for this patient population have reached the neonatal ICU.
Dr Mark Blaskovich
Senior Research Chemist, Institute for Molecular Bioscience (IMB)

Biography

Dr Mark Blaskovich is an antibiotic hunter based at the Centre for Superbug Solutions in the Institute for Molecular Bioscience at The University of Queensland. A medicinal chemist with 15 years’ industrial drug development experience prior to his academic career, Mark has been developing new antibiotics to treat drug resistant pathogens and using modified antibiotics to detect bacterial infections. He is a cofounder of the Community for Open Antimicrobial Drug Discovery, a global antibiotic discovery initiative, and has led a number of UQ-industry collaborations focused on antibiotic development. An inventor on eleven patent families, Mark has developed drugs in clinical trials, published more than seventy research articles, and received over $10m in grant funding.

PRESENTATION: Antimicrobial Research at the Institute of Molecular Bioscience
The IMB conducts a range of research related to antimicrobial resistance (AMR), anchored by the Centre for Superbug Solutions and a global antibiotic discovery initiative, the Community for Open Antimicrobial Drug Discovery (CO-ADD). This presentation will highlight the diversity of AMR-related researchers at IMB, and include an overview of the types of assays available for collaboration.

Mr Anthony Christian
Facility Manager, Australian National Fabrication Facility (Qld Node)

Biography

Anthony is an experienced Semiconductor Manufacturing Engineer and spent 20 years at Philips Semiconductors, UK. During his time at Philips, Anthony worked in manufacturing as well as a Maintenance Engineer, managing four different semiconductor production cleanrooms. As a Process Development Manager, Anthony was responsible for technical specification, procurement and installation of etching, deposition and metrology tools for the site.

In 2003, Anthony joined the Queensland Micro-and Nanotechnology Centre team at Griffith University’s Nathan campus and thereafter the ANFF-Q team as a Senior Operations Engineer, maintaining the Epitaxial Cleanroom and equipment for over 10 years. Since 2019, Anthony is the ANFF-Q Facility Manager.

PRESENTATION: Exploring the Nanofrontier
The talk will cover how diverse research activities within the Fabrication Facility can assist and support researchers and professionals from all industries. Outcome: innovative solutions and development of tomorrow’s products.
Ms Leanne Clarke  
Manager, Genotyping and Sequencing Facility  
Australian Equine Genetics Research Centre (AEGRC)

**Biography**

Leanne is the Manager of the Genotyping and Sequencing Facility at the Australian Equine Genetics Research Centre (AEGRC).

Based at the University of Queensland’s St. Lucia campus, the AEGRC is an award-winning laboratory which provides high-quality genotyping and sequencing services to both UQ and external clients. Backed by a multi-disciplinary team and state-of-the-art equipment, services offered by the AEGRC include Mouse Genotyping and DNA Sequencing.

The AEGRC provides a complete genotyping service including test development, DNA extraction, PCR and analysis. The AEGRC also offers a high quality, fast DNA Sanger Sequencing services: full sequencing, clean-up and separation, fragment analysis and troubleshooting.

**PRESENTATION: Genotyping and Sanger sequencing**

Leanne’s talk will focus on highlighting the impressive work carried out at the Facility, and share with the audience how AEGRC can assist and support internal and external clients in their own research endeavours.

Professor Mark Cooper  
Chair Crop Improvement, Centre for Crop Science  
Queensland Alliance for Agriculture and Food Innovation (QAAFI)

**Biography**

Professor Mark Cooper: Research spanning the last 30 years has focused on sustainable improvements in on-farm crop productivity through developing and applying technologies to enhance crop genetic improvement. Worked across the public and private sectors of global agriculture with an emphasis on breeding of cereals for diverse stress-prone target environments; maize, wheat, rice and sorghum. Cooper now holds the Chair in Prediction Agriculture in the Queensland Alliance for Agriculture and Food Innovation (QAAFI) at the University of Queensland where he undertakes research that is focused on extending quantitative genetic modelling of complex plant traits and prediction technologies for applications to accelerate breeding for yield and yield stability of crops for Australian agriculture.

**PRESENTATION: Modelling Plant Success in Crop Systems**  
(£o-presenting with Professor Ben Hayes)

Examples will demonstrate how mathematical models can be used in combination with deep biological understanding of the genetic and environmental control of plant traits to design breeding programs to improve crop adaptation for highly variable environments. These advanced prediction methods are necessary to develop resilient agricultural systems in the face of the global challenges associated with climate change.
Ms Milou Dekkers
Senior Manager, Queensland Animal Science Precinct (QASP)

Biography
Milou H. Dekkers completed her BSc Animal Science, in the Netherlands, majoring in epidemiology. She worked in process and project management prior to moving abroad. In 2007 she moved to Australia to study her first MSc in Natural Resource Management and in 2010 she completed her second MSc in environmental management. Milou has been working in the field of animal research for over 14 years and has worked on a large variety of animal research projects. She managed various projects and moved into a management role at the Queensland Animal Science Precinct (QASP) in 2012. In 2016, she became the Senior Manager of QASP; and in addition to her senior management role in the QASP she has been conducting her PhD part-time since 2015. Her passion for animal research is evident when discussing potential new studies with researchers and whilst conducting the animal research projects.

PRESENTATION: Research Capabilities within the Queensland Animal Science Precinct
The Queensland Animal Science Precinct (QASP) is a unique world-class research facility that accommodates validation and commercialisation of animal research. QASP has the ability to undertake a diverse range of animal research including nutrition, health and disease management, vaccine development, behavioural and welfare studies, biosecurity work, reproduction and food safety, animal models for medical studies—all of which have to date been conducted at the complex.

Dr Joe Eyre
Research Fellow, Centre for Crop Science
Queensland Alliance for Agriculture and Food Innovation (QAAFI)

Biography
Joe is a summer cropping systems scientist with the Farming Systems Research Group at UQ-QAAFI Centre for Crop Science. He has developed agronomy and farming systems research programs for field crops in Australia and Africa. Our team combines participatory learning approaches, empirical agronomic and physiology experimentation, systems modelling and socio-economic data to generate new science that supports decision-making and produces desirable economic, environmental and social outcomes.

PRESENTATION: Agronomy and Farming Systems
Crop productivity gains are a result of interactions between genetics, crop management, farming systems in farmers’ fields. Here we showcase UQ’s capacity for generating further productivity gains in controlled environments and on farms through integrated systems approach.
**Ms Ruth Faleolo**  
PhD Candidate, Institute for Social Science Research (ISSR)

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### Biography

Ruth (Lute) Faleolo is a PhD candidate with the Aboriginal Environments Research Centre, and Institute for Social Science Research, at the University of Queensland in Australia. As a New Zealand-born Tongan and Pasifika academic, she has a passion for the empowerment of indigenous and migrant communities through social, economic and cultural development. Ruth's interdisciplinary study focuses on the well-being of Pasifika Trans-Tasman migrants, of Samoan and Tongan descent, in Auckland (New Zealand) and Brisbane (Australia). Her research seeks to capture the voices, perceptions and experiences of Pasifika migrants using a mixed methods approach that incorporates indigenous research methods and concepts.

**PRESENTATION: Cultivating Indigenous Knowledge using e-Talanoa: a narrative approach using online forums**

This paper presents a methodological development used in the study of Pasifika perceptions of well-being in Auckland and Brisbane. E-talanoa is a narrative approach that utilises online forums; it is a ‘mutual knowledge-sharing and knowledge-forming practice’ that is ‘culturally responsive and respectful engagement with Pasifika peoples’ (Powell, 2019, para.6).

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**Associate Professor Arkady Fedorov**  
School of Mathematics and Physics, Faculty of Science

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### Biography

A/Professor Arkady Fedorov completed his PhD student at Clarkson University, USA in 2005. His research work focussed primarily on quantum information science and decoherence in solid state systems. He was then appointed a postdoctoral fellow at KIT, Germany working on superconducting quantum circuits in application to quantum computing and quantum optics. From 2007-2010 he worked in TU Delft, The Netherlands conducting experiments with superconducting flux qubits. Later on he became a research scientist in ETH Zurich to continue research in the area of quantum computing. Since January 2013 he has been a group leader at The University of Queensland studying working on superconducting quantum devices. In 2015, he was awarded the ARC Future Fellowship. He is also a CI in the ARC Centre for Engineered Quantum Systems.

**PRESENTATION: Superconducting Quantum Devices**

Superconducting quantum devices are one of the most promising platforms to build a quantum computer. They are created using nanofabrication and are operated at low temperatures. In my talk I will give an overview of infrastructure which enables us to do experiments with superconducting devices at the quantum level.
Associate Professor Jason Ferris  
Biostatistician, Centre for Health Services Research  
Faculty of Medicine

Biography

Associate Professor Jason Ferris is a drug and alcohol epidemiologist and biostatistician with almost 20 years of public health research experience. He leads the Research and Statistical Support Service (RASSS) across the whole Faculty of Medicine, UQ and also leads a program of innovative research at the intersection of Substance Use and Mental Health, Centre for Health Services Research, UQ.

Drawing on his unique and broad quantitative skillset, and the diverse specialised areas of his staff, his team provides a broad array of services and supports to academics and academic title-holders, higher degree research students, and external organisations. Areas include: cohort and clinical study designs, power and sample size calculations, bioinformatics and omics support, population and non-representative surveys, questionnaire design and associated software support, grant and publication development, database best-practice and management, HDR supervision and chief investigator grant roles, to name a few activities.

