



Griffith
UNIVERSITY

Queensland, Australia

CAPABILITY STATEMENT

*School of Engineering and
Built Environment*



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Shaping our future

At Griffith University, we focus on innovation and how people, technology and structures connect to create a smarter future.

Our study and research are built on a strong footing of theory, reinforced by practical experience, to produce graduates and solutions for rapidly evolving workforces.

Profile

Our vision: To inspire, engage and excite students and stakeholders with our knowledge, passion, facilities and action

Griffith has been offering Engineering and Aviation for over 30 years. The School's engineering and aviation programs were first offered in early 1990, and study offerings include Australia's first ever environmental engineering degree, combined engineering/aviation double degree, plus Architecture at Griffith was given a five-star rating for student support and learner engagement by the Good Universities Guide 2021. The School is spread over two campuses, Nathan (Brisbane) and Gold Coast and is one of the three Schools in the Griffith Sciences Group.

The School of Engineering and Built Environment is known for its innovative and student focused teaching approaches and for its strong industry relationships. The School currently teaches over 2600 students at both undergraduate and postgraduate levels in several disciplines, including civil, mechanical, electrical and electronic, software, UAV and environmental engineering, construction management, industrial design, aviation and architecture. It fosters a culture where we empower future generations to deliver creative and intelligent solutions that aim to tackle the challenges of the 21st century.

Griffith's interdisciplinary approach means graduates undertake exciting careers in a wide spectrum of industries.

Mechanical engineers may find employment designing artificial hearts, life support systems, micro/nanomachines or developing future modes of transport.

Civil engineers may be designing and constructing buildings, roads, bridges, and other infrastructure, or developing and testing new or recycled materials.

Electronics engineers may be working with elite sporting teams on revolutionary biomedical instruments, electrical engineers may be working on planning and managing the installation of environmentally clean renewable sources of power.

Architectural graduates are qualified to assist architects and other built environment professionals in the design, development and construction of buildings.

Construction Management graduates will be part of one of the largest and fastest growing industries in Australia and Asia-Pacific, combining industry knowledge with strong skills in problem-solving, decision-making, communication and technology to plan, manage and direct complex construction projects.

Industrial designers will combine creative thinking, innovative approach to design, visualisation and modelling skills with a robust foundation in engineering principles to find novel ways to have an impact with their creations.

Keeping pace with industry employment growth, School of Engineering and Built Environment is committed to seeing graduates equipped for future opportunities, with industry inroads continually being built by students, graduates and researchers alike.

Leveraging from our achievements in engineering, aviation and architecture, we are committed to growing our capabilities of, and contributions to, the technology, built environment and aerospace sectors.



Our facilities

Griffith's School of Engineering and Built Environment boasts specialised labs, workshops and studios equipped with cutting-edge technology. Just a few of our facilities available to students, researchers and staff include:

- New purpose built engineering, technology and aviation facility at Nathan campus
- Extensive structural and concrete test facilities at Gold Coast campus
- HTC Vive VR Pro kit sets
- Flight Procedure Lab
- Custom designed wave tank and sand flume
- MTS 500KN load frame and CNC HAAS machining centre
- 14 m × 6 m strong floor
- 3T, 10T and 50T compression and tension load/displacement testing machines
- 250T Compression testing frame
- 30T and 300T self-reacting test frames
- Digital Image Correlation measurement system
- Aerodynamic test equipment (wind tunnel)
- Curtain wall testing facility
- Mechanobiology lab rated to PC2 specialising in haemorrhology, blood trauma and medical device testing
- 6 degree of freedom robotic manipulator for cadaveric and engineered specimens
- Particle Image Velocimeter for mapping fluid flows in liquids and air
- Microwave anechoic chamber with 20GHz vector network analyser for antenna testing
- Griffith University Sports Technology (GUST) Laboratory with force plates, motion capture etc for movement and athlete studies
- Queensland Micro- and Nanotechnology Centre. State-of-the-art building with class-100 and class-1000 cleanrooms, unique silicon carbide processing equipment and much more
- Design studios and 3D printing studios.

Expertise and research

Be guided by Griffith's leading international engineering, aviation and architecture specialists

Our research expertise is interdisciplinary and boasts a research portfolio that spans across numerous industry sectors. We develop holistic solutions to some of the most pressing problems of our natural and built environments; ensure access to safe, affordable housing and services; develop biomedical and sports engineering modalities; develop sensor networks for harsh environments and smart cities; and track global travel trends relative to the aviation industry.

At Griffith, we take an interdisciplinary approach to solving the contemporary research problems such as climate change, industry 4.0 and energy and water futures. Through fostering multi-disciplinary and industry collaborative research teams, Griffith is internationally recognised for its leading research.

The School of Engineering and Built Environment's staff and students are extensively engaged in collaborative research efforts with government and industry partners. Recent examples include:

- Partnering with Queensland-based biogas energy developer, Utilitas Pty Ltd, the School is assisting to develop advanced biogas technologies and processes aimed at recovering energy, nutrients and water from organic waste. Every year Australia produces enough sewage, agricultural and processing residuals to power more than 1 million homes.
- Griffith mechanical, mechatronic, electrical and electronic engineers are working with SuperCool Asia Pacific to develop smart electric compressors for air conditioning and refrigeration on heavy electric vehicles.
- Mechanical engineering academic staff and students are working with Prince Charles Hospital to develop and improve artificial hearts.
- A data-driven, water quality treatment project which was awarded an ARC Linkage Project Grant sees the School collaborate with the University of South Australia, National University of Singapore, SEQ Water, Melbourne Water Corporation and Xylem Analytics Australia Pty Ltd.
- Local government support through the City of Gold Coast and Advance Queensland Research Fellowships sees research into building resilience and managing climate risk for Queensland beaches continue. Activities focus on the design and development of construction technologies for extreme weather event resistance, including floods, cyclones and droughts.
- A Griffith civil engineering student used her work placement with global construction services company GHD, to investigate the use of drones and laser scanning technology to monitor the integrity of South-east Queensland bridges. Another Griffith student, studying electronic and computer engineering, was provided an opportunity through the CSIRO to develop a flight controller for a new drone system in order to optimise flight time and energy efficiencies.
- Griffith students have previously contributed to developing low-cost construction materials for future housing within India's slum districts and conducted sport-based impact protection studies on behalf of the UK's Centre for Sports Engineering at Sheffield Hallam University.
- In the state capital of Brisbane, world-leading water, energy and resources specialists AECOM offers ongoing opportunities, as does design, planning, engineering and consultancy firm Arup, which is currently phasing in a four-stage project to establish revamped subway lines throughout New York's Manhattan area.

