

QUT Design Lab: 2020 Overview

Founded in 2016, the QUT Design Lab officially became a Tier 2 Research Centre in 2020. While COVID-19 has disrupted plans for an official launch and other in-person activities, members have embraced online meetings, seminars and webinars. The QUT Design Lab has 59 academic members – 16% are outside the School of Design, rising to ~42% when the School of Design splits across two Faculties (Faculty of Creative Industries, Education and Social Justice; Faculty of Engineering) – and 54 higher degree research students.

QUT Design is currently the *top ranked Design School in Australia for Design Practice and Management*, the only University nationally to achieve an ERA 4 in 1203 (Design Practice and Management).

RESEARCH INCOME

Successful leadership in design research is reflected in our metrics; in 2020, research income is over \$16M, doubling from \$7.8M in 2019. These figures are not disaggregated and include several large projects which Design Lab members are part of, including:

- \$45M: ARC Centre of Excellence for the Digital Child (Prof Margot Brereton)
- \$23M: ARC Centre of Excellence for Robotic Vision (Prof Jonathan Roberts)
- \$17M: ARM Hub (Prof Greg Hearn)
- \$5M: ARC Training Centre for Collaborative Robotics in Advanced Manufacturing (Prof Jonathan Roberts, A/Prof Marcus Rittenbruch, Dr Jared Donovan, A/Prof Glenda Caldwell, Prof Greg Hearn)
- \$5M: Medical Research Future Fund - Improving the Lives of those with Brain Cancer (Prof Thea Blackler)
- \$2.4M: Design Robotics for Mass Customisation Manufacturing (Dr Jared Donovan, A/Prof Glenda Caldwell)
- \$1M: NHMRC on Intergenerational Living and Learning (Prof Evonne Miller & Marissa Linqvist)
- \$1M: Food Agility CRC, BeefLedger Blockchain Project (Prof Marcus Foth)

Table 1: Research income, 2018 to August 2020

| | 2018 | 2019 | Aug 2020 | Total over 3 yrs |
|-------------------------------------|--------------------|--------------------|---------------------|--------------------|
| Collaborative Research (CRC) | \$769,057 | \$1,500,850 | \$1,889,811 | \$4,159,718 |
| Commercial Research | \$1,205,679 | \$1,117,239 | \$1,258,874 | \$3,581,792 |
| Consultancy | \$39,545 | - | \$64,828 | \$104,373 |
| Research | \$575,195 | \$5,241,074 | \$13,295,130 | \$19,111,399 |
| Total | \$7,771,476 | \$7,859,163 | \$16,508,643 | 112% growth |

PUBLICATIONS

Table 2 below illustrates publications from Design Lab members, showing how there has been a shift towards quality Q1 journal outlets. As well as publishing 49 journal articles to date, Design Lab members have written four books and edited one – with many members contributing to a CRC Press book currently in production entitled *How to be a Design Academic: from Learning to Leading* (edited by Prof Thea Blackler & Prof Evonne Miller).

This positive change in quality publications can be attributed to the mentoring, training, editing assistance, and a persistent focus on quality within the QUT Design Lab's activities, which include online goal-setting and writing events; for example, there are 3 x weekly SUAW (shut up and write) sessions, with one focused for HDR students, and a monthly Women's Writing Accountability Group where female Design Lab members set and report on, writing and publication goals. This aligns to the SAGE (Science in Australia Gender Equity) Athena SWAN initiative focused on gender equity.

Table 2: Journal Article and Total Publications

| | 2018 | 2019 | to Aug 2020 | Total over 3 years |
|-----------------------|------|------|-------------|--------------------|
| Q1 | 29 | 38 | 38 | 105 |
| Q2 | 11 | 9 | 9 | 29 |
| Q3 | 2 | 2 | 2 | 6 |
| Q4 | 2 | 1 | 0 | 3 |
| Total Articles | 44 | 50 | 49 | 143 |
| Overall Total | 99 | 108 | 86 | 293 |

Authored Books

Brott, S. (2020) *Digital monuments: The dreams and abuses of iconic architecture*. Routledge.
 Cushing, D & Miller, E.(2020) *Creating Great Places: Evidence-based Urban Design for Health and Wellbeing*. Routledge.
 Maher, S. (2020). *Film Noir and Los Angeles: Urban History and the Dark Imaginary*. Routledge.
 Payne, A. (2020). *Designing Fashion's Future: Present Practice and Tactics for Sustainable Change*. Bloomsbury.

