



Postdoctoral Research Fellow - Australian Robotics Centre

FACULTY OF ENGINEERING
ACADEMIC DIVISION



About the Position

The ARC Industrial Transformation Training Centre for Collaborative Robotics in Advanced Manufacturing has an exciting opportunity for a Postdoctoral Research Fellow to play a key role in our Designing Socio-technical Robotic Systems Program. This is one of the Centre's five research programs that address the technological and business outcomes required to implement cobotics within the manufacturing industry. The programs and their projects have been designed to maximise collaboration between industry partners and across the universities.

The position will contribute to strengthening existing partnerships with external stakeholders and help develop new and ongoing partnerships.

Human Robot Collaboration is part of a surrounding socio-technical factory system. For successful utilisation of collaborative robots, including their autonomy and flexibility, it is important to consider their relationship to humans in work practices, places, and systems. In addition to human factors, key design factors include the products to be manufactured by the collaborative robot, the overarching manufacturing process, and the space requirements that support human-robot interaction and collaboration. On the one hand, these aspects influence the suitability and position of a collaborative robot within the manufacturing process. On the other hand, they themselves are also affected by the collaborative robot, or need to be adapted to increase the performance of a collaborative robot working with humans.

The aim of this Program and its included projects is to embed holistic design as a critical factor in creating seamless integration of humans and machines working together to improve human work conditions and environments, and increase effectiveness and efficiencies in production, as well as workforce acceptance.

Aside from their own research activities within the Program's scope, the Research Fellow will also assist with the supervision of postgraduate students and will be an active member of the research community within the university and across the centre's network.

The centre is focused on collaboration and knowledge sharing between industry and research partners.

This role may include considerable periods working directly at our partner organisations, including LA Services, B & R Enclosures, InfraBuild and WELD Australia and at our university partner sites, which will involve travel outside of Brisbane and interstate.

The centre offers a training program which has an emphasis on professional development as well as technical skills. The program includes opportunities to build your knowledge, skills, experience, and professional standards through on-the-job tasks, social learning and formal training opportunities.

The position is supported by the Australian Research Council's Industrial Transformation Training Centre scheme, which has been funded for up to 5 years.

This position reports to the QUT Program Leader for supervision, workload management and for Performance Planning and Review (PPR).

Key responsibilities include:

- Undertaking research activities and project tasks to meet the goals, timeline and deliverables of the Program and its included projects.
- Actively participating in strategic planning for research and development in the areas of design and socio-technical systems in relation to cobotics.
- Maintaining complete and accurate research records, including written and verbal reports, documenting details of IP, ethics approvals, publications, media mentions, and other key program metrics as required.
- Participating and contributing to ethical, high-quality, and innovative research through activities such as quality publications, industry and end-user presentations, or conference presentations.
- Reading academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
- Leading and participating in high-performing multidisciplinary teams and assisting with the supervision of research students both undergraduate and postgraduate.
- With support from the Program Leader, developing and maintaining strategic relationships and networks with a wide range of stakeholders including industry partners, partner institutions and internal QUT partners based in other faculties.

- Liaising with collaborators and stakeholders; and generating, finalising and editing research reports, progress reports and project reports for collaborators.
- Partaking in and encouraging HDRs to take part in the centre's professional development program.
- Implementing and administering University policy within the Faculty with respect to equitable access to education and workplace health and safety.

To ensure job flexibility the successful appointee may be required to:

- Perform any other duties as nominated by the University consistent with the relevant classification descriptors detailed in the Enterprise Agreement. Staff undertaking any new duties will receive training;
- Participate in job rotation or multiskilling in consultation with their supervisor;
- Work across campuses and partner organisations.

To be appointed as a Postdoctoral Research Fellow the successful applicant must meet the position classification standards outlined in the [QUT Enterprise Agreement \(Academic Staff\)](#).

Type of appointment

This appointment will be offered on a fixed-term, full-time basis for three (3) years. (With the possibility to extend for a further two (2) years).

The centre is open to flexible working arrangements including job-share and part time working.

Location

Gardens Point campus.

Selection Criteria

1. Completion of a doctoral qualification in a related field with proven knowledge of research techniques and methodologies relevant to design and/or robotics research.
2. Demonstrated ability to lead or contribute to research projects including identifying and tracking milestones, reporting on progress and identifying barriers to completion.

3. Demonstrated capacity to work collaboratively and proactively as part of a multi-disciplinary and multi-institution research team, as well as proven ability to work effectively with minimal supervision.
4. Demonstrated written communication skills for scholarly publications, technical reports and project documentation with a track record or capacity to publish in high quality journals.
5. Oral communication skills with a demonstrated ability to present research findings to a variety of audiences.
6. Demonstrated interpersonal skills including the ability to build relationships, influence, lead, manage conflict and communicate effectively with colleagues at all levels.