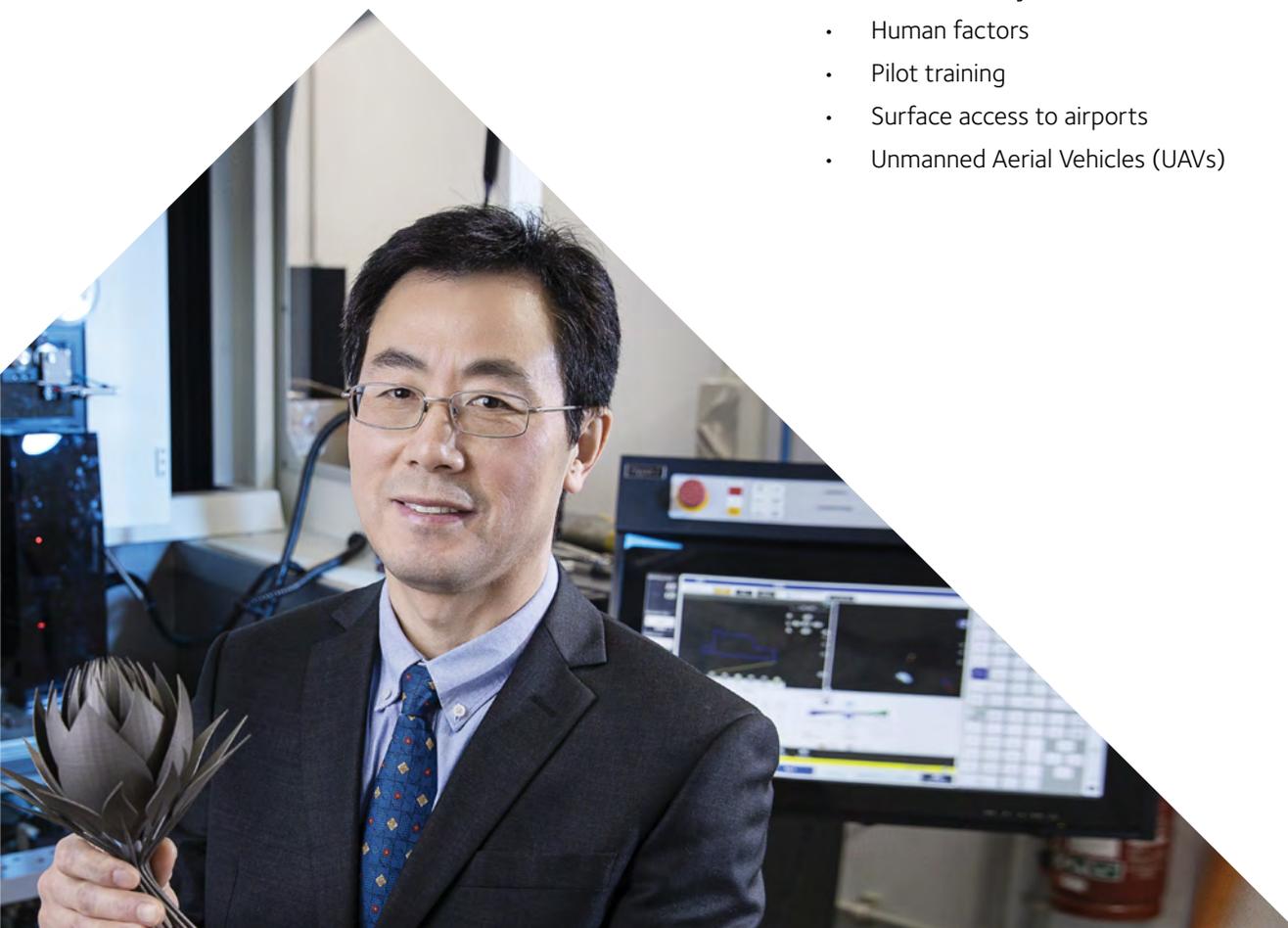
- Global infrastructure, urban planning and industrial development specialists SMEC add to their 10,000 strong international workforce with the acquisition of Griffith Engineering students on the Gold Coast, as does resources specialist Sedgman.
- Griffith software engineers provided human movement monitoring system technology to elevate global wearable technology leader, Jaybird to an estimated worth of \$95 million.
- World-first technology is harnessing the remarkable properties of graphene and could launch the next generation of mass produced, low-cost micro-devices through a novel micro-fabrication process.
- Griffith University Sports Technology (GUST) laboratory has a strong partnership with the Queensland Academy of Sport for collaborative projects.

- 3D scanning technology has brought back to life 'Mephisto' the sole surviving German A7V tank from World War 1, which currently resides at the Queensland Museum. Researchers pinpointed the history of this unique relic, before developing an interactive virtual display, placing the tank into its original war-time position in Villers-Bretonneux, France, using advanced forensic software and GPS technology to create a ballistic analysis.
- The same technology is now being used extensively by Griffith Architecture and Design in the survey and mapping of cultural heritage.

