



DIGITAL CAPABILITY EXPERTS

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Research Organisations and Digital Experts

The AIDCC will leverage ARM Hub's 13 core staff, 47 experts (including leading university researchers), Board members, and Advisors, are Australia's leaders in the design and delivery of technology adoption and R&D commercialisation outcomes for SMEs.

A full list of biographies of the ARM Hub team is listed below. Most recently ARM Hub CEO, Associate Professor Cori Stewart, was awarded the prestigious *Women in AI Awards Australia and New Zealand for 2022 for AI in Manufacturing*.

The AIDCC's executive team has decades of leadership experience in industry and innovation policy, university R&D commercialisation, and technical and management fields in AI, robotics, engineering, design, innovation, entrepreneurship, IP commercialisation, communications, project management, and high-calibre science and technology facility operations, necessary to successfully deliver and grow the AIDCC.

It is precisely the above track record and capabilities that ensures the successful delivery of the AIDCC and its contribution to a sustainable long-term Australian infrastructure supporting SMEs to scale and create Australia's sovereign industrial capability and access to high-value global markets.

The ARM Hub team is supported by a strong Board, who along with the CEO, have been instrumental in establishing the policy arguments and evidence that has inspired the development of the AIDCC program itself. The Chair of the ARM Hub Board is Emeritus Professor Roy Green, Innovation Advisor, University of Technology Sydney. Professor Green holds numerous prestigious national and international government, business and university appointments and is a figurehead for Australia's industrial digital transformation agenda and the reinvigoration of the country's innovation ecosystem.

The AIDCC has six investing Queensland university partners, represented by 47 researchers who contribute to projects and industry engagement activities, including working as part of a National Network, as detailed in the Project Plan, and support from CSIRO's Data61.

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

QUT is a major contributor to the AIDCC through the Centre for Robotics, Centre for Data Science, Centre for Future Enterprise, and Design School.

QUT Centre for Robotics

The Centre builds on a decade of investment in world-leading robotics research and translation, funded through programs including the Australian Research Council's Centre of Excellence in Robotic Vision, Cooperative Research Centres, industry and QUT initiatives. The Centre is led by Distinguished Professor Peter Corke and Professor Michael Milford who are both contributors to the AIDCC.



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The Centre for Robotics is at the forefront of research and innovation in AI-enabled robotics, including computer vision, localisation and mapping, digital twins, machine learning and planning.

The Centre translates research into commercial and societal outcomes, e.g., in mining, defence, precision agriculture, autonomous vehicles, manufacturing and healthcare applications; leads education, training and development of talent to meet growing demands; and provides leadership in technological policy development and societal debate, e.g., drone shared airspace, trusted systems and eXplainable AI.

Key domains of AI expertise

- **Physical interaction** – explores how the physical world can be translated to the digital. Beyond cyber-physical system interaction, researchers are embodying AI in robotic systems, sensing important real-world data, and advancing force-mediated control methods.
- **Perception and localisation** – utilises advanced computational vision, feature selection and neuroscience-inspired AI, such as RatSLAM, to create maps, and calculates and tracks its location in the world.
- **Visual learning and understanding** – investigates how AI perception can be made safe, trustworthy, and reliable, e.g. for people detection in hazardous workplaces. Understanding is developed through object-based semantic maps, graphs, and symbolic rule mining.
- **Decision and control** – investigates how AI can make autonomous decisions and control for robots in the presence of uncertainty, e.g., probabilistic (Bayesian) reasoning. Advanced data analysis detects anomalous conditions in weak measurement environments, such as invasive species detection in agriculture and on reefs.
- **Human interaction** – how AI can effectively interact with humans, including how humans interact, perceive and trust AI, especially concurrent symbolic and post-hoc deep-learning techniques in eXplainable AI.

QUT Centre for Data Science

The Centre draws together capability in data science from across Australia and is a global leader of frontier methods for the use of data. Led by Distinguished Professor Kerrie Mengersen, the Centre's work supports Responsible AI, including ethical, governance, sovereign, also data management and data literacy.

The Centre builds the tools to deliver Responsible AI, using analytical methods, visualisation and aggregating data sets using federated systems to maintain ownership/privacy. Through federated analysis on data, the Centre identifies how to do 'transfer learning' from one system to another.

The Centre uses different types of data, such as analysing emerging data forms such as video, natural language processing, virtual reality, satellite data and social media. The Centre also works with little data sets, as well as large, which is critical for emerging areas like biosecurity.

The Centre will provide the AIDCC with a one-stop-shop to:



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- Access Australia's data science network and research capability
- Bridge the gap between deep research and applications
- Create a trusted source for advice on AI and data science issues
- Bring together a critical mass of data science researchers to develop, and contribute to, state-of-the-art solutions (including NAIC and AIDCC's collaboration on the ethical access to large, shared data sets)
- Create partnerships through an Australian data science network
- Provide research and professional training opportunities to SMEs
- Leverage investment in data science (e.g. strategic appointments, access to research infrastructure and relevant data assets, Australian Research Council Centres of Excellence and in eResearch).

Key domains of AI expertise include:

- **Applied data science** – multi-faceted datasets obtained from big data sources are curated prior to deep learning and natural language processing techniques for bespoke customer applications.
- **Data-focused decision making** – novel methods for Counterfactual Assumptions and removal of Representation Bias improve AI in visualisation, communication and interpretation of data. These analyses allow for improved decision-making, and the critical evaluation of issues related to the role and use of data science in society.
- **Models and algorithms** – use of novel models, such as Sentiment Analysis, Graph Mining and extraction of Predicate Rules from Deep Learning to describe and make decisions about complex real-world systems, and methods to ensure high quality, open, reproducible data science. The Centre develops scalable, efficient computational algorithms for analysing dimensional and highly structured data.
- **Data for discovery** – advancing the medical, physical, technological and social sciences through the development and application of new data science methods in non-parametric and distribution free models to achieve rigorous scientific discovery and generate evidence-based insights.

QUT Centre for Future Enterprise (CFE)

The CFE includes world-renowned strategy, technology, and innovation management experts that will work with the AIDCC to support SMEs and microenterprises, across regional and urban areas, in the areas of AI Governance, AI Business Models and Applications of AI. CFE will contribute PhD students to projects aligned to topic areas and in relevant programs, such as the AI Industry Fellows initiative and the AI Supply Chain Innovation program activities.

QUT School of Design

The School leads applied research on how to design robots that work better with humans. The School contributes to the AIDCC by engaging with industry to build toolkits for the rapid prototyping of collaborative robotics solutions, and leveraging multimodal interaction, including Augmented



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Reality and Virtual Reality, with robotics systems. These teams will collaborate with selected industry partners including Australian Expedition Vehicles, which makes Australian Defence Force and International Defence Industry military vehicles and is 100% Indigenous-owned, Veteran company, located in Townsville Queensland.

JAMES COOK UNIVERSITY

James Cook University (JCU) builds and applies AI tools in key areas of applied research. JCU has internationally-recognised research strengths in the Internet of Things (IoT) and is supported by innovative sensor technologies and engineering capability.

JCU has built long-term industry partnerships across the country and specifically in North Queensland, which is the location of large-scale investments in hydrogen, critical minerals, clean energy, recycling, and other high-value resource industries – all urgently requiring access to the high-value skills that the AIDCC will offer.

The AIDCC will have a second facility in JCU's Townsville campus, with business and technical expertise and demonstration capabilities. Key programs such as the defence technology accelerator (SPRINTS) program will be delivered in Townsville, alongside a corporate education Datathon focused on SME defence industry outcomes.

JCU has committed its eResearch Centre and the Engineering Facility expertise to the AIDCC whose work is characterised by applying novel, collaborative, multidisciplinary and data/compute intensive applied research.

UNIVERSITY OF QUEENSLAND (UQ)

The strengths of contributing UQ experts span several areas of AI, machine learning, data science, computer vision, data mining, human-centered AI, optimisation and statistics.

Key manufacturing priority industries include medical, resources, defence, and clean energy as well as the critical cross-cutting field of cyber security. UQ also work extensively in agriculture supporting digital SMEs to access global markets with leading AI and quantum computing capabilities.

The UQ AI Collaboratory and the UQ Centre for Cyber Security are the key contributors to the AIDCC program, working on industry projects and engagement activities. UQ also offers training to industry through dedicated Cyber Security SME short courses as well as AI short courses, including the 7 Week introductory platform to AI 'Practical Deep Learning for Coders' by Honorary UQ Professor Jeremy Howard, Founder of fast.ai.