PRESENTATION: Research and Statistical Support Service: Providing guidance and support with design, methods, analysis and data management throughout the research life cycle

Professor Graham Galloway  
Chief Executive Officer, National Imaging Facility (NIF)

Biography

Professor Graham Galloway is the CEO of the National Imaging Facility (NIF) and has been instrumental in establishing collaborative imaging research infrastructure throughout Australia. In 2006, he led the collaborative team that developed the Investment plan for Imaging, within NCRIS (National Collaborative Research Infrastructure Strategy). Under his leadership, NIF was expanded through a $40.2M project under Round 3 of the Education Investment Fund. He has driven the recent proposals for ongoing operational support for NIF, securing a further $53M via NCRIS in 2018. Graham’s research interests include the use of in vivo Magnetic Resonance to test the efficacy of pharmaceutical agents, novel applications for the use of Magnetic Resonance in physiological studies and material sciences, and in pushing the boundaries of the technology into new applications. His role in all projects is characterised by his multidisciplinary background, ensuring that he draws together apparently disparate threads.

PRESENTATION: Imaging beyond St Lucia: a macro perspective

NIF provides open access of an array of world-leading imaging capabilities to the Australian research community in three main themes of Molecular Imaging and Radiochemistry; Human Imaging; and Animals, Plants, and Materials Imaging. The Queensland Node of NIF facilitates access to the advanced imaging facilities of CAI and HIRF, housing cyclotron, radiochemistry laboratories, MR-PET, PET-CT, and ultra-high field MRI instrumentation. NIF Facility Fellows provide scientific consultation, facilitate research of users, and support users with the instrument operation and data interpretation. An Informatics Fellow also located at the University of Queensland ensures that best practice is pursued with respect to analysis, curation, archiving, and availability of data.

Top of the Program
Dr Barbara George-Jaeggli
Research Fellow, Centre for Crop Science
Queensland Alliance for Agriculture and Food Innovation (QAAFI)

Biography

Dr George-Jaeggli is a Research Fellow in the Queensland Alliance of Agriculture and Food Innovation (QAAFI) and Senior Research Scientist at the Department of Agriculture and Fisheries (DAF). The main focus of her research is the study of complex plant traits and how they affect cereal yields; particularly in water-limited production systems. She is currently involved in a large collaborative project to develop tools using sensor networks to efficiently and reliably measure traits which previously have been too time-consuming to measure in large field trials. She works closely with plant breeders and molecular biologists to link the measured phenotypes with whole-genome marker data, which facilitates the development of improved breeding lines through genomic selection.

PRESENTATION: High-throughput field phenomics for NextGen plant breeding (Co-presenting with Dr Andreas Potgieter)

Mobile sensing and image-analysis platforms developed at the Queensland Alliance for Agriculture and Food Innovation enable the measurement of plant traits (phenotypes) previously unobtainable from broad-acre field trials. Accurate and high-throughput phenotyping is a pre-requisite for genomic selection, the latest innovation in plant breeding.

Emeritus Professor Suzanne Golding
Director, Centre for Geoanalytical Mass Spectrometry (CGMS)

Biography

Emeritus Professor Suzanne Golding has been Director of the Centre for Geoanalytical Mass Spectrometry (CGMS) at the University of Queensland for the past 7 years and was previously the Manager of the Stable Isotope Geochemistry Laboratory. She is a Professor in the School of Earth and Environmental Sciences and has some 35 years applied isotope geochemistry experience with a focus on minerals and energy. Golding’s research interests include the geology and geochemistry of mineral and hydrocarbon systems and technologies for reduction of greenhouse gas emissions. She uses a variety of methodologies to understand such systems, including mineral chemistry, trace element and isotope geochemistry, experimental geochemistry and geochemical modelling. Golding is also interested in the development of novel isotope geochemistry methods for characterisation and dating of carbonate and sulfide minerals.

PRESENTATION: Centre for Geoanalytical Mass Spectrometry: Isotope and Trace Element Geochemistry Research Capability at The University of Queensland

The CGMS is a fully integrated research and service facility dedicated to the analysis of stable and radiogenic isotopes and trace element abundances in natural and synthetic materials. The CGMS provides expert training in cutting-edge mass spectrometric technologies, and undertakes development of new techniques and applications for isotopic and trace element analysis.
Dr David Green
Research Computing Centre (RCC)

Biography

David majored in physics and applied mathematics at UQ and completed a PhD in Physics at the University of Sydney in solar energy technology. He worked as an academic in the Applied Physics and Computer Systems departments at the University of Technology, Sydney (UTS) for almost 15 years. David career-changed into research computing support roles and joined UQ as HPC Manager within ITS in 2007. He has long been using computers to “figure stuff out” and enjoys working with researchers to help them do the same.

PRESENTATION: Research Computing and Data Services at The University of Queensland (Co-presenting with Professor David Abramson)

In this talk we will introduce the systems and services offered by the Research Computing Centre. The Centre leverages research technologies to enable researchers at The University of Queensland to collaborate with others, store and share their research data and improve the efficiency of their research practice through the use of supercomputing systems.

Professor Hal Gurgenci
School of Mechanical and Mining Engineering
Faculty of Engineering, Architecture and Information Technology (EAIT)

Biography

Professor Gurgenci is a Principal Investigator and Program Manager in the Australian Solar Thermal Research Institute, the ten-year national research program announced in early 2013. Together with his team, he is developing a new type of power cycle and associated equipment that will potentially make Concentrating Solar Thermal Generation as the commercial choice in remote Australian sites.

PRESENTATION: Supercritical Transformational Electric Power for Off-grid and Fringe-of-Grid Power Generation

This talk is on a new cycle, supercritical CO2 cycle, which is potentially applicable over applications ranging from carbon-captured coal-fired power to gas-cooled nuclear reactors, concentrating solar thermal power, and replacement for steam in combined cycle gas turbine applications. The presentation will address the level of present development and future challenges in this area, specifically very-high temperature (VHT) power generation.
Dr Siddeswara Guru  
Program Lead, Terrestrial Ecosystem Research Network (TERN)  
Manager eResearch Projects, Research Computing Centre (RCC)

Biography

Siddeswara Guru currently splits his time between the Research Computing Centre and Terrestrial Ecosystem Research Network (TERN). He is a program lead of the newly created TERN Data Services and Analytics Platform in the Terrestrial Ecosystem Research Network (TERN), an NCRIS capability to collect, collate and publish terrestrial ecosystem data. He helps TERN in the strategic direction, development and management of eInfrastructure to manage and publish ecosystem science data. He also supports the Research Computing Centre in strategic direction and management of eResearch projects. Before joining the University of Queensland, he has held positions in Integrated Marine Observing Systems as Data Scientist and CSIRO as Data Management Officer and Post-Doctoral Fellow. He earned an MBA from University of Tasmania in 2011 and a PhD from the University of Melbourne in 2008.

PRESENTATION: eResearch and Informatics capability for Ecosystem Science

Terrestrial ecosystem data is exceptionally heterogeneous concerning data types and data collection methods – data collected from human, hand-held, in-situ sensors and remote sensing observations. The observations also vary in spatial scale – point, plot, site, regions, biome, states and continent. The data handling mechanisms for these datasets are also different. The talk will provide informatics and analytics capabilities available for effective management of Ecosystem data.

Dr Andrew Harvey  
Senior Director, Queensland Emory Drug Discovery Initiative (QEDDI)

Biography

Dr Andrew Harvey is a Senior Director at UniQuest, where he heads the Queensland Emory Drug Discovery Initiative. Prior to joining UniQuest, Dr Harvey was the Vice President of Drug Discovery at Bionomics Limited (Adelaide, Australia), a publicly-listed discovery and development company working across oncology, neuroscience and inflammation. In this role, he led medicinal chemistry and managed IP in programs ranging from hit identification to phase II clinical development, including two programs partnered with Merck & Co. While at Bionomics, Dr Harvey was also a member of the operations group of the Cancer Therapeutics Cooperative Research Centre. Previously, Dr Harvey was an NHMRC Industry Fellow at the Walter and Eliza Hall Institute (Melbourne, Australia), where his research focused on autoimmune disease. He obtained his PhD in biological chemistry at the University of Canterbury (Christchurch, New Zealand).

PRESENTATION: The Queensland Emory Drug Discovery Initiative, a partner in drug discovery

QEDDI, a business unit of UniQuest, is a fully-integrated small molecule drug discovery capability based at UQ. QEDDI’s team of industry-experienced scientists collaborates with academic researchers to translate university research across multiple disease areas with the aim of discovering new medicines.
Dr Maureen Hassall  
Associate Professor, School of Chemical Engineering  
Faculty of Engineering, Architecture and Information Technology (EAIT)

Biography

Maureen Hassall is Associate Professor and director of UQ RISK at UQ. She holds degrees in Engineering, Psychology, an MBA and a PhD in Cognitive Systems Engineering. Maureen research, teaching, and consulting activities focuses on developing and applying leading edge risk management and human factors approaches to improve operational performance of engineered systems particularly in the resources, construction, transport and agriculture sectors. Her work is motivated by 18 years of industry experience working in a variety of engineering, management and specialist roles in several different companies and countries.

PRESENTATION: Human Factors and Risk Control and Management

To ensure there are no bad accidents, no lost opportunities and no big surprises we need to develop contemporary and impactful approaches that help decision-makers effectively identify and control and manage risks in the real-world of rapidly advancing technology, changing worker capabilities and increasing socio-political influence.