We have strong research and consulting collaborations with aviation industry partners. Some of our key research partners include the Brisbane Airport Corporation, Adelaide Airport Ltd, Queensland Airports Ltd and Boeing.

We have expertise in the following areas:

- Air transport management
- Air transport & tourism
- Airport travel patterns & shopping behaviour
- Attitudes & behaviour in aviation
- Aviation & the environment
- Aviation safety
- Human factors
- Pilot training
- Surface access to airports
- Unmanned Aerial Vehicles (UAVs)



The collective research and teaching strengths within the School of Engineering and Built Environment creates one of the most comprehensive learning and research environments within the engineering, aviation and architectural sectors. We have a broad network of specialists across engineering, aviation and architectural fields, and their areas of expertise are listed below:

ARCHITECTURE DESIGN AND PLANNING	
Academic Expert	Areas of Expertise
Professor Scott Baum	Urban and regional planning, Health services and systems, Human geography
Professor Joerg Baumeister	Ecological Cities; Oasis Cities; Sea Cities
Dr Edoardo Bertone	Water quality; Water resource management; Sustainable built environments; System thinking and modelling
Dr Cecilia Bischeri	Architectural design and integration with urban form; Technical and social integration in design; Design for natural disasters; Leader AeCLab
Ms Jessica Blair	Architectural Design; History and theory (experimental and alternative modes of practice); Leader AeCLab
Professor Caryl Bosman	Housing and an ageing population; Placemaking; Studio pedagogy
Professor Matthew Burke	Transport Planning; Urban and Regional Planning; Urban Analysis and Development
Dr Sam Canning	Maximising the potential of Advanced Manufacturing technologies through Design
Joanne Choueri	Research by Practice
Dr Jenny Cui	Urban and regional planning, urban design, land use and spatial planning, the built environment and health, transport planning and policy, environment and behaviour, and planning, design and utilisation of urban underground space.
Dr Aysin Dedekorkut-Howes	Natural Hazards, Environmental Management; NRM; Urban and Regional Planning; Env Policy; Urban Policy
Dr Karine Dupre	Cities and tourism; Regional development; Placemaking; Architectural Education; Architecture and urban design
Dr Ruwan Fernando	Computer Aided Design; Building Information Modelling; Evolutionary Design Strategies
Dr Zuzana Kovar	Architectural Design and Urban Design; Contemporary Theory; Cross disciplinary thinking (architecture, humanities, philosophy); Practice-based research; Body space relations; Leader AeCLab
Despina Linaraki	Sea Cities, Adaptation of coastal cities to sea-level rise and floods, ecology and architecture, island design and construction, and architecture in extreme environments
Dr Tony Matthews	Adapting cities to climate change impacts; the role and function of green infrastructure; sustainable and low carbon design; the interplay between built environments and human health; and achieving high quality urban design outcomes.
Dr Natalie Osborne	Activism and disasters, climate change adaptation and intersectional feminist theory, mine closure and transition planning, transport justice and mobilities, emotional geographies, community engagement, more-than-human cities, public spaces, and public feelings (particularly political depression, ecological anxiety, and climate grief)
Dr Kimberly Reis	Local Food Resilience and Contingency
Dr Henry Skates	Sustainable Architecture; Low Energy Design; Advanced Window Systems; Architectural Education
Ms Teresa Wuerschling	Sustainable design practices, multi-residential projects, home design, responsive design and construction.
Dr Fan Zhang	Indoor Environmental Quality (IEQ); Post-Occupancy Evaluation (POE); New ways of working & workspace design; Building performance simulation.

CIVIL AND ENVIRONMENTAL ENGINEERING

Academic Expert	Areas of Expertise
Professor Igor Agranovski	Aerosol mechanics and nanotechnology, fluid dynamics, air pollution control and monitoring
Dr Kelly Bertolaccini	Transport engineering, Equitable Transport, Public Transport Systems, Active transport, Data-driven transport planning, Transport for vulnerable communities, Transport and disability, Accessible cities, Geographic Information Systems
Ms Jennifer Campbell	Indigenous perspectives in engineering, science communication, undergraduate research, water management and filtration, caring for Country in urban environments, blue-green infrastructure
Dr Nick Cartwright	Ocean wave climatology, climate data analysis, coastal morphology, coastal groundwater dynamics
Dr Sanaul Chowdhury	High strength concrete structures, structural dynamics, facilities management and pavement management systems, innovative materials, pavement deterioration modelling
Professor Cheryl Desha	Capacity building for resilient and liveable cities, systems thinking, resource productivity, decoupling and sustainable business practice, sustainable development
Dr Mengzhu (Doris) Diao	Progressive collapse of flat plate and frame structures, collapse-prevention of structures against fire, high-performance numerical simulation of concrete structures
Dr Jeung-Hwan Doh	RC walls, deep beams, slabs, embodied energy of construction materials, sustainable design for concrete structures, capsule based self-healing concrete and Recycled glass as pozzolanic cement replacement
Dr Ali El Hanandeh	Biomass and Bio-energy, stochastic multi-criteria evaluation, solid waste management, climate change adaptation, Life cycle assessment
Dr Amir Etemad-Shahidi	Coastal and oceanographic engineering, Environmental fluid dynamics, Water Engineering, Renewable Energy
A/Professor Benoit Gilbert	Timber structures, Veneer-based timber structures, Progressive collapse, Coldformed steel structures, Steel storage racks, Optimisation of cold-formed steel profiles
Dr Ivan Gratchev	Soil mechanics and dynamics, rock mechanics, slope failures, environmental geotechnics, earthquake liquefaction
Professor Hong Guan	Progressive collapse resistance and failure behaviour of concrete and timber structures, Finite element analysis and numerical simulation, Structural health monitoring
Dr Shanmuganathan Gunalan	Steel, aluminium and timber structures, Facade engineering, Development of innovative and sustainable disaster resilient buildings, Reliable design rules
Dr Fernanda Helfer	Integrated water resource management, hydrological modelling, water resource engineering, renewable energy
A/Professor Sunil Herat	Solid waste management, hazardous waste management, cleaner production, circular economy, e-waste, plastic waste
Professor Dong-Sheng Jeng	Offshore geotechnics, coastal/ocean engineering, groundwater hydraulics, artificial neural networks, renewable marine energy and plant science
A/Professor Prasad Kaparaju	Renewable energy, Anaerobic digestion technology, Biofuels, Biorefinery and Environmental bioprocesses and technology
A/Professor Hassan Karam-pour	Structural Engineering, Subsea pipelines, Timber Composites, Fluid-Structure Interaction
Professor Qin Li	Functional materials, additive manufacturing, chemical sensing, colloidal photonic crystals, energy conversion, nanocarbons, photocatalysis, real time in line monitoring, water purification
Dr Ruby Michael	Ecological engineering design
A/Professor Erwin Oh	Geotechnical and Pavement Engineering
Dr Dominic Ong	Soil-structure interactions, underground and trenchless technology, sustainable geomaterial science, sensor-based forensic engineering, ground improvement, field monitoring and observational method, finite element modelling, centrifuge modelling
Dr Anisur Rahman	Reliability and engineering management, development of stochastic models of product/asset reliability, maintenance policies, Sustainable Infrastructure and risk management, Climate change adaptation and Engineering education.