Edited Books

Fleming, M., & Baldwin, L. (Eds.) (2020) *Health promotion in the 21st century: New approaches to achieving health for all*. Allen & Unwin.

STRUCTURE

Led by Director Prof Evonne Miller and Associate Director A/Prof Markus Rittenbruch, the mission and vision of the QUT Design Lab being ‘Change by Design’, is currently focused around three core programs:

- *Designing Future Technologies* (led by Dr Jared Donavon)
- *Designing for Health* (led by A/Prof Marianella Chamorro-Koc)
- *Designing Creative and Resilient Communities* (led by A/Prof Glenda Caldwell)

The Programs are all well aligned with the practical, applied and technology-focused QUT ethos, and each meet monthly to connect and share ideas.

EVENTS & ENGAGEMENT

COVID-19 saw an amendment to the way members interacted in the Design Lab during 2020. With social distancing and working from home becoming the new norm, the team diversified and embraced online communication and technology. To ensure social connection, whilst maintaining social distancing, Friday afternoon Zoom Drinks were implemented, and workshops which would normally be hosted on campus, were moved on-line. As well as the monthly program meetings, the SLACK channel was reopened, to allow for an open and informal mode of communication.

A particular highlight was the introduction of QUT Design Lab Conversations, which are hosted via Zoom by Associate Director, Markus Rittenbruch on the second Monday of each month. The Conversations series format has proven so effective, that it will continue as a Design Lab priority in its current format for the foreseeable future. With 14 new Design academics having commenced employment since early 2019, and the disruption of COVID-19, the Design Lab leadership team placed added importance on professional development for ECRs this year. Some of the many targeted activities included:

- *Regular mentoring sessions between ECR's and DL leadership team*
- *How to Write a Book webinar*
- *Content Analysis & Atlas.Ti: Analysing textual data webinar*
- *Write that Article workshop (with writing coach Karyn Gonano)*
- *Developing YOUR Research Action Plan workshops*
- *Emergency Relief Funding round*

The Design Lab also maintained a strong presence with collaborative external engagement, including:

- *inclusionED launch with Autism CRC*
- *Chatty Bench Project with Communify, Village Church & Brisbane Housing Company*
- *Design Robotics 2020 with Innovative Manufacturing Cooperative Research Centre*
- *Creating Great Places: The Design Series with Urban Play*

Guest appearances were made somewhat easier, with the introduction on online seminars, with some 2020 highlights including participation in:

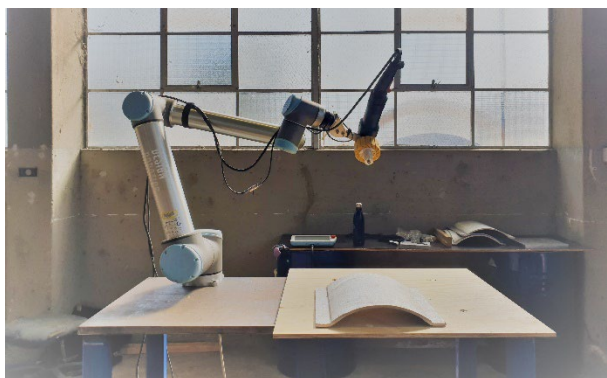
- QUT C4J “Lightning Talks” Series, Place, Space & Justice
- Monash University: Participatory arts-based research methods
- ABC Melbourne Radio: Flexible Housing
- Media Architecture Biennale 2020: Live Case, Futures Implied

The Design Lab team also won a number of distinguished awards including:

- J&J WiSTEM2D: Veronica Garcia Hansen was the first Australian researcher to be awarded this distinguished international women’s award which included funding and mentoring for her research on lighting in hospitals
- Good Design Awards: the BeefLedger team were successful in achieving two prestigious Good Design Awards
- Brisbane Design Awards: Dr Oksana Zelenko received a Gold in the Brisbane Design Awards for her Niggle project with Kids Helpline

2020 HIGHLIGHTS

Design Robotics for Mass Customisation Manufacturing



Developing new ways to use robots & vision systems for design-led manufacturing to make ambitious art, design and architectural projects, we need the latest software to provide us with the solutions.