UNIVERSITY OF SOUTHERN QUEENSLAND (USQ)

USQ's Centre for Agricultural Engineering (CEA) will be the partner for this AIDCC. Operating since 1994 its purpose is to develop solutions for a sustainable and profitable rural sector. Based in Toowoomba, the Centre delivers applied, practical and profitable solutions that strengthen productivity, energy use, bioresource recycling, sensing, AI, automation and robotics. CEA will work with selected AIDCC companies including Indyn Pty Ltd to build a bio secure AI platform for the grain industry.



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GRIFFITH UNIVERSITY

Griffith University, through its School for Exercise Science, is collaborating with the AIDCC on developing personalised digital twins for humans and implanted and wearable devices. These personalised digital twins are biophysics-based multiscale models of the human neuro-muscular-skeletal systems that are in part created and executed using AI. Griffith will be collaborating specifically with the AIDCC's industry partner, VALD Performance, which provides high performance sport and tactical professionals the right information, for the right decision, at the right time.

CENTRAL QUEENSLAND UNIVERSITY

CQU's applied research strength in robotics, or mechatronic engineering, in its Mackay campus is the focus of the AIDCC collaboration. CQU expertise includes inspection robots for condition assessment of infrastructure such as water pipes, and drones for commercial application highlighted in its collaboration with Swarm Farm Robotics that delivers lightweight agricultural robots for farm operators to a global marketplace.

CSIRO DATA61

CSIRO's Data61 is the data and digital specialist arm of Australia's national science agency. Our vision is to be among the world's top five in trusted and responsible AI science and technology, making Australia's adoption of mathematically rigorous AI safe, secure, and reliable. Through our Responsible AI and our Foundational Machine Learning programs, there are clear goals to enable SME adoption by making embedding rigorous trustworthy AI technologies as their competitive advantage and embed responsible AI into broader scientific discovery and technology development processes.

EXPERTS



Distinguished Professor Peter Corke – Professor in Robotic Vision, Faculty of Engineering, QUT; Member, ARM Hub Research Advisory Committee

Peter Corke is a robotics researcher and educator with over 30 years' experience in robotics theory and practice. He is the distinguished professor of robotic vision at Queensland University of Technology, director of the QUT Centre for Robotics, and director of the ARC Centre of Excellence for Robotic Vision. His research is concerned with enabling robots to see, and the application of robots to mining, agriculture and environmental monitoring. He wrote the bestselling textbook "Robotics, Vision, and Control" and the Robot Academy online teaching resource.

**Distinguished Professor Kerrie Mengersen FAA FASSA – Australian Laureate Fellow, Faculty of Science, QUT**

Kerrie Mengersen is a Distinguished Research Professor in Statistical Science and the Director of the QUT Centre for Data Science at QUT and holds a concurrent role as Associate Member in the Department of Statistics at the University of Oxford, UK. She was a Deputy Director in the ARC Centre of Excellence in Mathematical and Statistical Frontiers (2015-2021) and an ARC Laureate Fellow (2015-2021). In 2018 she was elected as a Fellow of the Australian Academy of Science (AAS), the Academy of Social Sciences in Australia (ASSA) and the Queensland Academy of Arts and Sciences (QAAS). She is an active member of the Institute for Mathematical Sciences, International Biometrics Society, International Statistical Institute and the Statistical Society of Australia. Professor Mengersen's research focuses on using and developing new statistical and computational methods that can help to solve complex problems in the real world. These problems are in the fields of environment, genetics, health and medicine, and industry. Her research interests include, complex systems modelling and Bayesian statistical modelling, computational methods and applications.

**Professor Jonathan Roberts, ARM Hub Technical Director, Professor in Robotics, Faculty of Engineering, QUT; Centre Director – Australian Cobotics Centre**

Jonathan Roberts is Professor in Robotics at Queensland University of Technology (QUT). His main research interests are in the areas of Field Robotics, Design Robotics and Medical Robotics. He was a co-inventor of the UAV Challenge, an international flying robot competition. Before joining QUT, Professor Roberts was the Research Director of CSIRO's Autonomous Systems Laboratory where he developed projects in the area of museum robotics and telepresence. Professor Roberts is a Past President of the Australian Robotics & Automation Association, was a member of the Founding Editorial Board of the IEEE Journal of Robotics and Automation Letters and currently serves as a Senior Editor. He is the Centre Director of the [Australian Cobotics Centre](#) which was established in August 2021 with a focus on the implementation of Collaborative Robotics (or Cobotics) within Australian manufacturing.

**Professor Will Browne, Professor and Chair in Manufacturing Robotics - Faculty of Engineering, QUT and ARM Hub**

Will Browne is Professor and Chair in Manufacturing Robotics at Queensland University of Technology (QUT) with ARM Hub and CSIRO. Possessing expertise in artificial cognitive systems, with interest in how systems, such as robots, can interact with the real-world to solve problems of interest. His topics of interest include computer vision and perception, explainable Artificial Intelligence (AI), transfer learning and collaborative robotics. Professor Browne's interdisciplinary background in Mechanical Engineering, Energy Studies, Control, Cybernetics, Computer Science, Computational Neuroscience as well as AI and Robotics, is further expanding the disciplines of the ARM Hub expert team.

**Professor Michael Milford, Co-Director of the QUT Centre for Robotics Professor in Robotics, Faculty of Engineering,**

Michael Milford conducts interdisciplinary research at the boundary between robotics, neuroscience and computer vision and is a multi-award-winning educational entrepreneur. His research models the neural mechanisms in the brain underlying tasks like navigation and perception to develop new technologies in challenging application domains such as all-weather, anytime positioning for autonomous vehicles. He is also passionate about engaging and educating all sectors of society around new opportunities and impacts from technology including robotics, autonomous vehicles and artificial intelligence. Professor Milford was named the top robotics researcher in Australia by citation impact by The Australian Research Magazine (2019) and was a top 3 finalist for the Australian Museum Eureka Prize for Outstanding Early Career Researcher (2016), the APEC ASPIRE Prize Finalist (2018) and was a finalist in the Reimagine Education Awards Finalist K12 Category.

**Professor Richi Nayak, Faculty of Science, QUT**

Richi Nayak is the Applied Data Science Program Leader of the University Centre for Data Science (CDS) and is an internationally recognised expert in data mining, text mining and web intelligence. She has combined knowledge in these areas very successfully with diverse disciplines such as Social Science, Science, and Engineering for technology transfer to real-world problems to change their practices and methodologies. Her research interests are machine learning and, in recent years, she has concentrated her work on text mining, personalisation, automation, and social network analysis. She has published high-quality conference and journal articles and is highly cited in her research field. Professor Nayak has received several awards and nominations for teaching, research and service activities.

**Professor David Lovell, Faculty of Science, QUT**

David Lovell is a Professor in the [QUT's School of Computer Science](#), Deputy Director of [QUT's Centre for Data Science](#), and leader of the Centre's Data-Focused Decision-Making Program. He joined QUT in 2014 as Head of the School of Electrical Engineering and Computer Science (EECS). Before joining QUT, he held numerous research management positions in CSIRO. Professor Lovell was involved in a wide range of research and consulting in the analysis of large and complex datasets and was appointed Director of the Australian Bioinformatics Network and has been instrumental in the formation of ABACBS (Australian Bioinformatics and Computational Biology Society). His research interests lie at the intersection of humanity, science and technology, particularly data science.

**Professor Marek Kowalkiewicz – Faculty of Business and Law, QUT**

Marek Kowalkiewicz is an academic and industry leader with extensive experience in conducting research, co-innovating with industry and university partners, and delivering innovative products to the market. As founding director of Centre for the Digital Economy, he leads QUT's research agenda to inform and influence a robust digital economy in Australia. Professor Kowalkiewicz manages a contemporary research portfolio and converts industry driven opportunities into research outcomes of global relevance. He is an invited government expert, university lecturer and project lead, as well as an inventor and author. He is recognised as a top-quality manager and excellent public speaker and has an interest in working with stakeholders in developing innovative ideas, ground-breaking business applications and high-impact new technologies.