CIVIL AND ENVIRONMENTAL ENGINEERING cont.

Professor Rodney Stewart	Innovation in construction, modern procurement practices, water resource and smart asset management, engineering education
Professor Bofu Yu	Hydrology, climate variability, storm runoff, weather generators, erosion and sediment transport
Dr Jimmy Yu	Chemical and environment engineering processes, ecotoxicity of environmental chemicals, health risk assessment, water and wastewater treatment.
Professor Hong Zhang	Coastal/ ocean dynamics, water resource engineering

CONSTRUCTION MANAGEMENT

Dr Ying Hong	Digital engineering, artificial intelligence, construction management.
Dr Tingting Liu	Construction management, construction procurement, sustainable construction
Dr Sherif Mostafa	Digital transformation of infrastructure asset management, Building information modelling and management, Simulation of engineering and construction systems, lean construction, agile and green project management methodologies, simulation-based game learning
Dr Matthew Webb	Construction sustainability, designing sustainability initiatives for buildings, biomimicry and the application of biomimicry to facade design

ELECTRICAL AND ELECTRONIC ENGINEERING

A/Professor Andrew Busch	Signal and image processing, machine vision, pattern recognition, medical imaging, smart agriculture.
Professor Sima Dimitrijevic	Semiconductor devices and circuits; design, fabrication, and characterisation of Silicon Carbide (SiC) and Gallium Nitride (GaN) based devices and circuits for conversion of electric power.
Dr Hugo Espinosa	Antennas and propagation; computational electromagnetics; electromagnetic separation of conducting materials; inertial sensors; wearable sensor technology for human monitoring in sports, health, and forensics; sports engineering; and engineering education.
Professor Yongsheng Gao	Biometric technology, multimedia data, retrieval systems, pattern recognition, computer vision, biomedical engineering.
Professor Jun Wei Lu	Computational electromagnetics, power electronics and high frequency magnetics, microgrid and distributed energy system, electric machines and renewable generators.
Dr Faisal Mohd Yasin	Computer process automation, data acquisition and collection, human-computer software interaction.
A/Professor Steve O'Keefe	Compact and efficient antenna designs for personal communication devices and wireless networks, multiband antennas for 3G and future technology cellular handsets, UAV.
Dr Hamid Amini Moghadam	Gallium Nitride (GaN) power semiconductor devices, High Electron Mobility Transistors (HEMTs), Silicon Carbide (SiC) semiconductor devices.
Professor Kuldip Paliwal	Speech processing, coding, machine learning, artificial neural networks.
Dr David Rowlands	Sports and biological monitoring, computer-based simulation and visualisation, semiconductors.
Dr Mohammad Sanjari	Big data analytics-based decision making in power system, probabilistic analysis of power system, low-carbon energy networks, artificial intelligence application in power systems analyzing, control and condition monitoring.
Dr Belinda Schwerin	Digital signal processing, speech processing, Electrocardiogram (ECG) and Phonocardiogram (PCG) signal processing, machine learning, deep learning and artificial intelligence.
Dr Andrew Seagar	Computational electromagnetics, boundary integral methods, electromagnetic scattering, geometric and Clifford algebras.
Dr Stephen So	Digital signal processing, speech and ECG signal processing, machine learning, deep learning and artificial intelligence.
Dr Sascha Stegen	Power electronics/electrics, project management, computer simulation techniques, electrical machines and high frequency magnetic devices, green mobility/transportation.
Emeritus Professor David Thiel	Communications engineering, antenna design and measurement, electromagnetic theory, sports engineering, wireless sensor networks, sensor development, geophysics, mining and mineral technologies.

ELECTRICAL AND ELECTRONIC ENGINEERING cont.

Professor Emeritus Ljubo Vlacic	Decision and Control Systems; Mechatronics; Intelligent Robotics; Autonomous Systems; Co-operative Intelligent Transport Systems; Co-operative Self-driving Vehicles; Automation, Knowledge Management. Editor-in-Chief, IEEE-Intelligent Transportation Systems Magazine (2017 - present), Distinguished Visiting Professor at SEU (2021 to 2024)
A/Professor Fuwen Yang	Networked Control Systems, Fault Detection and Diagnosis, Health Monitoring, Microgrid Control and Optimisation, Renewable Energy Integration.
Dr Yong Zhu	Microelectronics, Nanotechnology, Mechatronics, Microelectromechanical systems (MEMS) devices, Sensors in renewable energy systems, Wearable sensors for health monitoring, Energy harvesting, Remote sensing of bushfires, Smart sensors for Internet of Things (IoT).