Professor Michael Haugh  
Head of School of Languages and Cultures  
Faculty of Humanities and Social Sciences (HASS)

Biography

Michael Haugh is Professor of Linguistics in the School of Languages and Cultures at the University of Queensland, Australia. Spanning pragmatics, intercultural communication and humour studies, his major publications include *Understanding Politeness* (2013, CUP), *Pragmatics and the English Language* (2014, Palgrave), and *Im/politeness Implicatures* (2015, Mouton). He is a leading proponent of the Australian National Corpus and the recent establishment of the Language Technology and Data Analysis Laboratory (LADAL) at the University of Queensland, and is also driving the push to establish a national language data commons. He has been successful in obtaining national and international research grants, including an ARC Discovery Project grant focused on Australian and American communication styles, and a CCKF research grant focused on humour in Chinese. He is currently co-editor-in-chief of the *Journal of Pragmatics*.

PRESENTATION: Implementing school-based support infrastructure for digital humanities research at UQ (Co-presenting with Dr Martin Schweinberger).

The Language Technology and Data Analysis Laboratory (LADAL) assists staff and postgraduate students within the UQ School of Languages and Cultures to learn how to use data analytics and digital research tools to enhance their existing research programs, as well as offer pathways into new research possibilities.

↑Top of the Program
Professor Ben Hayes
Director, Centre for Animal Science, Queensland Alliance for Agriculture and Food Innovation (QAAFI)

Biography
Professor Hayes has extensive research experience in genetic improvement of livestock, crop, pasture and aquaculture species, with a focus on integration of genomic information into breeding programs, including leading many large scale projects which have successfully implemented genomic technologies in livestock and cropping industries. Author of more than 150 journal papers, including in Nature Genetics, Nature Reviews Genetics, and Science, contributing to statistical methodology for genomic, microbiome and metagenomic profile predictions, quantitative genetics including knowledge of genetic mechanisms underlying complex traits, and development of bioinformatics pipelines for sequence analysis. Thomson Reuters highly cited researcher in 2015 and 2016.

PRESENTATION: Modelling Plant Success in Crop Systems (Co-presenting with Professor Mark Cooper)
Examples will demonstrate how mathematical models can be used in combination with deep biological understanding of the genetic and environmental control of plant traits to design breeding programs to improve crop adaptation for highly variable environments. These advanced prediction methods are necessary to develop resilient agricultural systems in the face of the global challenges associated with climate change.

Ms Jessica Heinemann
Science Communications Manager
ARC Centre for Biopharmaceutical Innovation

Biography
Jessica is the Science Communications Manager at the ARC Centre for Biopharmaceutical Innovation where she runs the National Biologics Training Program and academy. She also provides science communication support to the National Biologics Facility. Jessica holds a Bachelors degree in Biomolecular science, Honours Degree in Applied Science and a Masters degree in Science Communication Outreach. Since moving from research to science communication, Jessica has delivered Science, Technology, Engineering and Mathematics (STEM) initiatives internationally and across Australia in a variety of formats to diverse audiences. Working for institutions including the Australian Nuclear Science and Technology Organisation (ANSTO) and UNSW, she has gained extensive experience and expertise in the field. She is a passionate advocate for women in STEM and gender equity, and is the Queensland coordinator for the BioProcessing Network Committee.

PRESENTATION: A continuing professional development program for training and education in biopharmaceuticals
The National Biologics Training Program is a Continuing Professional Development program offering bespoke courses across Biologics Research and Development, advanced biomanufacturing and regulation. Content is delivered globally by recognised experts in the field. This session provides an introduction to the National Biologics Training Program Academy and opportunities for collaboration.

Top of the Program
**Dr Julia Hoy**  
*Research Manager, Hidden Vale Wildlife Centre*

**Biography**

Julia Hoy is the Research Manager at the Hidden Vale Wildlife Centre, where she coordinates, supervises, and supports postgraduate research students studying a wide range of wildlife conservation projects.

Julia’s PhD research involved visiting and surveying over 60 zoos worldwide, and led to the development of prototype microchip-automated husbandry technology, which she applied with owl monkeys. Over recent years, Julia has held multiple academic and research positions with the University of Queensland, lecturing in animal welfare, behaviour, zoo husbandry and management. Julia has published in a range of peer-reviewed journals with several being considered keystone papers with high citation rates within the captive wildlife industry.

Julia specialises in researching and developing innovative new technologies to improve captive wildlife management, with the goal of increasing the overall success of wildlife reintroduction programs. She is a passionate advocate for collaborative conservation, and solving global issues using innovative, applied solutions.

**PRESENTATION: Hidden Vale Wildlife Centre: Innovation, Conservation and Collaboration**

The Hidden Vale Wildlife Project is a unique partnership between UQ and the Turner Family Foundation, developing globally significant solutions for wildlife management and conservation. Wildlife conservation is increasingly demanding innovative applied research from multidisciplinary collaborations, which is being facilitated using the Hidden Vale Wildlife Centre and surrounding ecosystems as a model.

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**Dr Martina Jones**  
*Research Fellow, Australian Institute for Bioengineering and Nanotechnology (QIBN)*

**Biography**

Dr Martina Jones is the Deputy Director of the ARC Training Centre for Biopharmaceutical Innovation (CBI) at the University of Queensland and also the Operations Manager of the QLD node of the National Biologics Facility (NBF). Her research interests lie in the discovery and engineering of monoclonal antibodies for research and therapeutic use. She completed a PhD at The University of Queensland studying the application of engineered antibodies as reagents in diagnostic ELISAs. Through her role with the CBI and NBF, she engages with the Australian biotechnology industry, by supervising higher degree students with industry-driven research projects, and assisting researchers around Australia in accessing capabilities for antibody discovery, protein manufacturing and bioprocess development.

**PRESENTATION: Assisting the transformation of the biopharmaceutical industry in Australia**

The ARC Training Centre for Biopharmaceutical Innovation partners with CSL, Patheon Biologics, the Australian Red Cross Blood Service and GE Healthcare, undertaking research projects in the areas of biopharmaceutical discovery and bioprocess optimisation. The Centre aims to transform Australia’s growing biopharmaceutical industry through innovative research and training of industry-ready scientists and engineers.
Ms Kerry Kilner  
**Director, AustLit: Discover Australian Stories, Faculty of Humanities and Social Sciences (HASS)**

### Biography

Kerry Kilner has been the Director of AustLit (www.austlit.edu.au) since 2002. In that time she has worked to diversify the ways that AustLit serves its constituents and various audiences across community, education at all levels, and research. She believes that Digital Humanities should be more about the human than the digital.

**PRESENTATION: AustLit and BlackWords – Platforms for Storying Research**

This talk will focus on AustLit’s evolving status as a platform for research, teaching, and engagement. It will discuss the ways our interactions with communities of interest inside and beyond the university sector has allowed us to develop methods of *storying* research and sharing ownership. AustLit has also claimed an important role in publishing – both older literary works and contemporary publications of creative and critical writing. Meanwhile its engagement with student- or academic-led publishing initiatives has led it in a new direction within the publishing industry. This talk will outline recent projects, publications, and strategies for the future.

Dr Nicole Leonard  
**Postdoctoral Research Fellow, School of Earth and Environmental Sciences, Faculty of Science**

### Biography

Nicole graduated with a Bachelor of Marine Science (Hons) majoring in Marine Geology and Coastal Processes. She then completed her PhD within the Radiogenic Isotope Facility, School of Earth and Environmental Sciences (UQ). Nicole’s main research interests are using geochronology and geochemistry to understand environmental, climatic and geomorphological controls of coral reef growth over varying temporal scales. This has included reconstructing past relative sea level on the Great Barrier Reef (GBR) and Moreton Bay from the Mid-Holocene to present, investigating the utility of Rare Earth Elements within coral skeletons to reconstruct water quality gradients, and using coral luminescence to reconstruct ENSO dynamics in the Mid-Holocene. Her current Postdoctoral Research is focused on using high precision, high resolution U-Th dating of corals from within reef matrix cores, collected along the length of the GBR, to develop an understanding of reef growth, disturbance and recovery regimes from initiation to present.

**PRESENTATION: Geochemical tools for coral reef research**

Globally, corals reefs are being reported to be suffering unprecedented stress and mortality. However, on the Great Barrier Reef, systematic reef monitoring did not begin until the 1980’s. This talk provides a brief summary of the geochemical tools being used to bridge the gap between geological and ecological timescales in reef studies.
Biography

Linda Lua is the founding director of the internationally-recognised UQ Protein Expression Facility and a Professor in Biotechnology. Linda is internationally recognised for her research-enabling technologies for producing protein-based products for discovery and translational research. Her portfolio of engagements includes hundreds of researchers from universities, public and private research organisations and industries. Applying her expertise, she researches into biotherapeutic and vaccine platform technologies to address manufacturing challenges. She leads a diverse team of research specialists in delivering high-quality proteins to enable academic and industry researchers. Her high-performing team has a global reputation for excellence and was awarded the Deputy Vice-Chancellor Research Award for Team Excellence in 2018, UQ Award for Excellence in Service in 2016 and the Chancellor’s Award for Team Excellence in 2013.

PRESENTATION: Tap into world-leading protein research services and innovative solutions for protein production
At the Protein Expression Facility, we incorporate frontier protein technologies and a team of highly skilled specialists that possess extensive knowledge and expertise in protein production. We offer capabilities for efficient production of recombinant proteins using a suite of expression systems, and we tailor the proteins for the intended application.

Biography

John Mangan is the Director of the Australian Institute for Business and Economics and a Professor of Economics within the UQ Business School.