**Associate Professor Glenda Amayo Caldwell – Academic Lead Research, Faculty of Engineering, QUT**

Glenda Amayo Caldwell is a Senior Lecturer in Architecture, School of Design, Creative Industries Faculty at the Queensland University of Technology (QUT). She is a chief investigator in the IMCRC Design Robotics for Mass Customisation Manufacturing project in collaboration with UAP and RMIT. Embracing trans-disciplinary approaches from architecture and human computer interaction, her research places design at the forefront of robotic research for design-led and mass customization manufacturing. She is an active researcher in the QUT Design Lab and is the author of numerous publications in the areas of media architecture, urban informatics, and design robotics.

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**Associate Professor Jared Donovan – Academic Lead Research, Faculty of Creative Industries, Education & Social Justice, QUT**

Jared Donovan is a Senior Lecturer in Interaction Design at the Queensland University of Technology. He currently leads the 'Design Robotics for Mass Customised Manufacturing' research project with industry partner UAP (funded by IMCRC), which is developing new ways to use robots and vision systems for design led manufacturing. His main research interest is in how technologies can be made more useful and easier to use for people and how end-users can be involved in the design process to make technologies better.

**Dr Muge Belek Fialho Teixeira – Senior Lecturer, Faculty of Engineering, QUT**

Muge Belek Fialho Teixeira is an award-winning creative maker and transdisciplinary designer, who specialises in advanced manufacturing, digital fabrication, and parametric design. She is one of the chief investigators of QUT's Design Robotics project. In her career, she has worked with prominent architectural firms such as Zaha Hadid Architects, taught in several institutions including AA Visiting Schools, published articles, given interviews, and presented in many international conferences and exhibitions.

**Associate Professor Markus Rittenbruch – Associate Professor in Interaction Design, Faculty of Creative Industries, Education & Social Justice, QUT**

Markus Rittenbruch is an Associate Professor in Interaction Design at Queensland University of Technology (QUT). He is the Associate Director of the QUT Design Lab which hosts innovative research at the interplay of Design and Technology, such as the Design Robotics project. Professor Rittenbruch is an experienced researcher with over 20 years of experience in the design of human-centred technology. His work focuses on the design and study of emerging technologies, including collaborative systems, human-robot collaboration, social robotics, and extended reality.

**Professor Greg Hearn – QUT and Chair, ARM Hub Strategic Research Committee**

Greg Hearn is Director of Commercial R&D in the Creative Industries Faculty at QUT and a research leader in the ARM Hub and QUT Design Lab. His research focuses on strategic industry futures, knowledge policy, and the future of work. He is author of over 20 major books and reports, most recently as editor of *The Future of Creative Work: Creativity and Digital Disruption* (Edward Elgar, 2020). This book examines the impact of digital disruption, robotics, and AI, on jobs in design, art and media, and the creation of high value products and services across all sectors of the economy. He has worked in large R&D projects with private industry and public sector organisations over three decades, across many sectors including, aviation, defence, agriculture, and manufacturing.

**Dr Chris Lehnert, Faculty of Engineering, QUT**

Chris Lehnert is a Senior Lecturer within the Robotics and Autonomous Systems (RAS) group at QUT. His research interests lie in the development of novel methods for robotic manipulation in real world and challenging environments. A particular focus of his research is enabling robots to perform autonomous harvesting operations in horticulture. He was part of the Australian Centre for Robotics Vision team competing in the 2017 Amazon Robotics Challenge, where he led the development of the grasping and planning algorithms which could successfully grasp a large variety of objects in a cluttered environment. He is part of the Future Food Systems Co-operative Research Centre and will receive \$35 million in funding over 10 years from the Federal Government, along with almost \$150 million in support from the research centre's educational and commercial participants. He will be working on developing robotics and smart technology for vertical and indoor protected cropping.

**Dr Rui Torres de Oliveira – Business Growth, Strategy and Innovation, QUT**

Rui Torres de Oliveira is an academic at QUT Business School where he is an expert on innovation, strategy and International Business on the Australian Centre for Entrepreneurship - a world-leading hub in the field. Before joining QUT, he worked at the University of Queensland and prior to that, he was a senior executive and worked in the US, China, and Europe. Dr Torres de Oliveira holds a Doctorate of Business Administration from Manchester Business School, an MBA and a Masters in Civil Engineering. He is passionate about helping start-ups and SMEs to drive innovation and bring their products or services to the market in the best possible conditions.

**Professor Felipe Gonzalez – Faculty of Engineering, QUT**

Felipe Gonzalez is within the School of Electrical Engineering and Robotics (EER) and a CI in QUT Centre for Robotics (QCR) Engineering Faculty. He has a passion for innovation in the fields of aerial robotics and automation, and a particular interest in creating aerial robots, drones or UAVs that possess a high level of cognition using efficient on-board computer algorithms using advanced optimisation and game theory approaches to assist us in understanding and improving our physical and natural world. He leads the Airborne Sensing Lab at QUT, and is co-author of several books in UAV-based remote sensing and design based on evolutionary optimization and game strategies. He is also a Chartered Professional Engineer, Engineers Australia – National Professional Engineers Register (NPER), a Member Royal Aeronautical Society (RAeS), The IEEE, American Institute of Aeronautics and Astronautics (AIAA) and Holder of a current Australian Private Pilot Licence (CASA PPL) and a Remote Pilot Licence (RePL from CASA).

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**Dr Tim Williams – Industrial Design Lead, QUT**

Tim William's career has been divided between design practice and academia giving him ideal perspective on the benefits of industry-university collaboration. Consequently, he has a strong track record of leading collaborative projects with industry partners both locally and internationally. His background is Industrial Design with expertise in Computer Aided Design, Design for Manufacture, and Design for Electronics. Mr Williams is an authority on Product Ecosystem theory and has diverse research interests including Design-Led innovation, 3D printing, transportation design and boat building.

**Associate Professor Alice Payne, Circular Economy and Textiles, School of Design, QUT**

Alice Payne is an Associate Professor in Fashion in the School of Design, a program leader in Centre for a Waste-Free World, and co-leader of the research group TextileR: Future Textile Industries. Her research centres on environmental and social sustainability concerns throughout textile and apparel industry supply chains. Dr Payne has examined perspectives on sustainability along the cotton value chain, the cultural and material flows of post-consumer textile waste, and design processes of mass-market product developers, independent fashion designers, and social entrepreneurs. She is author of the book *Designing Fashion's Future: Present Practice and Tactics for Sustainable Change* (Bloomsbury 2021), co-author of *Fashion Trends: Analysis and Forecasting* (second edition, 2021) and co-editor of *Global Perspectives on Sustainable Fashion* (Bloomsbury 2019). She is an award-winning designer and has exhibited in Australia and overseas. In 2014 and 2020 her design work was featured in *A Practical Guide to Sustainable Fashion*. Her recent work explores speculative approaches to textile design including design for disassembly and biotextiles.

**Associate Professor Rafael Gomez – Design Lead, QUT**

Rafael Gomez is Study Area Coordinator for Industrial Design. He is a design researcher for QUT Design Lab and a prominent researcher in the field of emotional experience, wearable tech for medical/health applications and emerging technologies. He works closely with global industry partners and leads the BMW Group + QUT Design Academy which focuses on fostering design excellence, exploring new knowledge horizons and advancing cutting-edge technologies through internships, research and special R+D projects with BMW Group in Germany. Rafael has been a Council Member of the Design Institute of Australia Queensland Chapter, Founder and Chair of the Design and Emotion Society Australia Chapter and Committee Member for the 2015 IASDR International Design Conference.

**Associate Professor Ajay Pandey, Sensors and Intelligent Systems, QUT**

Ajay Pandey is Associate Professor at Queensland University of Technology (QUT) with expertise in bespoke sensor design and development of intelligent systems. His topics of interest include design and development of intelligent sensing and energy harvesting platform technologies with capabilities of on-sensor and near-sensor computing. His research is centred on how autonomous systems such as robots can gain situational awareness akin to intelligent biological systems. He leads several interdisciplinarity projects on development of advanced vision, tactile and acoustic sensing technologies for medical robotics, infrastructure monitoring, and sustainable engineering. Dr Pandey's interdisciplinary background in Physics, Electrical Engineering, Materials Science and Energy Systems further expands ARM Hub's advanced manufacturing capability in new domains of medical devices, micro/nano robotics and wearable electronics.