MECHANICAL ENGINEERING

Professor Dr Dzung Dao	Micro/nano machining, sensing effects in nano materials and semiconductors, MEMS (micro electromechanical systems) sensors and actuators, Mechanical and mechatronic systems design.
Dr Van Dau	Electrospray atomisation, electrospinning, electrostatic, aerosol, microfluidics, thermofluids, microsensors and actuators, MEMS (micro electromechanical systems)
Professor Stefanie Feih	Lightweight design (composite materials and additive manufacturing), hybrid and multi-functional structures, finite element analysis and numerical optimisation
A/Professor Wayne Hall	Design and manufacture of fibre-reinforced composite and lightweight structures. Non-destructive testing (NDT) and structural health monitoring (SHM) including fibre Bragg gratings (FBGs). Materials and structural testing for automotive, marine, renewable energy and aerospace applications.
Dr Zia Javanbakht	Computational solid mechanics, composite structures and material constitutive modelling
Dr Huaizhong Li	Manufacturing and machining technologies, machine vibration testing and control, and condition monitoring
Dr Maksym Rybachuk	Materials science, light-matter interactions, plasma engineering, thin-film deposition, diamond
Mr Simon Howell	Project-based learning, Employability in the curriculum, and the first year experience
Professor Shoujin Sun	Additive manufacturing, laser-aided manufacturing, laser materials processing (cladding, welding and cutting), high-speed machining, metals and alloys
Dr Peter Woodfield	Experimental and computational heat transfer, computational fluid dynamics (CFD), magnetic fluids, cooling systems design, electronics cooling, HVAC, refrigeration vapor and gas compressors, thermodynamic analysis & modelling.

AVIATION

Dr Christine Boag-Hodgson	Organisational psychology; human factors; aviation psychology; cognitive psychology; human performance; safety investigation; safety management; automation; virtual reality; psychometric assessment; command & control
Dr Guido Carim Junior	Aviation safety, human factors, safety management systems (SMS), safety science, fatigue, safety rules and procedures, cognitive work analysis, cognitive task analysis, safety analytics, aviation training and education
Mr Jamie Cross	Virtual and mixed reality aviation training, education, and research; commercial pilot training; flight procedures; aviation safety and human factors; navigation
Professor Gui Lohmann	Air transport, tourism management, airport policy, travel patterns and passenger behaviours, transport geography, aviation economics and strategic management
Dr Sravan Pingali	Aviation human factors, aviation psychology, eye tracking, head tracking, flight simulator training and education, avionics, learning and teaching research, pilot training
Professor Tim Ryley	Air transport, environmental issues associated with aviation, aviation management, planning, policy and operations, attitudes and behaviour of users in aviation, surface transport related to aviation systems
Dr Bojana Spasojevic Sijacki	Air transport and tourism, air route development, airport management, leadership and stakeholder engagement, online business simulations
Dr Xiaoyu Wu	Machine Learning/A.I. application in the aviation field (including NLP in safety report processing/documentation assurance/report management, A.I. based flight control assistant/supporting system); data science; Air Traffic Management; Airspace/terminal procedure design; Next Generation National Airspace System; aviation-wildlife coexistence; cross-culture training/education
Contract and sessional staff	Commercial pilots with international flying expertise (active and retired); military pilots; rotary wing operations; unmanned aerial vehicles (UAVs); aviation lawyers; aviation Board members; aviation consultants; airport planners; aviation strategy advisors; and more.

School Executives

A comprehensive network of specialists across engineering, aviation and architectural fields



Professor Rosalind Archer

Head of the School of Engineering and Built Environment

Rosalind Archer is the Head of the School of Engineering and Built Environment. She has joined Griffith from the University of Auckland after 19 years as an academic staff member there. At the University of Auckland Rosalind served for 7.5 years as Head of Department - Engineering Science (one of five Departments in the University's large Faculty of Engineering), and nearly 2 years as Deputy Dean of Engineering.

Energy - in a range of forms - is the core of Rosalind's professional interests and expertise. She holds a PhD in Petroleum Engineering from Stanford University, but her research focus has been on geothermal energy for many years.

Rosalind's teaching experience ranges from large first year engineering classes (with enrolment of over 1000 students), to small specialist graduate coursework. She has also led many non-degree educational projects - corporate short courses, and international aid projects (in NZ and overseas).

Rosalind is the Immediate Past President of Engineering New Zealand and continues to serve on its governing board. Rosalind has a range of other governance experience in non-profit and corporate settings - and is a Chartered Member of the NZ Institute of Directors.

Griffith Experts page: experts.griffith.edu.au/34786-rosalind-archer

Associate Professor Andrew Busch

Deputy Head of School, Learning and Teaching



Associated Professor Andrew Busch is the Deputy Head of School (Learning and Teaching) in the School of Built Environment and Engineering.

Andrew Busch is an active researcher in machine vision, medical imaging, agricultural applications of machine vision and medical devices. Previous work has focused on visual texture analysis, and also sports engineering applications concerned with characterising the motion of athletes and their equipment using inertial sensors and motion capture. Andrew Busch research career has a strong focus on industrial applications of engineering technology, and as such Andrew Busch have an extensive record of collaboration with industry, with over \$14M in total funding including \$6M from the ARC and \$7M of industry funding.

Andrew Busch other passion is engineering education, in particular that related to Work Integrated Learning (WIL). From 2017 Andrew Busch has managed all engineering placements from the School of Engineering and Built Environment, placing approximately 200 students with industry partners each year. In 2019 Andrew Busch was appointed as Director of Work Integrated Learning for the Sciences Group.