Remuneration and Benefits

The classification for this position is Academic Level B (LEVB) which has an annual remuneration range of \$117,480 to \$139,522 pa. Which is inclusive of an annual salary range of \$99,272 to \$117,898 pa and 17% superannuation.

In July 2020 QUT staff voted in favour of a variation to its Enterprise Agreements. The variations were approved by the Fair Work Commission in August 2020.

The variation impacts leave loading (for new staff no loading will be paid or accrued during the period the variation is in effect), salary increases (the salary increase which was due to occur in the first full pay period of December 2020 was deferred until the first full pay period of December 2021, however it has been brought forward by the Vice-Chancellor to be paid in June 2021) and superannuation (superannuation will be paid to staff as though the salary increase which would have been paid in December 2020 has taken effect and, subject to the rules of the superannuation fund, a defined benefit member will continue to make contributions in alignment with the contributions made by the University). A link to the variation is [here](#).

Beyond personal and professional fulfilment, a career at QUT brings a broad range of tangible benefits. With competitive remuneration including superannuation, the University offers real and generous benefits.

QUT is a high quality and flexible organisation that is proud of its excellent employment conditions which include but are not limited to:

- Reduced working year scheme
- Parental leave provisions
- Study support encompassing leave and financial assistance
- Comprehensive professional development
- Salary Packaging

Further benefits can be found at the [Life at QUT](#) page.

Information for applicants

The position is open to applicants who have unrestricted work rights in Australia for the duration of the fixed-term appointment. In support of our strategic priority of Indigenous Australian success, Aboriginal Australians and Torres Strait Islander people are encouraged to apply.

For further information about the position, please contact Associate Professor Glenda Caldwell, on (07) 3138 5231; or for further information about working at QUT contact Human Resources on (07) 3138 5000.

Candidates who are interested in the position are encouraged to apply even though they may feel they are not strong on individual selection criteria.

In assessing merit, the panel will take into consideration “performance or achievement relative to opportunity”. We recognise that many staff today have a range of personal circumstances, and career histories that challenge traditional ideas of an academic staff member. This may mean, for example, prioritising the quality of achievement rather than the quantity, as considerations of part-time employment, career interruptions and significant periods of leave are taken into account when assessing performance or achievement.

The selection panel is also committed to conducting a process which is fair and free from bias, including unconscious bias.

How to Apply

For further information and to apply, please visit www.qut.edu.au/careers for reference number **21952**.

When applying for this position your application must include the following:

- A current resume
- Cover Letter (max. 1 page)
- Response to the selection Criteria (max. 2 pages)

Applications close 4 October 2021

About QUT

QUT is a major Australian university with a global outlook and a 'real world' focus. We are one of the nation's fastest growing research universities and our courses are in high demand.

We are an ambitious and collaborative institution that seeks to equip our students and graduates with the skills they will need in an increasingly disrupted and challenged world.

We are transforming the student experience we offer our 50,000 students and we place a premium on the international and national accreditation of our various professional degrees.

We offer academic programs in fields spanning business, creative industries, education, engineering, health, law, science, and social justice across five faculties.

We are transforming the learning experience and embed work integrated learning in courses and have a strong focus on developing entrepreneurial skills. QUT provides executive education and professional development to both individuals and organisations through QUTeX, and QUT Online lets students learn when it suits, through courses delivered entirely online. QUT College offers pathways for all students into our undergraduate programs.

QUT has two inner-city campuses in Brisbane at Gardens Point and Kelvin Grove.

Well known for our strong links to industry and government, the high impact of our research which involves multidisciplinary teams, QUT has been named one of the fastest rising universities in the world for scientific research.

Further information about QUT can be obtained from the website at www.qut.edu.au.

Our Vision

QUT's [Blueprint 6](#) is our institutional strategic plan. The Blueprint formalises QUT's ambitions and declares our strong sense of purpose which is to provide transformative education and research relevant to our communities.

It provides a framework and strategies to enable QUT to realise our vision to be the university for the real world and identifies the following priorities:

- support aspiration and inclusion
- encourage creativity and entrepreneurship
- embrace digital transformation and technology
- embed principles of health and wellbeing
- support Indigenous Australian engagement, success and empowerment
- enable professional engagement and ethical leadership and,
- focus on the environment and sustainability

Aligned to and supporting our vision are the QUT Values. These Values highlight what makes QUT distinct and successful. Providing a compass for our decisions, actions and behaviours and strengthening our community.