**Mr Dan Christie, Head of Engineering, James Cook University (JCU)**

Mr Christie is currently the Head of Engineering at James Cook University. At the time of receiving this award he was the Glencore Copper Refinery and Port Operations Manager in Townsville. After graduating from James Cook University, with a Bachelor of Engineering with Honours in 1998, Mr Christie obtained a Master of Science degree in Systems Engineering from Loughborough University, UK. Since 2010, he has been serving as a Manager and Superintendent at Glencore, a leading global natural resource company. Mr Christie has more than 15 years' experience in various large-scale engineering projects, ranging from defence projects with the Royal Australian Air Force to international resource projects with leading global mining and resource companies.

**Professor Ian Atkinson, Professor and Director eResearch Centre, JCU**

Ian Atkinson is a Tropical Leader and Director of the eResearch Centre at James Cook University. His PhD studies were in chemical physics but he moved from experimental science into computational chemistry and high-performance computing two decades. Over the past decade, the rapid expansion of the Internet, mass data storage, and computing has impacted every area of research and academic activity. As Director of the JCU eResearch Centre he has the privilege of working with researchers to apply new and ever-changing ICT tools and methods to their research and amplifying their impacts. Professor Atkinson has a long-standing interest in eResearch methods, tools, scientific data management and user interfaces for HPC tools. He is also actively involved in researching how new systems and software that connect the physical and virtual worlds, particularly focusing on environmental monitoring with sensor networks.

**Professor Nico Adams, Optus Chair of Digital Innovation (IoT), JCU**

Prior to joining JCU in December 2021, Nico Adams was an Associate Professor and Director of the Factory of the Future at Swinburne University of Technology. He held the position of Senior Research Scientist and Product Manager at CSIRO's Data61 for over three years. Following on from his work with CSIRO and Data61, Dr Adams assumed the role of Program Lead for Digital Transformation and Industry 4.0 at the Innovative Manufacturing Cooperative Research Centre (IMCRC). At IMCRC, he co-developed an innovation diagnostic and an Industry 4.0 business, product and strategy framework tailored for small-to-medium sized businesses. Dr Adams is also a Chief Investigator at the Australian Cobotics Centre.

**Dr Mostafa Rahimi Azghadi, Senior Lecturer, Electrical and Electronic Engineering, JCU**

Mostafa Rahimi is a recognised national and international scientist and leader, who was ranked in the top 2% of the highly cited EEE researchers in 2020. He is currently the Chair of the IEEE Northern Australia Section and the program coordinator for the JCU Electrical and Electronic Engineering degree. Dr Rahimi is the AI leader of the \$5M ARC-funded JCU Agriculture Technology and Adoption Centre.

**Dr Stephanie Baker, Lecturer, Electronic Systems and Internet of Things Engineering, JCU**

Stephanie Baker holds a Bachelor of Engineering (Computer Systems) degree with first class honours. Her PhD focus is on artificial intelligence for healthcare. Having submitted her dissertation in early 2021, she continues to research in the field of healthcare, while also expanding into areas including conservation and accessibility. Dr Baker has a broad range of research interests, with primary focus placed on machine learning and software.

**Mr Luke Deacon, Associate Director, Business Development and Commercialisation, JCU**

Luke Deacon is a leader of creative teams, taking on exciting new projects and delivering amazing results. He is passionate about leading teams to build highly impactful programs in the design, execution and scaling entrepreneurship and early-stage technology commercialisation.

**Professor Vicki Chen, Executive Dean, Faculty of Engineering, Architecture & Information Technology, UQ and ARM Hub Research Advisory Committee Member**

Vicki Chen holds a Bachelor of Science in chemical engineering from Massachusetts Institute of Technology (MIT) and a PhD from the University of Minnesota. She was formerly Head of the School of Chemical Engineering at the University of New South Wales (UNSW), Sydney, where she led the School's performance in research, teaching, infrastructure development, and academic recruitment. With a multitude of national research grants, Professor Chen is a highly successful researcher with over 11,000 citations and 190 publications to her name. She also has held senior positions as the Director of UNESCO Centre for Membrane Science and Technology and other significant roles in leading major multi-institutional, collaborative projects with Australian and international industrial partners such as Australian Low Emission Coal R&D, Bluescope Steel and BASF. Professor Chen's collaborations have achieved high-profile outcomes, including new antifouling coatings, novel processes for water purification and brine treatment, CO₂ capture technologies, and high-performance nano-composite materials. Professor Chen is a Fellow of the Australian Academy of Technology and Engineering (ATSE)

**Professor Ryan Ko, Chair/Director, Cyber security, UQ**

Ryan Ko's research in cyber security focuses on returning control of data to cloud computing users. He researches information integrity and cyber autonomy in critical infrastructure sectors such as energy, manufacturing, regulatory and agriculture sectors. He serves on the Technical Reference Group of Meat and Livestock Australia Integrity Systems Company, Technology Advisory Board Livestock Improvement Cooperation, is the Research Lead and co-founder of First Watch, advisor to Nyriad, and expert advisor to INTERPOL, NZDF, NZ Minister for Communications' Cyber Security Skills Taskforce.

**Professor Matthew Dargusch, Mechanical and Mining Engineering, UQ**

Matthew Dargusch is a Professor in the School of Mechanical and Mining Engineering. He is the Director of the ARC Industry Transformation Research Hub for Advanced Manufacturing of Medical Devices, and the Chief Technology Officer for the Defence Materials Technology Centre. Professor Dargusch's primary research interests are associated with addressing the major technical challenges facing Australian metal manufacturers in order to assist them to participate more effectively in global supply chains and the development of improved medical devices.

**Professor Michael Brünig, Head of School, Information Technology, UQ**

Michael Brünig is Head of School of Information Technology and Electrical Engineering at The University of Queensland. He is a data innovation expert with over 20 years' experience in research and development across industry, government and academia over three continents. He is currently the Head of School of Information Technology and Electrical Engineering at The University of Queensland (UQ). Professor Brünig is a versatile Academic Leader who has previously led the UQ Business School. Before joining UQ, Professor Brünig worked with Australia's most widely known science research and translation hub, CSIRO. As an executive manager with the organisation, he led an initiative to establish a National Research Flagship on Digital Productivity and later guided the business through a merger to create Data61, a national research powerhouse focusing on data innovation.

**Dr Michael Heitzmann, Senior Lecturer, Faculty of Engineering, Architecture and Information Technology, UQ**

Michael Heitzmann is the Co-Director Centre for Advanced Materials Processing and Manufacturing with an expertise in advanced composite materials and processes and new product development. The centre brings together over 50 researchers and 120 PhD students working on materials, design and manufacturing solutions for future economies. He was also one of the main driving forces behind the formation of the UQ Composites group now spanning across all schools within the EAIT faculty. Despite the relatively short time in an academic career, he has been awarded over 5.2M AUD in research funding as chief investigator (CI), of which over 1.2M AUD have been obtained as the lead CI. Michael is the supervisor of 9 research higher degree students (8 PhD, 1MPhil).

**Professor Andrew White, Faculty of Science, UQ**

Andrew White's research interests are in the field of quantum information, quantum optics, and all aspects of quantum weirdness. More details are included on the [Quantum Laboratory website](#). He has conducted research on various topics including shrimp eyes, nuclear physics, optical vortices, and quantum computers. He likes quantum weirdness for its own sake, but his current research aims to explore and exploit the full range of quantum behaviours—notably entanglement—with an eye to engineering new technologies and scientific applications. He is currently Director of the Centre of Engineered Quantum Systems, an Australia-wide, 14-year long, research effort by 180 scientists to build quantum machines that harness the quantum world for practical applications.

**Associate Professor Marcus Gallagher, Faculty of Engineering, UQ**

Marcus Gallagher is an Associate Professor in the Artificial Intelligence Group in the School of Information Technology and Electrical Engineering. His research interests are in artificial intelligence, including optimisation and machine learning. He is particularly interested in understanding the relationship between algorithm performance and problem structure via benchmarking. His work includes cross-disciplinary collaborations and real-world applications of AI techniques. Dr Gallagher received his BCompSc and GradDipSc from the University of New England, Australia in 1994 and 1995 respectively, and his PhD in 2000 from the University of Queensland, Australia. He also completed a GradCert (Higher Education) in 2010.