John’s extensive academic, consultancy, editorial and ‘expert opinion’ experience sees his economic modelling acumen regularly called upon for impact analyses and applied micro-economics relating to professional sports, wages and employment, and workplace health and safety.

Previously, John was the director of the Centre of Economic Policy Modelling, director of the Labour Market Research Unit within the Department of Employment and Training, and an external consultant to the Queensland Jobs Council. He has been an Eminent Research Visitor to the Department of Education and Training, a Visiting Fellow at Queensland Treasury, and a Visiting Research Professor at the Universities of Lancaster (England), Ulster (Northern Ireland) and Kiel (Germany). He has also held editorial roles with the Australasian Journal of Regional Studies and Focus on Economics series, Oxford University Press.

PRESENTATION: Australian Institute for Business and Economics – an overview
The Australian Institute for Business and Economics (AIBE) was formed in 2014 as a Centre within the Faculty of Business, Economics and Law (BEL) with a number of high-level objectives.
Professor Lorraine Mazerolle
Professor of Criminology (School of Social Science)

Biography

Lorraine Mazerolle is an Australian Research Council Laureate Fellow (2010–2015), a Professor of Criminology in the School of Social Science at the University of Queensland, and a Chief Investigator with the ARC Centre of Excellence for Children and Families over the Life Course (LCC). Her research interests are in experimental criminology, policing, drug law enforcement, regulatory crime control, and crime prevention.

Professor Mazerolle is the recipient of the 2018 ASC Thorsten Sellin & Sheldon and Eleanor Glueck Award, the 2016 ASC Division of Policing Distinguished Scholar Award, the 2013 AEC Joan McCord Award, and the 2010 ASC Division of International Criminology Freda Adler Distinguished Scholar Award. She has won numerous US and Australian national competitive research grants on topics such as third party policing, police engagement with high risk people and disadvantaged communities, community regulation, problem-oriented policing, police technologies, civil remedies, street-level drug enforcement and policing public housing sites.

PRESENTATION: The Global Policing Database: Evidence for Best Practice Policing

Dr Amy McCart Reed
Senior Postdoctoral Researcher, UQ Centre for Clinical Research
Faculty of Medicine

Biography

Dr Amy McCart Reed is a Senior Post-doctoral Researcher with a longstanding interest in the genetic basis of breast cancer. Breast cancer is an incredibly diverse disease, encompassing many different types of tumours. While outcomes have improved for the majority of patients, there is much we can do to improve outcomes for those with poorer prognoses. Unfortunately, it remains difficult to predict the risk of the disease returning (recurrence), or spreading (metastasis) and, whether patients will respond to specific therapies or not. Dr McCart Reed uses genomic analyses to improve tumour characterisation, and identify predictive and prognostic biomarkers. Amy’s work focusses on special breast cancer subtypes like metaplastics and lobulars, and investigating the clinical application of genomics.

Dr McCart Reed is passionate about clinical research and biobanking, and in addition to breast cancer research she steers the Brisbane Breast Bank, and manages the Brisbane node of the BROCADE autopsy study.

PRESENTATION: Translational Breast Cancer Genomics

Amy will present an overview of a clinical innovation program, originating at UQCCR, to investigate the implementation of genomics into routine breast cancer care. Linking clinicians from across Brisbane with researchers, we will examine whole genome sequencing in the neo-adjuvant setting and it potential benefit to patients across Queensland.

Top of the Program
Dr Tim McCubbin  
Data Scientist, Australian Institute for Bioengineering and Nanotechnology (AIBN)

Biography

Throughout his PhD and in his present role as data scientist for the Queensland Nodes of Metabolomics and Proteomics Australia at the Australian Institute for Bioengineering and Nanotechnology, Tim has specialised in the area of systems biology for industrial biotechnology. Tim utilises a systems-based approach that leverages various ‘omics data types and metabolic modelling to explore the molecular phenotype of cells and has applied this approach to a variety of organisms ranging from *E. coli* and *S. cerevisiae* to non-model organisms such as propionibacteria. He has worked on several projects with chemical and biotechnology companies seeking metabolic engineering solutions to industrial problems. This work has included small-scale data sets, such as understanding the correlation between genotype and phenotype of a genome-shuffled propionibacteria mutant to facilitate patent submission, to the characterisation and kinetic-modelling of hundreds of yeast strains to identify pathway limitations for the production of valuable bio-based products.

PRESENTATION: Developing Industrial Systems Biotechnology tools for Metabolomics and Proteomics

The Queensland Nodes of Metabolomics and Proteomics Australia combine metabolomics and proteomics capabilities with bioinformatic and metabolic-modelling expertise to give customers and collaborators a complete systems biology-based solution to basic research questions and industrial biotechnology challenges alike by facilitating the understanding of the complex link between genotype and phenotype.

Dr Cristyn Meath  
Research Fellow  
Australian Institute for Business and Economics (AIBE)

Biography

As a Postdoctoral Research Fellow at the Australian Institute for Business and Economics (AIBE), Cristyn collaborates with industry partners and leading scholars from around the world to deliver critical insights to organisations, policy makers and academia on emerging corporate sustainability issues. Cristyn’s research contributes to emerging themes within corporate sustainability and strategy literature. Specifically, her research investigates the role of decision making in determining organizational vulnerability to natural capital decline, emerging trends in corporate sustainability reporting, and the relationship between organizational values and societal values. Cristyn is also a lecturer at UQ Business School teaching *Decision Making and Reporting for Sustainability and Corporate Sustainability in the Master of Business program*. Prior to commencing at UQ Business School, Cristyn worked with numerous businesses to improve their sustainability, advising business sustainability consultants, and delivering guest lecturers on the topic.

PRESENTATION: Corporate reporting for sustainability: supporting the transition to sustainable companies and economies

Corporate reporting is a critical change enabler for sustainability and the field is experiencing rapid developments and importance globally. At AIBE research into corporate reporting for sustainability is supporting Ports in Australia and New Zealand to improve their stakeholder management, assisting regional communities to measure the value of large-scale renewables projects, and informing Australian businesses of the emerging trends in corporate reporting for sustainability which hold significant implications for future business operations. The presentation will explain the emerging importance of corporate reporting for sustainability globally as well as profiling the latest research conducted by AIBE on the topic.
Biography

Dr Moore completed his PhD in Chemistry at the University of Queensland (UQ) in 2004, before undertaking postdoctoral research at the University of California, Berkeley, and the University of Melbourne. In 2011, he took up a Marie-Curie International Fellowship at the University of Bologna, before returning to UQ in 2012 as a Lecturer and ARC Future Fellow in the School of Chemistry and Molecular Biosciences (SCMB). His research interests involve aspects of organic and inorganic photophysics, with a focus on the use of lanthanoid and transition metal ion complexes as light absorbing chromophores. These types of compounds have many different applications, including their use as probes for luminescent imaging and photodynamic therapy, or as catalysts for improving the scope and efficiency of synthetic organic chemistry. Dr Moore also manages the UQ Photochemistry and Ultrafast Laser Spectroscopy (UQ-PULSE) laboratories.

PRESENTATION: Photochemistry and Ultrafast Laser Spectroscopy
Research capabilities available at the UQ Photochemistry and Ultrafast Laser Spectroscopy (UQ-PULSE) laboratories will be outlined. A brief explanation of the experimental techniques available will be presented, which allow excited state dynamics of molecules to be studied on very short timescales, with examples of collected data also to be discussed.

Biography

Professor Trent Munro is currently a Senior Group Leader at the Australian Institute for Bioengineering and Nanotechnology (AIBN) at The University of Queensland where he is Director of the National Biologics Facility and Program Director for the CEPI funded Vaccine Rapid Response pipeline. Prior to this he was Executive Director of Process Development at Amgen Inc., based in Thousand Oaks, California. Trent joined Amgen in 2013 and led analytical process development for the early stage clinical pipeline across all modalities. Before joining Amgen Dr Munro was an Associate Group Leader and Queensland Government Smart Futures Fellow at the AIBN. Dr Munro has a PhD in Protein Biochemistry from UQ and completed postdoctoral studies in cell biology and developmental genetics at the Department of Cell Biology, Harvard Medical School and at the Wellcome Trust and Cancer Research UK Gurdon Institute, University of Cambridge.

PRESENTATION: Research Services to bridge the gap between biopharmaceutical discoveries and clinical development
Biologics, or protein based therapies, are the fastest growing segment of the pharmaceutical sector. This presentation will cover the capabilities of the National Biologics Facility at the AIBN and provide overview of their capabilities, services and track record.
Biography

Dr Amanda Nouwens is Manager for the SCMB Mass Spectrometry Facility, located on the St Lucia campus at UQ. With over 20 years’ mass spectrometry and ‘omics experience, she has a deep understanding of applying mass spectrometry to a diverse range of research projects. Dr Nouwens has co-authored 65 papers, and five book chapters.

PRESENTATION: Mass Spectrometry for the Masses
The SCMB Mass Spectrometry Facility is open access for researchers interested in using mass spectrometry to facilitate their research. Our instrument capabilities and expertise support a diverse range of research areas including proteomics & protein characterization, metabolomics, small molecules & natural products. We will highlight some of the exciting applications possible in the facility.