QUT Values

- Ambition
- Curiosity
- Innovation
- Integrity
- Inclusiveness

About the Academic Division

Academic Division includes the University's faculties and research centres. It is responsible for education (learning and teaching), research, research services and support, and digital business solutions. The Academic Division is led by the Provost.

About the Faculty

The Faculty of Engineering aims to shape the world we live in by engineering sustainable, innovative and liveable environments. Our programs focus on teaching, research and building a better quality of life through advancements in robotics, manufacturing, AI, architecture, and construction.

The Faculty adapts and innovates infrastructure to meet real world challenges such as overpopulation, natural disasters and climate change. We pursue high-level engagement with a range of sectors to deliver benefits across health, transport, aero-space, manufacturing, mining and agriculture.

Through long-standing collaborations with partners such as BMW, Boeing, Stryker, Shell and the Commonwealth Bank of Australia, the Faculty remains at the forefront by facilitating learning that is delivered on campus, online and in the real world. Strong industry connections enable us to address complex challenges through research and innovation, as well as offer our students relevant and practical learning experiences.

Our Schools are established around disciplines that promote collaboration in teaching and research. These include the:

- School of Architecture and Built Environment
- School of Civil and Environmental Engineering
- School of Electrical Engineering and Robotics
- School of Mechanical, Medical and Process Engineering.

The Faculty is also home to outstanding researchers of international renown that collaborate with partners to improve systems in robotics, medical, mechanical, mining, food and beverages, oil and gas, energy, water and sugar. Our Research Centres include:

- Centre for Biomedical Technologies
- QUT Centre for Robotics
- Centre for Transformative Biomimetics in Bioengineering
- Australia-China Centre for Tissue Engineering and Regenerative Medicine

The Faculty is led by the Executive Dean and the Executive Management Team comprising the deputy dean, heads of schools, and other senior faculty staff.

About the School of Architecture and Build Environment (ABE)

The newly established School of Architecture and Built Environment delivers programs, knowledge and technical skills within the built environment.

Specific to the Built Environment, this includes the Bachelor of Design with undergraduate majors in Architecture, Interior Architecture and Landscape Architecture, Masters of Architecture, Masters of Landscape Architecture, Bachelor of Urban Development (Honours), with undergraduate majors in Construction Management, Urban and Regional Planning, and Quantity Surveying and Cost Engineering. We also deliver a course in Project Management at the postgraduate (Masters) level.

The school combines complementary disciplinary strengths in data analysis, design thinking and strategic planning to solve problems, improve efficiency, manage change and implement innovative processes at different phases of the construction and development process and at different scales of action.

We apply human centred and critical perspectives to engage stakeholders (employees, citizens, communities, stakeholders) in design and innovation (e.g., architecture, planning, construction, development, and evaluation) of the built environment. We research and teach collaboration and stakeholder engagement in professionally based contexts. We also research and teach tools and technologies such as building information modelling and big data analytics to inform projects and decision making. It will apply these perspectives and tools to address social, economic, technical, health and safety, and environmental challenges in diverse construction, development and planning projects in urban and regional contexts.

The Architecture program prides itself on its strong profession and industry engagement and academic leadership. In 2019 a new three-year undergraduate curriculum commenced in the School of Design. The new Architecture course provides students with enhanced studio experiences through the introduction of a series of cross disciplinary Impact Labs at all year levels. Students participate in problem-based, collaborative approaches to learning aligned to real world experiences and contexts.

About the Centre

The ARC funded Industrial Transformation Training Centres scheme fosters close partnerships between university-based researchers and other research end-users to provide innovative Higher Degree by Research (HDR) and postdoctoral training, for end-user focused research industries that are vital to Australia's future.

The ARC ITTC for Collaborative Robotics in Advanced Manufacturing (www.AustralianCobotics.org) is a collaboration between QUT, University of Technology Sydney (UTS) and Swinburne University of Technology and is headquartered in QUT. Although hosted within the QUT Faculty of Engineering, the transdisciplinary nature of our research means that our researchers are drawn from different faculties and disciplines across all university partners.

The Centre for Collaborative Robotics in Advanced Manufacturing will achieve wins for Australian businesses and the economy by developing our capability for new forms and design approaches to human-robot interaction in manufacturing environments. This will benefit Australian companies, especially small businesses (who will win on process innovation and lower costs), manufacturing workers (whose jobs will become safer and higher-skilled), and the economy (through the growth of jobs and exports). The Centre will achieve this by training the next generation of manufacturing leaders, researchers, and technicians with collaborative robotics expertise to make Australian manufacturing safer, more efficient and globally competitive. We will enhance this capability by researching and sharing with industry new knowledge to improve skills, workforce diversity and readiness to power Australian manufacturing with the digitally-capable workforce of the future.