**Professor John Bell, Deputy Vice-Chancellor (Research and Innovation), USQ**

John Bell leads the Research and Innovation Division at the University of Southern Queensland. He oversees a coordinated focus on fostering collaborations and partnerships with government, industry and the research community, within Australia and around the world to deliver applied research outcomes that have global impact. His key responsibilities include the implementation of the USQ Research Plan, managing research programs, partnerships and investments, driving research performance and supporting research staff and students to achieve excellence. As an outstanding researcher in his area of materials engineering and energy, Professor Bell has led projects in the development of energy efficient smart windows, dye-sensitised solar cell development, and carbonaceous materials. He also has expertise in the area of energy efficiency and occupant comfort in buildings, and has carried out extensive research with industry.

**Professor Peter Schubel, Executive Director, Institute for Advanced Engineering and Space Sciences, USQ; Committee Member, ARM Hub Research Advisory Committee**

Peter Schubel is a polymer composites materials and manufacturing engineer, specialising in the design and processing of high-value composite components and structures, focusing on automated manufacturing, process development, advanced infusion processing, surface metrology, biocomposites and cost modelling for the aerospace, defence, space, automotive and wind energy sectors. He completed his Mechanical Engineering degree at the University of Southern Queensland, Australia in 1999. After working as a Production Engineer at Orford for 2 years, he moved to the University of Nottingham, UK and in 2004 completed his PhD with industrial sponsor Aston Martin Lagonda in the area of Polymer Composites Engineering, where he worked on composite materials and manufacturing projects ranging from automotive, aerospace and wind energy sectors. In 2011, he took on a joint role as the National Centre Manager for the EPSRC Centre for Innovative Manufacturing in Composites, coordinating

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fundamental composites research activity in the UK. In 2014, he was also appointed as the Deputy Director of the Industrial Doctorate Centre in Composites Manufacture at the University of Bristol, where he supported the development and delivery of the EngD program.



Professor Craig Baillie, Director, Centre for Agricultural Engineering, USQ & Deputy Director (IAESS)

Craig Baillie is an Agricultural Engineer with 24 years' experience in agricultural Research, Development and Extension (R, D & E). He is currently the Director of the Centre for Agricultural Engineering (CAE) based at the University of Southern Queensland. His role within the CAE includes research management, business development (new projects) and the commercialisation/adoption of engineering technologies developed by the centre. Professor Baillie's primary research interests include farming systems innovation and technology solutions to improve farm productivity and profitability.



Professor Hon. John McVeigh, Executive Director, Institute for Resilient Regions, USQ

John McVeigh is a former politician serving as a Queensland State Government Minister for Agriculture, Fisheries and Forestry from 2012 to 2015. He was the Federal Government representative for the seat of Groom from 2016 to 2020, holding the position of Minister for Regional Development, Territories and Local Government. Professor Hon McVeigh joined USQ in September 2020 as Executive Director for the Institute for Resilient Regions (IRR). The IRR conducts multidisciplinary collaborative research with industry, community, and government in a broad range of regional settings. The IRR draws together research expertise to address complex issues, challenges and opportunities in regional communities.



Dr Cheryl McCarthy, Senior Research Fellow, Centre for Agricultural Engineering, USQ

Cheryl McCarthy is a Senior Research Fellow in mechatronic engineering with the Centre for Agricultural Engineering at the University of Southern Queensland. Her research involves developing machine vision and sensing systems for agriculture. She has worked on machine vision projects for the beef, fodder and macadamia industries and her current projects include precision sensing of weeds for the sugar, cotton and grains industries. Dr McCarthy has a BEng (Mechatronic) and PhD from USQ. Her research interests include the application of mechatronic engineering to agriculture and imaging spectrometry. She holds a CASA UAV Operator's Certificate.

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Dr Alison McCarthy, Senior Research Fellow, Irrigation and Cropping Systems, USQ

Alison McCarthy is an irrigation and mechatronic Research Fellow within the Centre for Agricultural Engineering at the University of Southern Queensland in Toowoomba. She has a BEng (Hons) in Mechatronics and PhD in Irrigation Engineering from the University of Southern Queensland. Her research with the cotton industry led to the development of real-time adaptive control and low-cost camera-based sensing systems to reduce labour in plant growth monitoring and improve and potentially optimise the irrigation of field crops. Her current projects involve the variable-rate irrigation of cotton, dairy, horticulture and sugarcane crops via lateral move and centre pivot irrigation machines and surface irrigation systems. She developed a simulation framework 'VARIwise' to aid the development, evaluation and management of spatially and temporally varied site-specific irrigation control strategies. Her research interests include irrigation decision-making and machine vision.



Associate Professor Xuesen Zeng, Deputy Director and Theme Leader, Advanced Composites Manufacturing, Centre for Future Materials, USQ

Associate Professor Xuesen Zeng is a polymer composites research in the Centre for Future Materials at the University of Southern Queensland (USQ). The process of pultrusion has been used by at USQ to create composite materials for the oil and gas and transport industries in Australia and overseas. Pultrusion involves creating continuous lengths of composite material by pulling fibre-reinforced profiles through a cross-section of die, resin, and heating and cooling zones. Working alongside Wagner's Composite Fibre Technologies (CFT), a Toowoomba-based manufacturer that utilises the pultrusion technique, the collaborative project, funded by the Cooperative Research Centres (CRC) program, is looking into new applications for the manufacturing process. The \$10 million collaboration will receive \$3m from the federal government's CRC program.



Associate Professor Rajib Rana, School of Mathematics, Physics and Computing, Program Leader, IoT-Health Research Program, USQ

Rajib Rana obtained a Doctor of Philosophy from UNSW Australia in 2010 and joined USQ as a Vice-Chancellor's Research Fellow in 2016. He was appointed a Program Director, Master of Data Science in February 2021. He received the Young Tall Poppy Qld Award in 2018.

**Professor Alan Wee-Chung Liew, Deputy Head of School (Research) School of Information and Communication Technology, Griffith University**

Alan Liew is currently the Deputy Head (Research) of School, the School of Information & Communication Technology, and the Deputy Director of the Institute for Integrated Intelligent Systems (IIIS), at Griffith University, Australia. Prior to joining Griffith University in 2007, he was an Assistant Professor at the Department of Computer Science and Engineering, Chinese University of Hong Kong. His research interest is in the field of AI, machine learning, medical imaging, computer vision, and bioinformatics. He leads the medical/health informatics stream in IIIS, and is engaging with the Menzies Health Institute, the Gold Coast University Hospital, Queensland Health, and the Precision Medicine Data Platform (PMDP) on several collaborative projects. He has published extensively in these areas with two books and more than 200 journal and conference papers, and holds two international patents.

**Professor David Lloyd, Director, Centre of Biomedical and Rehabilitation Engineering, Griffith University**

David Lloyd is a Professor of Biomechanical Engineering at Griffith University. He is a mechanical engineer (BSc-Merit, University of New South Wales, 1984) who first worked in the aeronautical industry, and then completed a PhD in Biomechanical Engineering (University of New South Wales, 1993). He then received a prestigious NIH Fogarty International Post-doctoral fellowship (1993-1995) in computational biomechanics and neurophysiology at the premier Rehabilitation Institute of Chicago and Northwestern University Medical School. David has over 30 years of academic research experience in biomechanical engineering, biophysics, sports medicine, and regenerative medicine. He co-founded both the Griffith Centre of Biomedical and Rehabilitation Engineering (GCORE) and Griffith's Advanced Design and Prototyping Technologies Institute (ADaPT). He is the director of GCORE, which undertakes cross-disciplinary research in orthopaedic, neuromusculoskeletal, and cardiovascular biomedical engineering, with hospitals, such as the Gold Coast University Hospital and Queensland Children's Hospital, and industry partners including BiVacor, Orthocell, VALD, Materialise, OrthoPediatrics, Stryker and Philips. David is an international research leader who is Australia's 1st ranked and world's 16th ranked (out of >170,000) biomechanics expert.

**Dr Hui Tan, Senior Lecturer, Head of Computer Science, Griffith University**

Hui Tian is currently appointed as Senior Lecturer and the Discipline Head of Computer Science in the School of Information and Communication Technology, Griffith, Australia. She received the PhD degree in Computer Science from Japan Advanced Institute of Science and Technology. Prior to joining Griffith, she was an Associate Professor in Beijing Jiaotong University, China. Dr. Tian's main research interests include Wireless Communications and Networking, Network Tomography, Privacy and Security, Knowledge Discovery. She has published one book and more than 70 research papers and led several research projects in

different countries. She actively engages in professional activities including service as associate editor of SCI-indexed journals and program chair/committee member of international conferences. Dr. Tian is a senior member of IEEE.