Biography

Sandra is a Sensory and Consumer scientist working as a postdoctoral fellow at the University of Queensland in its institute Queensland Alliance of Agriculture and Food Innovation (QAAFI). Sandra started her career as a Sensory and Consumer Scientist ten years ago when she started her PhD in Wine science at the University of Adelaide. Sandra’s role has been focused on providing her food and beverages Sensory and Consumer Science expertise in several multidisciplinary projects co-funded by The Australian Research Council and Food industry partners at QAAFI’s Centre for Nutrition and Food Science (CNAFS). Sandra’s most recent appointment at QAAFI-CNAFS involves providing her expertise in sensory and consumer science in the new ARC Training Centre for Uniquely Australian Foods.

PRESENTATION: Rediscovering the value of uniquely Australian foods for diet diversification and health
Sandra Olarte will introduce the expertise of the Centre for Nutrition and Food Sciences (QAAFI) tailored to Indigenous and uniquely Australian products. The CNAFS team are world leaders in the evaluation of food functionality, nutritional value, bio-activity and bio-accessibility, food safety, product development and sensory and consumer science.
Dr Dmitry Ovchinnikov  
Scientific Director and General Manager, StemCore  
Research Fellow (AIBN)

Biography
Dr Ovchinnikov obtained his Diploma in Molecular Biology (MSc equivalent) from Moscow State University in 1993, and PhD in molecular genetics from the MD Anderson Cancer Center/University of Texas-Health Science Center in 2002 on the development of novel mouse conditional molecular genetics approaches. In 2002-2008, he continued work on mouse molecular genetics at UQ’s IMB, where he developed novel reagents for functional studies in vitro and in vivo. In 2009 he moved to AIBN and started work on human stem cell biology (and from 2013 - cancer epigenetics). He developed a number of generic and bespoke transgenic human stem cell lines and performed some of the first targeted genomic manipulations in Australia using CRISPR/Cas9 technology. He has authored and co-authored over 50 publications, including a number in top-tier journals, and is a co-inventor on an international patent on cancer epigenetic marker diagnostics. Since mid-2017 he has been leading StemCore’s transformation into a human functional genetics facility.

PRESENTATION: Far-reaching potential of genome-edited human cell models
StemCore, an NCRIS facility established in 2008, offers a wide range of services, from genome editing to transgenic cell line generation and provision. We’ll discuss disease modelling workflow, from patient cells to mutation-corrected and functional reporter-containing iPS cell lines, as well as the distribution of the Allen Institute’s reporter iPS cell collection within Australia.

Dr Suzanne Parker  
NHMRC Early Career Fellow  
UQ Centre for Clinical Research, Faculty of Medicine

Biography
Dr Parker’s fundamental research interest is the improved healthcare of infants and children through evidence-based drug dosing. Dr Parker is a bioanalyst with 20 years of experience designing methods to measure drugs in biological fluids, positioning her to develop kinder, less-invasive sampling methods that can improve the feasibility of clinical dosing studies. Dr Parker’s research career has furthered these laboratory skills into a translational framework: by applying innovation in microsampling her research will define evidence-based antibiotic dosing regimens.

To advance her research program, in 2016 Dr Parker established the Clinical Microsampling Group. Her research and experience is cross-disciplinary - based in infectious diseases, pharmacokinetic modelling and bioanalysis. Dr Parker’s research has produced world-first evidence essential for the implementation of microsampling in a clinical environment. Dr Parker has developed population pharmacokinetic models for clinical collaborators to describe dosing of drugs in challenging patient groups.

PRESENTATION: Centre for Clinical Research – antibiotic optimisation facility
Dr Parker will be presenting results of her research which demonstrate the use of innovation in microsampling to facilitate clinical drug dosing studies. This work has opened research into neonates and children, as well as patients who are in rural, remote or community-based.
**Biography**

Dr Julie Pearce is a research fellow with international experience in the UK, Japan, and Australia on interdisciplinary projects. After accepting a prestigious Fellowship with the Japan Society for the Promotion of Science, Pearce has worked with the CO2CRC and ANLEC R&D to understand the impacts of stored CO₂ streams through experimental and geochemical modelling approaches. This involves CO₂-water-rock reactions, core characterisation (SEM-EDS, QEMSCAN, SANS, synchrotron XFM) and geochemical modelling. She is also working recently on shallow gas, and previously the UQ Surat Deep Basin Aquifer Appraisal project with the UQ Centre for Coal Seam Gas and Energy Initiative. Julie has additional interests in oil and gas bearing shales.

Dr Pearce has secured $3.2 million in nationally and internationally competitive funding. She has collaborated with CTSCo Pty Ltd, Welldog Pty Ltd, FEI Australia, and Dirk Kirste, SFU, Canada as well as providing expert opinion to the Queensland Government.

**PRESENTATION: Metal mobilisation and re-precipitation with CO₂ storage: Geochemical and experimental data input for predictive models**

A demonstration scale CO₂ injection trial has been proposed in the Surat Basin for the feasibility of geological storage. Injected CO₂ will dissolve and the resulting acidification induces rock reactions with the potential for release or sequestration of metals to formation water. Geochemical analyses were mainly accomplished in the CGMS.

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**Dr Emanuele Pelosi**  
**Senior Research Officer**  
**Institute for Molecular Bioscience (IMB)**

**Biography**

Dr Pelosi received his PhD in Medical Biotechnology from the University of Bologna, Italy. He joined the Laboratory of Genetics and Genomics (LGG) of the National Institute of Health (NIH), USA, as a postdoctoral Visiting Fellow, and later accepted a position as Research Fellow in LGG. In 2016, Dr Pelosi moved to Australia, working at the Institute of Molecular Biology of the University of Queensland. He recently joined the Fertility Theme at the UQ Centre for Clinical Research (UQCCR), and maintains honorary positions at the NIH (USA), Yale University (USA) and the Murdoch Children’s Research Institute in Melbourne.

His research efforts have focused on the genetic bases of sex-determination, ovarian development, primary ovarian insufficiency, and menopause. He also studies the development of the female reproductive tract and the genetics of uterine conditions. Dr Pelosi is also actively involved in aging studies to characterize the molecular mechanisms of factors affecting age-related diseases and lifespan.

**PRESENTATION: CRISPR/Cas9 genome editing: an invaluable tool to study the development of sex and the reproductive system**

CRISPR/Cas9 technology is an efficient method for genome engineering. In this presentation, I will discuss how we use CRISPR technology in the lab to study the development of the reproductive system and disorders of sex development. In addition, I will also talk about the potential application to other disciplines of life science.
Biography

Professor Nigel Perkins is Head of School, School of Veterinary Science at UQ Gatton Campus. Nigel is a veterinary epidemiologist with a strong interest in transdisciplinary research addressing health across animal, people, wildlife and the environment (One Health). UQ Gatton Campus offers a unique combination of agriculture and veterinary science expertise underpinned by fantastic facilities and extensive arable land. A world-class veterinary teaching hospital offers a full array of veterinary services to animals and their owners. Expertise in infectious and non-infectious diseases, animal welfare, food safety and use of animals as models for human disease provide opportunities for multi-disciplinary research to address local, national and international problems.

PRESENTATION: OneHealth comparative bioscience capacity at Gatton Campus
The School of Veterinary Science (SVS) provides world leading animal research and veterinary clinical infrastructure, animals, archived samples, and researchers. SVS is building partnerships in world-leading research in comparative bioscience and translational medicine – under a One Health @ UQ approach covering clinical trials, animal models of human diseases, zoonotic diseases, antimicrobial stewardship in agriculture, and food safety.

Dr Andreas Potgieter
Senior Research Fellow
Queensland Alliance for Agriculture and Food Innovation (QAAFI)

Biography

Dr Andries Potgieter, is a Senior Research Fellow in QAAFI (UQ), where he currently leads and mentors a team of researchers making significant advances in the integration of seasonal climate forecasting, remote and proximal sensing with applications in the development of crop production outlooks and less risk-prone cropping systems across Australia producing highly cited publications. In particular, his interest targets agricultural research that enhances the profitability and sustainability of spatial production systems through a better understanding of the linkages and interactions of such systems across a range of spatial (e.g. field, farm, catchment, national), and temporal (i.e. seasons to decades) scales. He is a leader in the field of quantitative eco-physiological systems modelling and has successfully built up a national and international recognised research profile with strong linkages to industry (farmer groups, Insurance, seed companies and bulk handlers of commodities) and domestic and national agencies (state governments, ABARES and ABS) as well as international linkages with Ag-Food Canada, Maryland University, USDA, and the Chinese Academy of Sciences.

PRESENTATION: High-throughput field phenomics for NextGen plant breeding (Co-presenting with Dr Barbara George-Jaeggli)
Mobile sensing and image-analysis platforms developed at the Queensland Alliance for Agriculture and Food Innovation enable the measurement of plant traits (phenotypes) previously unobtainable from broad-acre field trials. Accurate and high-throughput phenotyping is a pre-requisite for genomic selection, the latest innovation in plant breeding.
Professor David Reutens  
Director, Centre for Advanced Imaging (CAI)  
Director, Centre for Innovation in Biomedical Imaging Technology  
Foundation Professor of Experimental Neurology

**Biography**

Professor Reutens is the inaugural director of the Centre for Advanced Imaging (CAI). He is the director of the Australian Research Council (ARC) Training Centre for Innovation in Biomedical Imaging Technology (CIBIT), launched in 2018, which aims to train industry-ready scientists for the Australian biomedical technology and pharmaceutical sector. He is also a clinical neurologist specialising in epilepsy.

**PRESENTATION: Centre for Advanced Imaging**

Imaging and spectroscopic techniques are key platform research technologies for studying the structure and function of living organisms in health and disease and facilitating drug discovery and validation. The talk will outline imaging research facilities available at the Centre for Advanced Imaging.