Griffith Experts page: experts.griffith.edu.au/7662-andrew-busch

Professor Stefanie Feih

Deputy Head of School, Research



Professor Stefanie Feih received her PhD from the University of Cambridge in 2002, a Masters Degree from Cornell University in 1997 and a Mechanical Engineering degree from TU Darmstadt, Germany, in 1998. She recently commenced as a Professor in the School for Engineering and Built Environment at Griffith University. Stefanie previously led the Polymer Processing Group at the Singapore Institute of Manufacturing Technology (SIMTech), A*STAR, Singapore, and prior to this worked at RMIT University in Australia and Risø in Denmark.

Stefanie is listed as one of the world's top 2% most-cited scientists in Materials (Stanford rankings 2021), focusing on wind, naval, O&G offshore and aerospace structures. Stefanie has led large academic and industrial collaborative projects in the research areas of design for additive manufacturing, aircraft repair and polymer composite material performance, with a total grant income exceeding \$40m. Stefanie is currently appointed as Editor for Composites Part B and an elected member of the Executive Council of the International Committee on Composite Materials (ICCM).

Contact: s.feih@griffith.edu.au



Professor Caryl Bosman

Head of Discipline, Architecture and Design

Professor Caryl Bosman has 20 years of industry experience and worked in architectural practices in South Africa, London and Adelaide and taught in both architectural and planning degree programs. Caryl joined Griffith University in 2006 after completing her PhD in 2005 and undertaking two semesters of sessional teaching at the University of South Australia. Her current research interest focus on public space, tactical urbanism and the provision of housing for an ageing population. Since joining Griffith Caryl has taught planning studio at both first and second year levels and she has held a wide range of leadership positions.

Griffith Experts page: experts.griffith.edu.au/7118-caryl-bosman



Professor Bofu Yu

Head of Discipline, Civil and Environmental Engineering

Professor Bofu Yu is an internationally renowned researcher in soil erosion and hydrology. He got his Ph.D degree from Johns Hopkins University, U.S, and began his teaching and research work in Australia and U.S. From 1992, Bofu has been working at Griffith University, and held various leadership positions.

Griffith Experts page: experts.griffith.edu.au/18560-bofu-yu



Associate Professor Dzung Dao

Head of Discipline, Mechanical Engineering

Associate Professor Dzung Dao received the PhD degree in Micro Electro-Mechanical Systems (MEMS) from Ritsumeikan University (Japan) in 2003. Currently, Dzung is teaching in Mechatronics and Mechanical Engineering and actively researching in the areas of Micro/ Nano-machining technology, MEMS sensors and actuators, mechatronics and robotics and integrated MEMS/NEMS for smart cities. Dzung is the Chair of National Committee on Mechatronics, Engineers Australia.

Griffith Experts page: experts.griffith.edu.au/7142-dzung-dao



Dr Belinda Schwerin

Head of Discipline, Electrical and Electronic

Belinda Schwerin is a Senior Lecturer in the Griffith School of Engineering, and a member of the Institute of Electrical and Electronics Engineers (IEEE) and Institute of Integrated and Intelligent Systems (IIIS). With bachelor degrees in Microelectronic Engineering and Science (maths and computer analytics), PhD in signal processing (2013) and a postgraduate diploma in education (1996),

Belinda is an champion for the enhancement of learning and teaching practice, and is also passionate about using signal processing to improve health and well being through doctors and patients making more informed decisions. Her early work included the use of signal processing and machine learning for speech processing. Subsequent research has applied similar approaches to the processing of biometric signals, in particular electrocardiograms (ECGs). Her current focus is on exploring opportunities to assist obstetric professionals in improving fetal diagnostics for pregnant women, to assist with decision making and birthing choices.

Griffith Experts page: experts.griffith.edu.au/7739-belinda-schwerin



Dr Christine Boag-Hodgson

Head of Discipline, Aviation

Christine is an Organisational Psychologist with over 15 years applied aviation industry experience in senior management human factors and safety roles. She is a member of a number of professional bodies, including the US Human Factors and Ergonomics Society.

Christine has extensive tertiary education experience, having held academic appointments for 11 years before joining Griffith University in 2015. Her research interests include psychometrics, safety attitudes, virtual reality training, and human factors in unmanned aerial vehicles. In 2003 Christine completed a PhD (Organisational Psychology), specialising in mental workload and situation awareness in air traffic control.

Griffith Experts page: experts.griffith.edu.au/7840-christine-boaghodgson



Associate Professor Erwin Oh

Director (International)

Associate Professor Erwin Oh is responsible for leading Griffith Sciences' international engagement strategy. Erwin has overseen global student recruitment, international marketing, transnational education programs, and strategic planning. He specialises in the field of geotechnical and pavement engineering and has strong research collaboration with international partners and is actively engaged with the industry.

Griffith Experts page: experts.griffith.edu.au/7407-erwin-oh



Dr Sherif Mostafa

Program Director, Construction Management

Dr Sherif Mostafa is an experienced pracademic with over 10 years of industry experience in delivering engineering projects. Sherif has worked in positions including consulting engineer, and project and planning engineer in the areas of residential and commercial buildings, asset maintenance and project management.

Griffith Experts page: experts.griffith.edu.au/9494-sherif-mostafa



Mrs Margaret Schiller

School Manager

Maggie's role has administrative responsibility for governance, strategic and operational planning, administrative services and support, the operational management of School resources (people, physical and financial), external engagement activities and the operations of the Head of School office. Maggie ensures quality and consistency of service delivery and positive teaching and student experiences.