**Dr Camila Shirota, Advance Queensland Research Fellow, Griffith University**

Camila Shirota's goal is to better understand human motor control to support the development and value of clinically relevant technologies for rehabilitation such as assistive and therapeutic devices. She is an expert in biomechanics and motor control of gait, specifically of balance control in response to perturbations. She is also interested in methods to quantify sensorimotor function. She has worked in research and clinical environments, with people with amputations and stroke survivors. She is driven to increase the translation of technologies into the clinic and home.

**Dr Grace Bitner, Research Fellow, Hopkins Medical Centre, Griffith University**

Grace Bitner has over a decade of experience researching in the area of design for disability, health, aging and social inclusion. She is passionate about translating research into the creation of communities that are healthier, more sustainable, and socially inclusive for people of all ages and abilities. Her work in the area of design for disability has given her both a depth and breadth of knowledge of the policies, practices, and systems central to the sector. It has also given her a comprehensive understanding of the complex problems faced by diverse stakeholder groups including individuals with disability and their support networks, service providers, design and development professionals, investors, and government agencies. Dr Bitner is currently serving as a member of the NDIA Specialist Disability Accommodation Reference Group.

**Professor Pierre Viljoen, Associate Vice-President (Nth Qld/Chair AFWS), CQU**

Pierre Viljoen is the inaugural BHP Mitsubishi Alliance (BMA) Chair of Automation and Future Work Skills at Central Queensland University. His work involves identifying research and development opportunities critical in driving the development of new innovative training qualifications and courses, in response to automation in the workplace and related skills. While the role will have a specific focus on the Mining and Mining Equipment, Technology and Services (METS) sectors, it also extends to agriculture, health, small to medium enterprise (SME) development and construction. He is developing new models for innovation, skills, and training that will enable regional communities to grow their economies. Professor Viljoen will leverage his research

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expertise in industrial psychology, as well as his long-standing connections with industry, government and community in the Mackay, Bowen Basin and Isaac regions, to drive innovation in research and course development in the increasingly critical areas of automation and future workplace skills.

**Dr Lasi Piyathilaka, Lecturer, School of Engineering and Technology, CQU**

Lasitha Piyathilaka is a Lecturer in Mechatronic Engineering at Central Queensland University. He graduated from University of Moratuwa Sri Lanka specialising Electrical engineering in 2005 and received his M.Phil degree specialising robotics in 2011 from the same university. He completed his PhD degree specialising in Robotics from the University of Technology Sydney, Australia. Lasitha has a rich blend of industry, teaching and research experience. From 2017 to 2020 he worked as a Research Fellow at the University of Technology Sydney (UTS) and led a research team to develop inspection robots for condition assessment of water and sewer pipelines. This project won both the National and NSW Research Innovation Awards presented by the Australian Water Association in 2020. He worked as a mechatronics engineer at Swarm Farm Robotics, a robotics company based in Queensland that develops a swarm of lightweight agricultural robots for farm operations.

**Assoc Professor Preethi Preethichandra, School of Engineering and Technology, CQU**

Preethi Preethichandra is an Associate Professor at Central Queensland University. His research interests are in Nanotechnology-based sensors and actuators, Sensor development, sensor networking, Embedded systems development, Robotics.

**Dr David Howard, Research Scientist, ARM Hub Robotics Lead, CSIRO**

David Howard is a Senior Research Scientist at CSIRO, Australia's national science body. He leads multiple projects at the intersection of robotics, evolutionary machine learning, and the computational design of novel physical objects. His interests include nature-inspired algorithms, learned autonomy, soft robotics, the reality gap, and evolution of form. His work has been featured in local and national media, TechXplore, and Wired. Dr Howard received his BSc in Computing from the University of Leeds in 2005 and completed a MSc in Cognitive Systems at the same institution in 2006. He is a member of the IEEE and ACM, and an avid proponent of education, STEM, and outreach activities.

**Dr Navinda Kottege, Group Leader, Robotics and Autonomous Systems, Data61**

Navinda Kottege is the Acting Group Leader and a Principal Research Scientist at CSIRO Data61's Robotics and Autonomous Systems Group. He received his PhD in Engineering from the Australian National University in 2009. He has led legged robot research within CSIRO, an activity he initiated in 2011, which has built up into a world-leading R&D capability within the group. Dr Kottege is also the PI for the CSIRO Data61 team competing in the DARPA SubT Challenge. He joined CSIRO in 2009 as a Postdoctoral Fellow with the Sensor Networks (later Distributed Sensing Systems) group at the Autonomous Systems Lab and conducted research in using acoustics for localisation and ecological monitoring. He was a team member of the Serafina project which developed swarming technology for autonomous underwater vehicles (AUVs). During this time, he designed, developed and experimentally evaluated a novel high precision distributed localization sensor to be deployed on small agile underwater vehicles to facilitate swarming.

**Professor Jon Whittle, Director, CSIRO Data61**

Professor Whittle is a world-renowned expert in software engineering and human-computer interaction, with a particular interest in IT for social good, AI research in health sciences, and sustainable development. With over 1000 staff and affiliates, partnerships with industries across almost every sector, and collaborations with over 30 Universities, CSIRO's Data61 is both a centre for expertise and an enabler for national initiatives.

**Dr Simon Dunstall, Principal Research Scientist, Data61, CSIRO**

Simon Dunstall is a member of the Analytics and Decision Sciences (A&DS) program in Data61, and presently is deputy research director for A&DS. Previously he was research director of the Decision Sciences program in Data61 (2015-2019). Dr Dunstall is a researcher in risk analytics and optimisation, especially in topics associated with hazards and extreme events. This has included engagements with the Victorian Powerline Bushfire Safety Program, Cladding Safety Victoria, Dept of Home Affairs and Dept. Health, and most of the electricity distribution companies in Australia. In addition to his role at CSIRO, he is the current national president of the Australian Society for Operations Research (ASOR).

ARM Hub Core Team



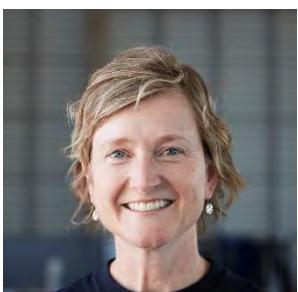
Associate Professor Cori Stewart, CEO ARM Hub

Cori Stewart spearheaded the ARM Hub initiative, leveraging Queensland's global leadership in advanced robotics and design-led manufacturing to create this not-for-profit company with a mission to accelerate the uptake of advanced manufacturing in Australia. Dr Stewart is a recognised leader in developing large-scale partnerships between industry, research institutions, governments, and the community, where she has successfully developed new approaches to pressing challenges in industry and society. She has previously held senior university and government appointments delivering industry development, digital economy and innovation policies and programs. She was awarded the prestigious *Women in AI Awards Australia and New Zealand for 2022 for AI in Manufacturing*.



Samuel Jesuadian, COO, ARM Hub

Samuel Jesuadian oversees the functions of the business operations, facilities management and finances of the ARM Hub. He worked for Mater Research (Mater Health Services) and since 2013 has consolidated experience in Operations Process Design and Management within Clinical and Bio-Medical Research industries. Prior to this, Mr Jesuadian held different research support positions within the University of Queensland; the Translational Research Institute; and Griffith University. He is an experienced operational professional who has a focus in business acumen on managing risk, driving strategic direction through systems innovation and a passion for business improvements.



Melissa Nugent, Business Development Manager, ARM Hub

Melissa Nugent develops relationships that enable small to medium manufacturing enterprises to access innovation opportunities within and across Queensland, and the nation's, industry growth sectors. She brokers industry access to the ARM Hub network of experts, facilities, collaborating partners and a multitude of funding opportunities. She also supports commercial project development and investment in research and development to securing the market advantages of innovation for industry. With an early career in environmental science technology, policy and community engagement, stakeholder engagement, business development marketing and advancement in Queensland's Higher Education and Government sectors, she more recently led International and Engagement strategy and operations for QUT's Science and Engineering Faculty, enabling her to bring a wealth of experience in leadership, mobility, industry and community partnerships to her role with the ARM Hub.