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Dr Martin Schweinberger  
Postdoctoral Research Fellow, School of Languages and Cultures  
Faculty of Humanities and Social Sciences (HASS)

**Biography**

Dr Martin Schweinberger is currently a postdoctoral Research Fellow in Language Technologies at the University of Queensland, Australia. After obtaining his PhD in English linguistics from Universität Hamburg, Germany, Martin worked as research assistant, lecturer, and interim professor for English linguistics at several German universities. Before joining the University of Queensland, Martin was part of the Language Technology Group at the Computer Science department of Universität Hamburg. Martin has specialised in computational approaches to analysing language data with a particular focus on corpus linguistics and quantitative analyses. In his current role, Martin is one of the leading proponents of the Language Technology and Data Analysis Laboratory (LADAL) at the University of Queensland.

**PRESENTATION: Implementing school-based support infrastructure for digital humanities research at UQ:**  
The Language Technology and Data Analysis Laboratory (LADAL) (Co-presenting with Professor Michael Haugh)  
The Language Technology and Data Analysis Laboratory (LADAL) assists staff and postgraduate students within the UQ School of Languages and Cultures to learn how to use data analytics and digital research tools to enhance their existing research programs, as well as offer pathways into new research possibilities.

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Top of the Program
Dr Fekade Sime  
Research Fellow, School of Pharmacy  
Faculty of Health and Behavioural Sciences (HaBS)

Biography

Dr Sime acquired PhD degree in Pharmacy in October 2015 from the University of South Australia. His PhD Thesis was on Therapeutic drug monitoring of beta-lactam antibiotics in patients at high risk of therapeutic failure: a pharmacokinetic and pharmacodynamic study”. Following his PhD, he was appointed to a Research Officer position at University of Queensland (UQ) School of Medicine. Dr. Sime was awarded Post-doctoral fellowship (2016-2019) at the University of Queensland (UQ) for the research project entitled “A translational approach to optimisation of antimicrobial therapy for critically ill patients that prevents the emergence of ‘superbugs’. Currently, he work as Research Fellow and Laborotory Manger for the Centre for Translational Anti-infective Pharmacodynamics (CTAP), School of Pharmacy.

Dr Sime’s research expertise and interest include pharmacokinetics and pharmacodynamics of antibiotics, dynamic in vitro infection models (hollow-fibre and biofilm models), pharmacometrics, ex vivo and clinical evaluation of antibiotic dosing during extracorporeal therapies.

PRESENTATION: Centre for Translational Anti-infective Pharmacodynamics – in vitro antibiotic PK/PD facility

Contemporary antibiotic development at the pre-clinical stage aims at simulating the clinical scenario of antibiotic exposure for increased translatability of research findings. The hollow-fibre infection model is a state-of-the art facility for simulation of dynamic concentration-time profiles to assess the relationships between antibiotic exposure and antibacterial activity, and thereby forecast optimal dosing regimens.

Dr Rodrigo Suarez  
UQ Amplify Fellow  
Queensland Brain Institute

Biography

Dr Suarez is a biologist interested in the general question of how changes in developmental processes can lead to evolutionary variation and origin of complex traits (such as neural circuits). He studies development and evolution of the brain of mammals. His doctoral thesis studied brain regions involved in olfactory and pheromonal communication in mammals. Dr Suarez discovered several events of parallel co-variation of sensory pathways in distantly related species sharing similar ecological niches, as cases of ontogenetic and phylogenetic plasticity. He is currently studying the development and evolution of neocortical circuits by following two main lines of research. One aims to determine how early neuronal activity affects development of cortical circuits, and the other aims to understand what developmental processes led to the evolution of the mammalian brain, including the origin of the corpus callosum exclusively in Eutherians, but not in monotreme or marsupial mammals, and the evolution of the neocortex in mammals but not in other vertebrates. His research combines molecular development (electroporation, CRISPR), transcriptomics, sensory manipulations, neuroanatomy mapping (MRI, stereotaxic tracer injections, confocal and image analysis), optogenetics, and in vivo calcium imaging in rodent pups and marsupial joeys.

PRESENTATION: Novel approaches to study brain formation

Precise formation of neural circuits in the cerebral cortex is essential for everyday functions. However, as most of this happens inside the uterus, we know very little about how this occurs in health and disease. To overcome these limitations, I use advanced molecular and imaging techniques in marsupial joeys inside the pouch.
Dr Emma Sweeney  
Postdoctoral Researcher, UQ Centre for Clinical Research (UQCCR)  
Faculty of Medicine

Biography
Dr Emma Sweeney is a microbiologist in the Faculty of Medicine, at The University of Queensland Centre for Clinical Research. Emma’s research expertise lies in microbial characterisation and the development of molecular tools to aid in the rapid diagnosis of infectious diseases and detection of antimicrobial resistance. Emma’s current research focuses on the detection and tailored treatment of sexually-transmitted pathogens, with a particular focus on the emergence and spread of antimicrobial resistance in *Mycoplasma genitalium* and *Treponema pallidium* (syphilis).

PRESENTATION: Infectious disease diagnostics  
Molecular diagnostics are an important tool for the rapid identification of infectious diseases and antimicrobial resistance. In this talk, I will discuss some of the rapid molecular tools we have developed, which have been commercialised with Industry partners or used within pathology laboratories for surveillance of antimicrobial resistance or inform successful treatment options.

Dr Peter Tapley  
Director, TetraQ

Biography
Peter has a wide knowledge of drug discovery and development processes based on over 26 years of experience in the biotechnology and pharmaceutical industry. He has previously worked as a scientist at Ligand Pharmaceuticals (San Diego) and as a lead researcher at GlaxoSmithKline (Philadelphia) in the USA. His experience in the Australian biotechnology sector includes scientific and leadership roles at GroPep Ltd in Adelaide and RDDT/vivoPharm in Melbourne. Peter’s experience ranges from early-stage target validation and lead identification processes up to selection of drug candidates for human studies. In his role as Director at TetraQ he has oversight of the conduct of toxicology and bioanalytical studies to support the development of new therapies.

PRESENTATION: TetraQ Preclinical and Clinical Therapeutic Development Services  
TetraQ provides a range of contract services to support development of new experimental therapies for human disease. These services include preclinical toxicology and pharmacokinetic studies in rodents. TetraQ also offers bioanalytical services for measurement of drug and biomarker concentrations in biological matrices such as serum and plasma.
Dr Wojtek Tomaszewski
Group Leader Education and Disadvantage
Institute for Social Science Research (ISSR)

Biography
Dr Tomaszewski is an accomplished international scholar with expertise in quantitative research methods and advanced statistical analysis. His research interests include education, employment, and transitions from school to work. Wojtek has a wealth of experience working with administrative and survey data, and he has a background working in research consultancies. He has undertaken a number of research projects for the British government, and for the State and Commonwealth Governments in Australia.

PRESENTATION: Improving Equity in education
Dr Tomaszewski will discuss how analysis of education administrative and longitudinal data sets has allowed him to develop frameworks for comparisons of populations, educational engagement and outcomes and explore equity in education in Australia.

Associate Professor Maree Toombs
Director, Indigenous Health: Rural Clinical School
Faculty of Medicine and Director Carbal Institute of Aboriginal and Torres Strait Islander Health Research

Biography
Dr Toombs is Director of Indigenous Health Teaching/Research Faculty of Medicine, Rural Clinical School and a Children’s Hospital Foundation Early Career Fellow. Dr Toombs is recognised nationally and internationally for her work in Indigenous health perspectives in medicine and her research efforts devoted to improving mental health and wellbeing for Indigenous Australians, in particular managing chronic physical illness and mental health in a holistic way and building resilience. Dr Toombs is lead CI on three NHMRC grants, and a CI on four NHMRC and four other organisation grants, collectively equating to over $9.6M. She currently has a further five NHMRC project grants pending (totalling $4.6m).

Dr Toombs has received a number of prestigious awards in recognition of her research excellence, including an NHMRC Early Career Fellowship, a Children’s Hospital Foundation Scholarship (current), Outstanding Alumni of the year and Outstanding Indigenous engagement Alumni of the year (2015 University of Southern Queensland) and a Churchill Fellowship (2014). This year she will deliver two international Keynote addresses in Canada and a further two Keynote addresses in Australia. This is in addition to peer review abstracts accepted for presentation at conferences.

Dr Toombs is the co-author of ‘Indigenous Australians and Health’ published by Oxford Press.

PRESENTATION: Why Indigenous translational health research can only work when MOB are in the driver’s seat

↑Top of the Program

Research Capabilities Showcase – Full Program
Mr Joe Torrano
Research Assistant, Dermatology Research Centre

Biography

Joe Torrano is a trained medical scientist specialising in melanoma research. He graduated from the University of Otago in New Zealand before commencing as a Research Assistant with The University of Queensland Diamantina Institute at the Dermatology Research Centre. He has a diverse background with experience in molecular biology, dermatology, entrepreneurship, IT and research administration. One of his core interests is the development and incorporation of emerging technologies such as 3D total body imaging and AI-assisted diagnostic algorithms into Australian health services. He currently has a key role in facilitating research at the Australian Centre for Excellence in Melanoma Imaging and Diagnosis (ACEMID) led by Professor H. Peter Soyer.

PRESENTATION: ACRF Australian Centre of Excellence in Melanoma Imaging and Diagnosis
Melanoma continues to be a significant economic and health burden in Australia. Recent research shows emerging technologies like 3D imaging allows greater efficiency in both the clinical management of patients and in identifying developing lesions. The Australian Cancer Research Foundation (ACRF) supported Australian Centre for Excellence in Melanoma Imaging and Diagnosis (ACEMID), led by The University of Queensland together with the University of Sydney and Monash University, will maximise early detection of skin disease to achieve the vision of a world without melanoma.