Linkedin page: linkedin.com/in/margaret-maggie-schiller-a238a346/



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X TOOLS

Learning and teaching

We focus on innovation and creating smarter solutions for the future

Griffith's School of Engineering and Built Environment provides the most robust and cohesive introduction to all fields of engineering, aviation and architecture. Students have the opportunity to focus on experiential learning, with hands-on projects from first year, culminating in industry sector internships and unique professional networking opportunities.

Our degrees provide students with the flexibility to choose their own path with a wide range of majors on offer. In their final year, students have the opportunity to put their skills and expertise into practise with work placements both in Australia and overseas.

As the first university to offer an environmental engineering degree in Australia, our degree has been built in consultation with the industry. This outstanding achievement is guided by our links to industry, enabling us to produce graduates who are able to face the growing challenges within this most important applied scientific field. This has enabled us to produce graduates who are equipped to tackle the growing challenges of today's industry with innovation and foresight.

Our Architecture degrees are distinctive in their emphasis on environmental sustainability and urban design. We are focused on global issues, particularly climatic responsive and sustainable design principles for the tropics and subtropics, relevant to our region and South East Asia.

The Bachelor of Architectural Design is recognised by the Australian Institute of Architects, the Architects Accreditation Council of Australia and the board of Architects of Queensland as an approved pathway to the professionally accredited Master of Architecture degree.

With a combined offering with the Queensland College of Arts, our Bachelor of Industrial design merges creative thinking with engineering principles. Students are exposed to advanced 3D printing design and manufacture, where valuable contributions are being made within the creative, mining and automotive sectors. Our degree looks at innovative ways to approach the rapidly evolving healthcare industry, where 3D printing technologies can be used as a cost-effective and sustainable means of reproducing artificial joints, bones and medical devices.

Our Bachelor of Construction Management degree on the Gold Coast campus, is distinctive in its strong focus on IT applications and emerging technologies in the built environment.

Griffith's highly regarded aviation degree is internationally respected. A degree and credit transfer arrangement with Canadian and Singapore colleges and polytechnics enables diploma-qualified Canadian students to enrol into Griffith Aviation's accelerated Bachelor of Aviation Management and Master of Aviation Management programs. Both programs are offered on-campus or online.

With 25 years of experience in Aviation research and teaching, Griffith works closely with industry to develop degrees that are strongly linked to the current and future needs of the industry. We have strong academic and research ties to leading partners like Qantas, Virgin Australia, Brisbane Airport, Adelaide Airport and Queensland Airports Corporation.

At Griffith, we have placed a strong focus on creating cutting-edge facilities for both teaching and learning and research. Our new state-of-the-art Engineering, Technology and Aviation building creates a space for our students to learn in industry-grade spaces. Coupled with our existing facilities, the School of Engineering and Built Environment has claim to an array of high-quality test facilities and structural, hydraulic and geotechnical laboratories, including Australia's best airborne biohazard facility.

As technology and living standards evolve, so too does the required expertise of today's professionals. From more traditional civil, mechanical and electrical engineers, to today's high-tech software, environmental, electronic and energy engineers, there are industries where Griffith graduates continue to make valued contributions.



Our Programs

	GOLD COAST CAMPUS	NATHAN CAMPUS
UNDERGRADUATE	<ul style="list-style-type: none"> • Bachelor of Engineering (Honours). Majors: Civil Engineering Electrical Engineering Mechanical Engineering Software Engineering • Bachelor of Construction Management (Honours) • Bachelor of Industrial Design • Bachelor of Architectural Design <p>Double degrees: Bachelor of Engineering (Honours) /Bachelor of Business /Bachelor of Environmental Science /Bachelor of Science /Bachelor of Information Technology /Bachelor of Computer Science /Bachelor of Industrial Design /Data Science</p>	<ul style="list-style-type: none"> • Bachelor of Engineering (Honours). Majors: Civil Engineering Electronic Engineering Electronic and Energy Engineering Electronic and UAV Engineering Environmental Engineering Mechanical Engineering Mechatronic Engineering Software Engineering • Bachelor of Technology in Electronic and Computer Engineering • Bachelor of Aviation • Bachelor of Aviation Management <p>Double degrees: Bachelor of Engineering (Honours) /Bachelor of Business /Bachelor of Environmental Science /Bachelor of Science /Bachelor of Information Technology /Bachelor of Aviation /Data Science</p>
POSTGRADUATE	<ul style="list-style-type: none"> • Master of Architecture • Graduate Diploma of Engineering Science • Master of Civil Engineering • Master of Civil Engineering Advanced • Master of Civil Engineering/ Master of Engineering Project Management • Master of Professional Engineering • Master of Engineering Project Management • Master of Engineering Project Management Advanced • Graduate Diploma of Research Studies in Engineering 	<ul style="list-style-type: none"> • Graduate Certificate in Aviation Management • Master of Aviation Management • Graduate Diploma of Flight Management • Graduate Diploma of Rotary Wing Flight Management • Graduate Diploma of Engineering Science • Master of Professional Engineering • Master of Environmental Engineering • Master of Environmental Engineering and Pollution Control • Graduate Diploma of Research Studies in Engineering
DIGITAL (ONLINE)		
<ul style="list-style-type: none"> • Master of Professional Engineering Leadership • Master of Environmental Engineering • Master of Environmental Engineering and Pollution Control • Master of Aviation Management • Graduate Certificate in Airport Management • Graduate Certificate in Aviation Management • Bachelor of Aviation Management • Graduate Certificate in Building Services/Master in Building Services (from 2021) 		

For further details of our programs please check the website: griffith.edu.au/study

Professional recognition

The School's degree programs are accredited by professional bodies, meaning our degrees are recognised as a high-quality program.