Margaret Puls, Communications Manager, ARM Hub

Margaret Puls is a journalist by training and specialises in developing high-impact communication tools and programs for science and technology organisations. She has over 30 years' experience in technology communications and has worked for research organisations such as CSIRO, universities, government, CRCs and as a specialist consultant. Ms Puls is an expert in media for research and technology groups and in communicating key messages through different media platforms. She has worked in the energy, construction innovation, digital and bioinformatics sectors, and managed technology product launches. She has significant experience in agriculture and food research, and during her time at CSIRO was part of a national biosecurity communication planning group for managing animal disease outbreaks (such as Foot and Mouth Disease) in Australia.



Megan Pope, Communications Coordinator, ARM Hub

Megan Pope has a degree in industrial design and 10 years' experience in digital communications, brand management, advocacy, communications and marketing across a range of manufacturing, technology, defence and engineering industry sectors. Ms Pope has experience and interest in new technologies such as Additive Manufacturing, Robotics, and Laser Scanning. A seasoned digital designer, photographer and videographer, she has extensive experience in multimedia tools and platforms, and experience in the management of communications, products and promotional activities for both government and private sectors.



Catherine Leather, Executive Officer, ARM Hub

Catherine Leather has extensive experience in providing high level executive, project, governance, stakeholder engagement and administrative support to senior executives in research and scientific organisations, academia, and state government. Prior to joining ARM Hub, Ms Leather worked closely with the Executive and Research Leadership teams at the Institute for Future Environment (IFE) and QUT. Before joining QUT, she worked at CSIRO for over 14 years providing executive management support to Flagship and Divisional executives and their teams, across a wide range of research areas and disciplines.

DIGITAL CAPABILITY EXPERTS

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Harry Marles, Business Support Officer, ARM Hub

Harry Marles is a final year Undergraduate Engineering and Commerce student at the University of Queensland. Currently employed in the role of Business Support Officer, he utilises his multi-disciplinary skills to provide support directly to the COO and other team members. Mr Marles is completing his undergraduate thesis with the ARM Hub, looking at distributed networks of sensors, and how to effectively collect and analyse weather and pollution data.



David Hedger – ARM Hub Head of Project Services

David Hedger has a Bachelor of Engineering (Mechatronics) from QUT, and leads field robotics and safety in industrial automation in ARM Hub's industrial workshop in Brisbane. He has worked as a Robotics Engineer at Carnegie Mellon University's National Robotics Engineering Center in Pittsburgh, where he worked on full-scale robotics prototypes for various aerospace, logistics, and government organisations, with a focus on river erosion management for the US Army Corps of Engineers. He also assisted in the delivery of prototypes of self-driving vehicles, safety and interface systems for autonomous civil engineering projects, and industrial automation systems.



Tim Kelly, Business Development, Project Delivery, Engineering

Tim Kelly is an internationally experienced aeronautical engineer with 20 years of industry experience. He worked on programs such as the Lockheed Martin F-35 Joint Strike Fighter, the Boeing 787 Dreamliner, and the Airbus A350 in Los Angeles, Nashville, Munich, and Rotterdam. He has expertise in business strategy, program development and project management, team management, aircraft design, design and engineering for advanced manufacturing including digital twinning, CNC machining and aerospace composites, and business systems development. Mr Kelly has an MBA, a lean six-sigma green belt, and is a Chartered Engineer and RPEQ. He runs the Sunshine Coast manufacturing peak industry body and Not-for-Profit, the Manufacturing Excellence Forum.



Anthony Franze, Project Coordinator

Anthony Franze is an Industrial Designer and has led advanced manufacturing projects in Australia and abroad, collaborating with Milford Automotive, Icarus Industrial Design, Local Motors, EGR Group & UAP. In addition, he provides consulting services to the broader industry through the Anthony Franze Studio and volunteers as a mentor to SEQ energy start-ups at EnergyLab and as a designer for Positive Change for Marine Life (Bryon Bay). He has been awarded multiple international and national design awards, including the BMW Urban Mobility Challenge for 2025. Mr Franze is currently undertaking a PhD with QUT in conjunction with the ARM Hub. His thesis entitled Augmented Fabrication: An Industry 4.0 XR Framework for Mass Customisation explores how augmented,

virtual, and mixed reality technologies can enhance Australian manufacturers' design-to-fabrication capabilities.

**Dr Elliot Duff – Independent Robotics Research Consultant**

Elliott Duff has been involved in the area of field robotics for over 20 years and the development of sensing systems that allow machines to operate autonomously outdoors in hostile and unstructured environments. This work has included the automation of large mining excavators, underground ore haulage vehicles and explosive loading machines. He led the robotic perception team with interests in localisation and mobile mapping in GPS denied areas. More recently, Mr Duff has managed the Autonomous Systems Program with interests in field robotics, sensor networks and cognitive systems. He oversees several emerging markets, including Spatial Intelligence and the Industrial Internet.

ARM Hub Board



Emeritus Professor Roy Green, Chair

Roy Green is a leading thinker and commentator on innovation policy and has been at the forefront of efforts to help Australian industry harness the benefits of research and development in order to forge ahead in the global economy of the twenty-first century. He was Dean of the Macquarie Graduate School of Management and the Business School at the National University of Ireland, Galway, and is currently Special Advisor and Chair for UTS Innovation Council, at the University of Technology Sydney.



Professor Mark Harvey, Director

Mark Harvey is Vice-President (Business Development) at QUT, and a current Director of Sunsuper and the Chamber of Commerce and Industry Queensland. He was previously Deputy Vice-Chancellor (Research and Innovation) at the University of Southern Queensland. Professor Harvey brings a wealth of knowledge in the fields of business strategy, business development, and technology transfer.



Matthew Tobin, Director

Matthew Tobin is co-founder and Managing Director of the Urban Arts Precinct (UAP), the world's largest manufacturer of high-value customised design elements for construction projects. Mr Tobin has over 18 years' experience in customisable manufacturing, collaborating with artists, architects, designers & developers to bring uncommon creativity to the public realm.

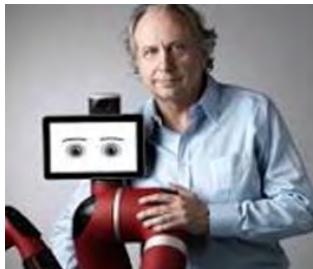


Jackie Taranto, Co-Founder and Managing Director, Paradigm Shift Fund

Jackie Taranto is a seasoned business executive and entrepreneur with over 30 years' experience across a range of industries including technology, advanced manufacturing, international trade, medical, finance and investment, research and infrastructure. She specialises in creating business collaboration opportunities and extracting and building value out of timely deployment of technology and talent. She founded and built several companies, including Hannover Fairs Australia - the Australian/New Zealand subsidiary of Deutsche Messe, the world's largest venue owner operator, and has successfully launched global brands CeBIT and CeMAT in Australia. In addition to her board role at ARM Hub, Ms Taranto has served on the boards of German-Australian Chamber of Industry and Commerce, IOT Alliance Australia and the Bright Alliance Advisory Committee – NSW's first cancer-dedicated hospital.

**Jenni Lightowlers, Company Secretary**

Jenni Lightowlers is a founding Partner of Francis Abourizk Lightowlers (FAL). Prior to establishing FAL in 1993, Ms Lightowlers worked for CSIRO and Allens Linklaters. She is arguably Australia's leading authority on establishing research entities such as industry growth and innovation centres, and Cooperative Research Centres (CRCs). She is also recognised as a leading lawyer in the life sciences (health, biosecurity, biotechnology and medical devices), commercial and intellectual property sectors. She advises ASX listed entities on mergers and acquisitions, strategic planning and advisory services for intricate transactions. Over the last two decades, Ms Lightowlers has advised on some of the most complex Australian technology and R&D projects, including the CSIRO ARIES satellite project. She was appointed Acting Head of Deakin Law School in 2017 and is considered one of Australia's leading advisors to universities (both in Australia and the South Pacific).

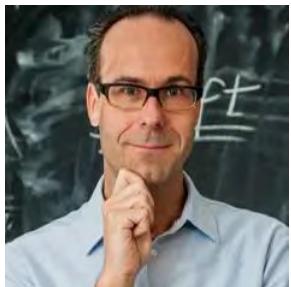
EXPERT ADVISORS**Emeritus Professor Rodney Brooks, Professor of Robotics, MIT and Co-Founder of Robust.AI.**

Rodney Brooks is a robotics entrepreneur known for popularising the actionist approach to robotics. He is Panasonic Professor of Robotics (Emeritus) at Massachusetts Institute of Technology (MIT) and currently the CTO and co-founder of robust.ai, which is developing hybrid, common-sense powered AI, making robots more robust and reliable, even in complex and unpredictable environments. He was Founder, Chairman and CTO of Rethink Robotics, and a Founder, former Board Member and former CTO of iRobot Corp. Professor Brooks is the former Director of the MIT Artificial Intelligence Laboratory. He received degrees in pure mathematics from the Flinders University of South Australia and a PhD in Computer Science from Stanford University in 1981. He held research positions at Carnegie Mellon University and MIT, and a faculty position at Stanford before joining the faculty of MIT in 1984. He has published many papers in computer vision, artificial intelligence, robotics, and artificial life.