UAP (Urban Art Projects) is collaborating with the Innovative Manufacturing CRC (IMCRC), QUT and RMIT University to develop vision enabled robots that streamline the design and custom manufacturing process – a project led by QUT Design Lab’s Dr Jared Donovan and A/Prof Glenda Caldwell. Key to the project is the Design Robotics Open Innovation Network, where outcomes are shared to benefit the wider design and manufacturing sectors.

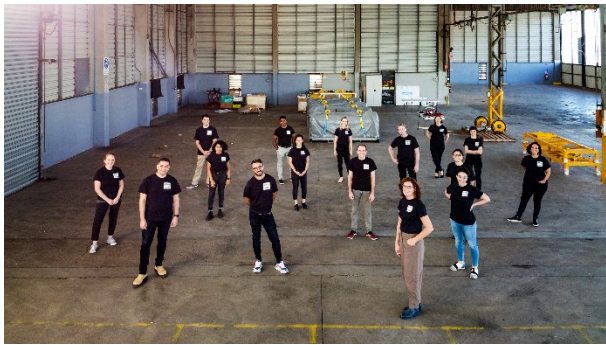
Health Excellence Accelerator Lab (HEAL)



The Healthcare Excellence Accelerator (HEAL) Lab is a collaboration hub, co-led by the QUT Design Lab and the Healthcare Improvement Unit at Clinical Excellence Queensland. HEAL is designed as a bridge between the QUT design and innovation community and Queensland Health, accelerating healthcare improvement.

HEAL is designed to connect healthcare professionals across Queensland with designers, who will work together and use design approaches to transform thinking, spaces, places, processes and products, and positively transform healthcare. Ten Design Lab members form the core HEAL team, led by Prof Evonne Miller.

Design Robotics 2020: Inside the Learning Factory Webinar



The Design Robotics team shared robotic demos, insights and research with presentations on Robotic Vision; Architectural Robotics; Human Centre Design and Open Innovation

Design Lab Conversations: Monthly Webinar



QUT Design Lab Conversations, championed by A/Prof Markus Rittenbruch are an online seminar, hosted once a month to discuss the challenges, opportunities and trends in Design research.

An Inter-generational Learning and Living Campus: A New Model



This NHMRC Ideas project is developing an inter-generational model for senior living within school campuses in collaboration with industry partners.

The model aims to create intentional space for co-learning, co-care, co-fitness and co-creation benefiting health, well-being, and continued learning of residents and students, with QUT Design Lab researchers Prof Evonne Miller and Marissa Lindquist focussed on how we might use design to foster intergenerational connections.

QUT and BeefLedger win two prestigious national awards for outstanding design and innovation



Innovation in tracking beef from the paddock to the plate using blockchain technology and digital cryptocurrency tokens has resulted in a team of QUT researchers (led by Prof Marcus Foth) and industry partner BeefLedger being awarded two prestigious Good design Awards.

These are Australia's peak international design awards and the highest honour for design and innovation in the country. BeefLedger received accolades in the commercial services category in recognition of outstanding design and innovation in streamlining transactions in the beef supply chain.

2021 FORECAST

Despite the changes and challenges of COVID-19, 2020 has been a very successful year for the QUT Design Lab. We have intentionally welcomed several new researchers from across the university, primarily the Faculty of Health and SEF, and will continue this strategic growth in 2021. Our focus in 2021 will be to solidify our growth and continue the focus on developing core industry, government, and research partnerships. And, whilst all Tier 1 and 2 applications are paused for 2021, we will continue to collaborate strategically across QUT and plan for a Tier 1 submission in 2022.