Associate Professor Sunil Venaik
School of Business, Faculty of Business, Economics and Law

Biography

Sunil Venaik is Associate Professor of International Business at the University of Queensland Business School, Australia. He is a Research Fellow at several reputed international academic institutions including INSEAD, France; Stockholm Business School, Sweden; National University of Singapore; and the Indian Institutes of Management in Ahmedabad and Udaipur. Sunil is an alumnus of the Australian Graduate School of Management in the University of New South Wales and the Indian Institutes of Technology (Kharagpur), and Management (Ahmedabad). Sunil’s teaching and research focus on understanding the diversity and unity of cultural values around the world, doing business in Asia, and examining the strategy and performance of multinational companies. He has consulted with a number of national and multinational firms. Before joining academia, Sunil worked in industry for over ten years and was the CEO of a medium-size enterprise. Sunil has more than 110 academic publications and several awards for outstanding research.

PRESENTATION: There is no national culture: diversity and unity of the global mosaic
Our pioneering research challenges the longstanding, stereotypical worldview of nations as homogeneous masses of uniform national culture. Using large-scale, multi-country data and advanced analytical techniques, we offer a nuanced understanding of the unity and diversity of cultural values within and across countries. Our research has important implications for individual, organizational and government decision-making.
Ms Tess Vogts  
Core Facilities Manager, Translational Research Institute (TRI)

Biography

Tess Vogts is experienced in laboratory facilities management and has worked for the Translational Research Institute (TRI) since before its practical completion in 2012, where she was involved in the initial occupation and ongoing operation of the various biomedical research facilities. TRI is one of the largest medical research institutes in the southern hemisphere, with a focus on integrating laboratory research, clinical practice and industry engagement to result in improved healthcare. In 2016 Tess commenced in the role of Core Facilities Manager, in which capacity she provides management oversight to a collection of open-access scientific Core Facilities.

PRESENTATION: Core Facilities of the Translational Research Institute – An overview of open access equipment, services and expertise from laboratory to clinical settings

TRI operates open-access, cost-recovered Core Facilities in order to provide researchers, clinicians and industry with access to high-quality equipment, services, products and expertise. TRI’s Core Facilities include Flow Cytometry, Microscopy, Preclinical Imaging, Proteomics, Histology, Biological Resources and Gnotobiotics, as well as Clinical Research facilities for adults and children.

Dr Gabrielle Walters  
Senior Lecturer, UQ Business School

Biography

Dr Gabby Walters is a Senior Lecturer with the UQBS Tourism Discipline. She holds significant expertise in research design that incorporates physiological measurement techniques that allow for the simulation and measurement of consumer experience and subsequent emotions. Her research is undertaken in a lab environment and in real world settings. Specialising in, yet not limited to tourism, Gabby’s research is able to identify how individuals navigate and respond to a wide range of experiences and various forms of stimuli both visually and emotionally. Gabby was awarded the Centre of Australian Universities Tourism and Hospitality Education (CAUTHE) Fellows Award that recognises significant contributions to the tourism and hospitality discipline and continues to explore the vast capabilities of technology designed to measure actual vs self-reported human responses.

PRESENTATION: The Value of Psycho-physiological Data in Understanding Human Emotion

Gabby’s presentation will showcase the technology available in the UQ Business School and provide a variety of examples of its application to the real world. She will feature several examples from previous and current studies that showcase the potential that this form of research can offer to a range of industry stakeholders. The tourism and advertising industries will particularly benefit from this presentation.
Dr Shaun Walters  
Research Facilities Manager  
School of Biomedical Science (SBMS)

Biography

Dr Walters completed his PhD in 2003 from the Sackler Institute, New York University. His thesis project studied virulence mechanisms of *M. tuberculosis* and led to the identification of a bacterial transcription factor responsible for pathogenic fatty acid and cell wall synthesis; a novel antibiotic drug target. From 2003 – 2008 Dr Walters continued to study bacterial pathogenicity as a Research Fellow at Weill Cornell Medical School with an affiliation at Rockefeller University. In 2009, he moved to Sydney to work in the laboratory of Professor Warwick Britton as a Senior Research Fellow. There he discovered, using intravital multiphoton microscopy, a novel resident macrophage within the collagen capsule of the mouse liver responsible for immunologic surveillance and mycobacterial granuloma formation. In 2013, he became the School of Biomedical Sciences Research Facilities Manager, and presently runs the day-to-day operations of the Core Research Facilities of SBMS.

PRESENTATION: From A to Screen: Our in-house Workflows Utilising Microscopy, Metabolomics, Genomics and High Throughput Drug Screening

The SBMS Core Research Facilities are a newly establish multi-discipline environment open to all UQ researchers. We house multiple imaging modalities, flow analysers, spectrophotometers for different bioassays, and instruments like the Agilent Seahorse XFe96. My talk will focus on the integration of our infrastructure in bioassay development from research idea, to execution and manuscript formation.

Professor Lianzhou Wang  
Director, Nanomaterials Centre  
Senior Group Leader, Australian Institute for Bioengineering and Nanomaterials (AIBN)

Biography

Lianzhou Wang is Professor in School of Chemical Engineering, Director of Nanomaterials Centre, and Senior Group Leader of Australian Institute for Bioengineering and Nanotechnology, The University of Queensland (UQ). His research focuses on the design and development of functional semiconductor nanomaterials for use in renewable energy conversion/storage systems, including photocatalysts, low cost solar cells, and rechargeable batteries. In late 2018, his team has broken the certified efficiency world record of quantum dot solar cells achieving 16.6%. He has contributed 15 edited books/chapters, >380 journal papers, 14 patents and delivered >100 plenary/keynote/invited presentations, which have attracted ~20,000 citations with an H-index of 74 (google scholar). He has won some prestigious Fellowships/awards including ARC Queen Elizabeth II Fellowship and Future Fellowship, UQ Research Excellence Award and Research Supervision Award, Scopus Young Researcher Award. He is an elected Fellow of Royal Society of Chemistry and served on ARC College of Experts for 2016-2018.

PRESENTATION: Solar Cells and Batteries

In this talk, we will give a brief overview on our research activities in the field of new semiconductor nanomaterials for renewable energy conversion and storage applications, including solar hydrogen production, high efficiency solar cells, and printed batteries.
Professor Roger Wepf
Director, Centre for Microscopy and Microanalysis (CMM)

**Biography**

Roger Wepf is the Director of the Centre for Microscopy and Microanalysis (CMM) at UQ. He received his academic degrees in cell biology in 1992 (ETH). After a post-doctoral fellowship (Biocenter Basel), he joined the physical instrumentation program from Max Haider, at EMBL, Heidelberg, developing cryo-technologies for corrected EM. Roger spent nine years at Beiersdorf AG, as head of the analytical microscopy department in Hamburg, working mainly on human skin morphomics, colloidal systems and adhesives, with a focus on developing cryo-preparation techniques for imaging and spectroscopy. In May 2006, he was elected Director of the EM Centre at the Swiss Federal Institute of Technology (ETH/EMEZ) and in 2014 became Technical Director of the Scientific Centre for Optical and Electron Microscopy (ScopeM). Roger’s major research activities focused on correlative microscopy, automatic sample preparation and imaging techniques. Currently he is developing tools for integrative imaging and spectroscopy to explore new frontiers.

**PRESENTATION: From Bones to Atoms**

The Centre for Microscopy and Microanalysis at UQ offers a broad capability in imaging and analysing natural or man-made objects. Come and join me on a journey through scale from macroscopic features to the empty space of atoms on biological and material science samples and be fascinated by the professional “art work” CMM staff is capable to do for your research.

Professor Mark Western
Director, Institute for Social Science Research (ISSR)

**Biography**

Professor Mark Western is Director of the Institute for Social Science Research (ISSR) and a Fellow of the Academy of Social Sciences in Australia. He is a sociologist whose research examines how systems of inequality and disadvantage arise and can be addressed, what matters for economic and social well-being, and how institutions like schools, families, networks and labour markets are involved in these processes. Mark’s work on solution-oriented social science focuses on how to strengthen connections between social science research and “real-world” problems in order to develop better solutions, enhance the relevance and public value of university research, and improve research quality. He also works on major evaluations of government policies and programs, and to help translate research findings into practical outcomes.

**PRESENTATION: Undertaking transformational research to solve critical social challenges**

Professor Western will discuss how ISSR’s researchers develop, manage and analyse complex data to provide frameworks for making decisions and influence social policy and practice. Mark will reflect on how this research impacting on social, education and health and wellbeing outcomes of populations.
Professor Jian Zhao
Radiogenic Isotope Facility
School of Earth and Environmental Sciences (SEES)

Biography

Professor Zhao (PhD, ANU, 1993; MSc, University Adelaide, 1989; BSc, Nanjing University, 1985) has more than 25 years’ research experience in isotope geochemistry and geochronology, with research interests spanning the fields of geological, geographical, environmental, ecological, archaeological and even forensic sciences. He developed the mass spectrometry U-series dating methods at UQ and applied them to dating coral reefs in the Great Barrier Reef and other parts of the tropical oceans, as well as important hominid and fauna records in China, Indonesia (the “Hobbit”), Australia, and Polynesia. Such research has received widespread recognition and public attention. Since 1991, Professor Zhao has authored over 300 refereed publications, won more than 50 competitive grants and contracts, supervised in excess of 30 PhD students and ECRs, and received two ARC Fellowships, one UQ Research Excellence Award (2001), one Chinese National Science Foundation Distinguished Young Scholar Award (2000), and the highly prestigious Australian Museum Eureka Prize for Outstanding Mentor of Young Researchers (2011).