**Professor Daniela Rus, Director, CSAIL, Erna Viterbi Professor of Electrical Engineering and Computer Science, MIT**

Daniela Rus is the Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science and Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL) at MIT. Her research interests are in robotics, mobile computing, and data science. She is a Class of 2002 MacArthur Fellow, a fellow of ACM, AAAI and IEEE, and a member of the National Academy

of Engineers, and the American Academy of Arts and Sciences. Professor Rus received her PhD in Computer Science from Cornell University. Prior to joining MIT, she was a professor in the Computer Science Department at Dartmouth College.



Professor Dr Frank Piller, Head of Chair of the Institute for Technology and Innovation Management, RWTH Aachen University

Frank Piller is considered one of the leading German experts for innovation management, in particular open innovation, customer co-creation and product individualization. His research work has received numerous awards, most recently the PDMA Co-Creation Award or the nomination for the *Innovating Innovation* award from Harvard Business Review and McKinsey. Professor Piller researches the design of customer-centric innovation and value creation processes, the successful management of radical business model innovations and the use of external knowledge for the innovation process. Since mid-2007 he has been full professor for technology and innovation management at RWTH Aachen University, where he is also the Academic Director of the Executive MBA program. He previously worked at the MIT Sloan School of Management and the TU Munich. He received his doctorate in Mass Customization from the University of Würzburg (2000) and habilitated in 2004 on Open Innovation and User Innovation at the TUM Business School, TU Munich.



Honorary Professor Jeremy Howard

Jeremy Howard is a data scientist, researcher, developer, educator, and entrepreneur. He is a founding researcher at fast.ai, which is dedicated to making deep learning more accessible, and is an honorary professor at The University of Queensland. Previously, Professor Howard was a Distinguished Research Scientist at the University of San Francisco, where he was the founding chair of the Wicklow Artificial Intelligence in Medical Research Initiative. He was the founding CEO of Enlitic, which was the first company to apply deep learning to medicine and selected as one of the world's top 50 smartest companies by MIT Tech Review two years running. He was the President and Chief Scientist of the data science platform Kaggle, where he was the top-ranked participant in international machine learning competitions two years running. He was the founding CEO of two successful Australian start-ups (FastMail, and Optimal Decisions Group—purchased by Lexis-Nexis). He spent 8 years in management consulting, at McKinsey & Co, and AT Kearney. Jeremy has invested in, mentored, and advised many start-ups, and contributed to many open-source projects.

Biographies

**Lee Hickin, Chief Technology Officer, Microsoft**

Lee Hickin has over 27 years' experience in the IT industry working across a variety of roles and technologies. He has worked in Asia, the UK and Australia with a passion for innovation and leading-edge technologies such as AI. He has been a CISSP certified security architect with RSA Security and Tivoli, leading the IOT business development team across APAC with Amazon Web Services and most recently the CTO for Microsoft Australia. As the CTO, Lee helps customers on their journey of digital transformation through cloud technologies; focusing on the adoption of intelligent cloud services such as AI, IOT, Machine learning and cognitive services underpinned by core cloud infrastructure technology strategy, Security and ethical AI principles. Mr Hickin is a regular speaker on Cloud technology, innovation and driving digital transformation.

**Dr Kate Devitt, Chief Scientist, Trusted Autonomous Systems CRC**

Kate Devitt is Chief Scientist of the Trusted Autonomous Systems (TAS), CEO of BetterBeliefs an evidence-based social platform and adjunct Associate Professor Human-Computer Interaction, ITEE, at the University of Queensland. She holds a BA(Hons) History and Philosophy of Science and Psychology, Melbourne University, Grad Cert Cognitive Science and PhD philosophy (AOS epistemology, AOC ethics and cognitive science) from Rutgers University. Her teaching experience includes an introduction to philosophy, applied ethics, philosophy of time travel, cognitive science, science communication, information systems and information science. She has expertise in decision support tools, expert systems and human factors. Dr Devitt helps build technologies that enable the development of autonomous systems that incorporate ethical, legal, and regulatory structures to achieve social license to operate and trusted adoption.

LOCAL INDUSTRY ADVISORS

**Shay Chalmers, Director, Strategic Engineering Australia**

Shay Chalmers owns and directs Strategic Engineering Australia, offering consulting expertise across a wide range of manufacturing applications, and holds various board and committee positions including Chair of the Queensland Reference Group for Manufacturing, Non-Executive Director for the Queensland Manufacturing Institute (QMI), Committee member for Queensland Manufacturing Ministerial Advisory Council, Engineering Course Advisory Board for QUT, Sector Expert Advisory Group (Advanced Manufacturing) for RMIT and is also a member of the World Economic Forum Expert Network.

**Chris Brugeaud, CEO SSS Manufacturing & IR4 Pty Ltd**

Chris Brugeaud is the CEO and co-owner of SSS Manufacturing and IR4 Pty Ltd, which was acknowledged by the Hon Michaela Cash at the November 2017 Asia Pacific Conference as the leading company in Australia for the application of Artificially Intelligent Industry 4.0 technologies in steel fabrication. Chris is trade qualified with an honours degree in engineering (manufacturing) from RMIT. Mr Brugeaud has spent the last 15 years delivering globally significant automation technology and infrastructure to various markets and industries. He has a passion for Australian derived collaborations that both challenge and change the global market norms.

**Dr Evan Shellshear, Head of Analytics, Biarri**

Evan Shellshear is the Head of Analytics at Biarri, a world-leading mathematical and predictive modelling company, and an expert in artificial intelligence with a PhD in Game Theory from the Nobel Prize winning University of Bielefeld in Germany. He has many years of international experience in the development and design of AI tools for a variety of industries having worked with Australia's top companies on all aspects of advanced analytical solutions and internationally on advanced robotics applications in manufacturing. He is also the author of several books including the best-selling book on Amazon, *Innovation Tools*.

**Rakalene Condon, Head of Product, Everledger**

Rakalene has a wealth of experience in management, analysis, design, development, delivery and post-launch operational assessment and modification of new products and solutions. She leads work across our product team to unite customer requirements with technical solutions to deliver thoughtful and practical solutions, creating transformative, intuitive solutions that increase transparency and trust through supply chains.

**Dr Roozbeh Derakhshan, Director, DKE Company**

Roozbeh Derakhshan has worked at the forefront of industry in data science and analytics, software development and data management for more than a decade as a consultant, developer, and researcher for global IT companies and top-tier universities. He is an expert in real-time analytics. Over the years he has combined technical and scientific knowledge with management and leadership skills. Dr Derakhshan has previously worked for Accenture, SAP and IBM and led large scale international projects managing technical and non-technical staff delivering software solutions.

**Professor Bronwyn Harch**

Professor Bronwyn Harch is an applied statistician with 22 years' experience leading and undertaking research focused on the nexus of agricultural and environmental systems. As the former Deputy Vice-Chancellor (Research & Innovation) and Vice-President (Research & Innovation), Professor Harch was responsible for enhancing the University's performance and reputation in research and innovation, research training, and research and innovation collaboration with external stakeholders, nationally and internationally. Before joining UQ in July 2018, Professor Harch was Executive Director of the Institute for Future Environments at Queensland University of Technology (QUT). She was also the establishment Research Director of the Australian Government Cooperative Research Centre on 'Food Agility' – a transdisciplinary partnership with industry aimed at growing the agrifood sector's comparative advantage through digital transformation. Prior to joining QUT in 2014, Professor Harch worked for 18 years as a researcher and research strategist at the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Her own research has focused on the statistical design of landscape-scale sampling protocols and monitoring programs, as well as the statistical modelling of complex systems, particularly agri-environmental systems. She has developed transdisciplinary research; engagement and commercialisation strategies; and partnerships with state and federal governments and their agencies, Australian and multinational companies, and other research organisations.