PROGRAM	PROFESSIONAL ACCREDITATION / RECOGNITION	INTERNATIONAL PROFESSIONAL RECOGNITION
Bachelor of Engineering (Honours) Double degrees: Bachelor of Engineering (Honours) /Bachelor of Business /Bachelor of Environmental Science /Bachelor of Science /Bachelor of Information Technology	Accredited by Engineers Australia	Internationally recognised via Engineers Australia's membership in joint recognition programs - the Washington Accord, the Sydney Accord and the Dublin Accord
Master of Professional Engineering	Accreditation is currently being sought from Engineers Australia	
Bachelor of Construction Management (Honours)	Provisionally accredited by the Australian Institute of Building (AIB) Accreditation is currently being sought from the Chartered Institute of Building (CIOB) and Australian Institute of Quantity Surveyors (AIQS)	Accreditation is currently being sought from the Chartered Institute of Building (CIOB)
Bachelor of Industrial Design	Recognised by the Design Institute of Australia (DIA)	
Bachelor of Architectural Design	Recognised by the Australian Institute of Architects / Architects Accreditation Council of Australia (AACA) / Board of Architects of Queensland as an approved pathway program to the professionally accredited Master of Architecture	
Master of Architecture	Recognised by the Architects Accreditation Council of Australia, the Board of Architects of Queensland, the Australian Institute of Architect and the Commonwealth Association of Architects	Recognised by Commonwealth Association of Architects



Partnerships and collaborations

By collaborating with industry, we cultivate new technologies that respond to real-world challenges.

The School of Engineering and Built Environment encourages and support a wide range of collaborative activities with all levels of industry. We offer direct, effective, beneficial and unique ways to engage with and establish close ties with staff and students.

Some of our existing partnerships include large firms such as GHD, Lendlease, DHI Water and Environment, Parsons Brinckerhoff, Schneider Electric. Opportunities for engagement include:

Consultancy and research

We can help companies find innovative solutions and develop new technologies that address contemporary challenges, taking into consideration both social and economic benefits. We offer opportunities for joint publications, intellectual input into research, research grant application partnerships, joint development of new technologies and inventions. We also offer professional development activities to build staff capacity.

Drawing on in-depth research and expertise from a wide range of disciplines, we can help organisations and communities to develop new ideas and initiatives, verify facts/assumptions, provide expert analysis and advice, offer special experience and skills and get access to specialist equipment and testing facilities.

Industry site visits

Through our industry site visits program we bring a small group of engineering students to visit your location. Site visits expose students to real-life engineering environments and allow companies to promote the unique aspects of your organisation. This is a great opportunity to develop recognition among the student body, market internships and job opportunities, and educate students on hiring process and timeline.

Work-Integrated Learning

Griffith's work-integrated learning program gives students the opportunity to gain real workplace experience while they study.

These opportunities give organisation's the chance to give back to their industry, and enables them to shape the emerging leaders of their organisation.

Enthusiastic and innovative Griffith students have the knowledge and skills needed to add real value to industry project teams.

Graduate placements and general employment

Increase your talent pipeline and capacity building by offering graduate placements and long or short-term positions directly to our talent pool of engineering, architecture and aviation students. Whether you're a small or large business, a not for profit organisation, an individual seeking to employ casual help, we can point you in the right direction. Engaging a Griffith University student or graduate will fill gaps in your organisation with students who are eager to learn, and understand the latest industry trends and technologies.

Industry Advisory Board

Our Advisory Boards are made up of professionals with representatives from all disciplines and academic staff. The main objective of the Boards is to provide advice and assist the School to continuously improve its performance in all areas of its activities, including teaching, research and community engagement.

Industry guest lectures

Industry partners are invited to join course convenors to deliver one-off lectures to students, relevant to the curriculum. Industry guest lecturers give students insights to the application of their learning in a business setting and create an inspirational learning environment.

Presentations are made by guest speakers who are national and international experts in their field. Our students appreciate first-hand insight from industry into career paths.

Industry information sessions are a great opportunity to meet with motivated students, share your experience, provide information about your organisation and give real perspective of engineering profession.

Industry mentoring program

Griffith offers a range of mentoring programs that focus on local and global engagement. The programs aim to support career development learning, global citizenship and graduate outcomes for Griffith students by connecting them to alumni and industry professionals. Mentoring a student can be a very rewarding experience, benefits include personal satisfaction, learning about current trends from the latest research, developing skills in coaching and opportunities to reflect on your own professional practice.

Scholarships

Each year Griffith University and its partners provide more than \$40 million to support new and continuing students successfully complete their degrees through direct financial support.

Scholarships are one of the many ways to support students to reach their potential and achieve a brighter future. By offering and funding essential scholarships, you are investing in the future and changing lives. Griffith University awards numerous scholarships on the basis of factors including financial need, academic achievement, athletic achievement, public service and cultural background.

International affiliations

The School of Engineering and Built Environment has developed an international profile through affiliations with partner institutions and has an excellent international research reputation. These include:

- Student articulation arrangements with Shandong Jianzhu University (SDJZU), China University of Mining Technology (CUMT), Nanchang Hangkong University (NCHU) Zhengzhou University of Light Industry (ZZULI), Ho Chi Minh City University of Technology (HCMUT), and Hanoi University of Science and Technology (HUST).
- Exchange agreements with Leeds University (Leeds, England), Helmut Schmidt University (Hamburg, Germany) and TECNUN (San Sebastian, Spain).
- Well ranked in Shanghai Global Ranking of Academic Subjects 2022.
32nd Marine/Ocean Engineering.
Top 100 for Energy Science & Engineering, Water Resources and Computer Science & Engineering.
Top 150 for Civil Engineering, Chemical Engineering, Environmental Science & Engineering, Materials Science & Engineering, Transportation Science & Technology.*



Contact us

If you would like to find out more information or how you can engage with the School, do not hesitate to contact us via the following details:

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Email: ebe-admin@griffith.edu.au

Web: griffith.edu.au/school-ebe

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