PRESENTATION: Radiogenic Isotope Facility: High-resolution isotope dating and characterisation for cutting-edge earth, environmental, archaeological and biomedical research
Radiogenic Isotope Facility (RIF) is a ~200 m2 ultra-clean low-blank chemistry and mass spectrometer laboratory for high-precision metal isotope and trace element analysis, unique in design and capabilities in Australia. It services a multidisciplinary research community on campus, nationally and overseas in traditional earth science research, palaeoenvironmental and palaeoclimate research, coral reef research, environmental monitoring and assessment, archaeological research, biomedical research and forensic research.

Professor Mohan Krishnamoorthy
Pro-Vice Chancellor Research Partnerships

Biography

Mohan Krishnamoorthy is Pro Vice-Chancellor (Research Partnerships) at the University of Queensland. Prior to joining UQ in August 2017, Mohan was at Monash University where he held the position of Pro Vice-Chancellor (Industry Partnerships) since 2015. From 2009 to 2015, Mohan was the inaugural CEO of the IITB-Monash Research Academy, a trans-national research partnership between IIT Bombay and Monash University, which he helped establish. Today, this joint venture research academy has some 200 jointly-supervised PhD students working on a wide range of interesting research problems.

Dr Jessica Gallagher
Director, Global Engagement and Entrepreneurship

Biography
Dr Jessica Gallagher is the Director, Global Engagement and Entrepreneurship at The University of Queensland (UQ) where she is responsible for the continued development and implementation of the University’s Global Strategy and leads a number of UQ’s strategic partnership activities, business development initiatives, engagement events and a wide range of global programs designed to showcase and extend the University’s reach and reputation. She also leads the development and delivery of UQ’s Entrepreneurship Strategy, including high-level oversight of the UQ Idea Hub and iLab programs and expanding links with local, national and international entrepreneurship eco-systems.

Jessica is a research affiliate and sessional lecturer in the School of Languages and Cultures at UQ. She holds a PhD in Comparative Cultural Studies from The University of Queensland and is a graduate of the Australian Institute of Company Directors.

PRESENTATION: Partnering for impact - working with UQ’s global network
Presentation on UQ’s global network and how industry partners can engage in and benefit from trilateral projects and programs. The session will include case studies of existing international initiatives and provide forum to discuss future interests and activities.

PRESENTATION: Ventures - collaborating with UQ’s entrepreneurship programs
Following the launch of the Entrepreneurship Strategy in March 2019, the session will showcase the extensive range of entrepreneurship programs on offer at UQ and how industry partners can participate in and support these activities.

Mr Joe McLean
Director, Research Partnerships

Biography
As Director of Research Partnerships Joe provides strategic and operational support to industry-facing funding schemes and ensure UQ is well positioned to adapt to changes in the policy environment that affect partnerships. Joe has spent 20 years working at the interface of research and industry/government. He has experience project managing Cooperative Research Centre proposals, and has helped facilitate numerous research partnerships between UQ researchers and a variety of private sector, government and NGO partners. As a former manager with UniQuest, he has also managed the commercialisation of a number of UQ discoveries, including Triple P – Positive Parenting Program, Latch-On and Leximancer. Additionally, he has worked closely with government departments to secure funding for major research centres.

PRESENTATION: Contract Research and working with the Research Partnerships Managers
An overview of how UQ works with industry partners to convert ideas into projects.

PRESENTATION: UQ and CRCs and CRC-Ps
Learn how you might participate in the Australian Government’s largest program to support major industry-driven collaborative R&D with universities and how UQ can help.

Research Capabilities Showcase – Full Program
Dr Dino Willox
Director, Student Employability

Biography
Dr Dino Willox is Director of Student Employability at The University of Queensland. They are responsible for developing and coordinating the strategic direction, framework, and services that assist students to become game-changing graduates. Working in partnership with internal and external stakeholders, Dino’s work spans professional, academic, and extracurricular spaces, taking a multidimensional strategic approach to embedding employability. Dino is also Chair of the Employability Group and a member of the Student Experience and Global Mobility Groups for Universitas 21 (U21), a global network of research-intensive universities. In a former life, they represented Wales, Great Britain, and Australia as a field hockey umpire in tournaments worldwide. Dino’s pronouns are they / them.

PRESENTATION: Working with Student Employability and Internships
Employability is a serious business: students expect a return on their investment; industry expects agile, critical, creative, and entrepreneurial mindsets; government is linking funding to employment outcomes. In this context, industry partnerships are critical if we are to ensure that graduates are effective in a rapidly evolving world of work.

Dr Mark Ashton
Executive Director, IP Commercialisation, UniQuest

Biography
Dr Mark Ashton joined UniQuest in 2010 and is currently the Executive Director of Commercialisation. Mark was previously senior director, commercial engagement – health, and before that manager of innovation and commercial development for IMB. Before joining UniQuest, he held positions as executive vice-president (business development) of the European-based biotech company Evotec, and president of the drug discovery operations division of Evotec, responsible for some 200 scientists. Mark completed his undergraduate studies in chemistry, postgraduate studies in medicinal chemistry sponsored by the pharma company Organon (now Merck), and postdoctoral studies in the discovery of novel calcium channel antagonists in the UK.

PRESENTATION: Working with UniQuest – IP & Commercialisation
The University of Queensland is the leading university in Australia for the commercialisation of research outcomes. UniQuest is the technology transfer company of The University of Queensland, managing and commercialising the intellectual property arising from UQ research. This talk will introduce some of the steps involved in the commercialisation of research outcomes and how UniQuest can support the engagement with potential industry partners.
Dr Chris Gourlay
Director, Consulting and Research Expertise (CoRE)

Biography

Chris Gourlay has over 30 years of experience working with industry, government and universities in Australia and overseas as a consultant, research director and business manager. Chris has previously been the Research Director of the CRC for Rail Innovation, a $113 million collaborative research centre funded by the Australian Government and the Rail Industry. Prior to this, he worked in the engineering software industry for MSC Software, a leading simulation company that makes products that enable engineers to validate and optimize their designs using virtual prototypes. He has also worked as an Associate at BMT WBM Consulting Engineers specialising in simulation and mining machinery. He has worked on projects developing ground-based testing facilities for scramjet engines, research in relation to the Nulka hovering rocket missile decoy, and anti-ballistic missile defence for the UK Department of Defence. In his current role as Director of CoRE, Chris leads UQ’s contract manager’s team and UQ Materials Performance overseeing consultancy contracts with industry and government clients from disciplines across UQ and previously held a similar role at UniQuest, UQ’s commercialisation company.

PRESENTATION: UQ Consulting and Research Services

As a UQ researcher, your skills and expertise are highly sought after by the private and public sectors. Organisations want your expertise for its independence, integrity and impartiality. They want access to leaders in their fields, cutting-edge knowledge and facilities. The Consulting and Research Expertise (CoRE) unit can help maximise your commercial consulting and contract research opportunities by providing an exceptional range of support services to ensure engaging with industry is a positive, meaningful and rewarding experience. Learn how to connect with CoRE at this talk.

Dr Kirsten Lawrie
Senior Manager (Industry Grants), Office of Sponsored Research

Biography

Kirsten received her PhD in Polymer Chemistry from the University of Queensland in 2011 before transitioning to a career in Research Management. She has held various strategic and operational roles as a research management professional both within Australia and in the UK including supporting the development of large collaborative research proposals and in managing the implementing of institutional research strategies. Kirsten currently holds a role as a Senior Manager within the UQ Office of Sponsored Research. In this role she has responsibility for overseeing UQ’s engagement with a range of industry focused funding schemes including Innovation Connections, ARC Linkage Projects, ARC Industrial Transformation Research Program and Cooperative Research Centres Projects.

PRESENTATION: UQ and CRCs and CRC-Ps

Kirsten will discuss the Cooperative Research Centres Projects scheme. This scheme was established in 2016 to provide support for short term, industry-identified and industry-led collaborative research projects. Commonwealth Government funding of up to $3million over 3 years is available to develop products, services or processes which will solve problems and deliver tangible outcomes for industry.

Top of the Program
Nicole Thompson  
Director, Office of Sponsored Research

Biography

Nicole Thompson is Director of the University of Queensland’s Office of Sponsored Research. In this role, she works closely with the Deputy Vice-Chancellor (Research) and Pro-Vice-Chancellor (Research) on a range of strategic and operational initiatives to enhance the University’s research funding performance, including diversification of funding sources. Nicole has an active role in training and workshops for researchers on grant-getting strategy, in the mentoring and development of professional staff, and in the advancement of research management career pathways. In 2010, Nicole was inaugural winner of the UQ Vice-Chancellor’s Leadership Award; in 2015, she was honoured with the UQ Award for Excellence in Leadership, in recognition of her contribution to the research achievements of the University; and in 2019, she won the UQ Award for Excellence in Service as a member of the Office of Sponsored Research Fellowships and Awards team. UQ is Nicole’s alma mater.

PRESENTATION: Leveraged Schemes with UQ like ITRP, Linkages, etc.

Nicole’s presentation will discuss leveraged funding opportunities – how universities and industry can partner together in a range of grant schemes to attract funding for innovative, industry-facing research projects and programs.