



Research Report

2021

In the spirit of reconciliation, Bond University acknowledges the Traditional Owners and Custodians of the land on which the university now stands.

The Kombumerri people have walked and cared for this land and wildlife for thousands of years, and their descendants maintain spiritual connection and traditions. We thank them for sharing their cultures, spiritualities and ways of living with the land and wildlife in this place we all now call home.

We pay respect to Elder's past, present and emerging.



Welcome from the Provost

I am pleased to present the Bond University 2021 Research Highlights Report. Bond's research community is unique and adaptable. Our researchers and students are central to our research productivity and impact, and we are proud of the contribution to new knowledge from our research community.

Despite the past two years of uncertainty, Bond staff have continued to produce high quality research.

We have a vision of focused research being core to University business. The combined efforts of our researchers and students continues to flourish in an environment where learning, discovery, scholarship and invention are encouraged.

I offer my sincere appreciation to our research teams, committee members, partners, collaborators, and staff for your support, resilience, and dedication.

Professor Keitha Dunstan
Provost

Research Highlights 2021

Strengths

The research effort at Bond University continues to grow, with over \$9.7M funds contracted by Bond University.

Some highlights from the year included:

Professor Nick Zwar (Faculty of Health Sciences and Medicine) secured \$977,628 in funding from the Medical Research Future Fund (MRFF) administered by the National Health and Medical Research Council (NHMRC) to undertake a randomised controlled trial to test the efficacy and cost-effectiveness of an innovative precision medicine and personalised care intervention among people with Chronic obstructive pulmonary disease (COPD).

Dr Loai Albarqouni (Institute of Evidence-Based Healthcare) was awarded \$650,740 under the National Health and Medical Research Council (NHMRC) Investigator Grant. Dr Albarqouni's research will focus on optimising the update of effective underused non-drug evidence-based interventions in primary care.

Associate Professor Daryl McPhee (Faculty of Society & Design) secured \$266,500 from the Fisheries Research and Development Corporation (FRDC) to undertake a review of regulation and policy guiding use of artificial reefs and Fish Aggregating Devices (FADS) in Australian waters.

Vale Professor Chris Del Mar

Professor Del Mar studied medicine at the University of Cambridge before moving to Mackay in Queensland in 1977 and establishing a general practice. In 1994 he became Professor and Head of General Practice at the University of Queensland.

He moved to Bond University in 2004 where he was Dean of Health Sciences & Medicine, and Pro Vice Chancellor (Research). Professor Del Mar launched the Medical Program in 2005 and oversaw the graduation of the first cohort of 72 medical students. More recently he was Professor of Public Health at the University's Institute for Evidence-Based Healthcare.

During his academic career he developed an international reputation in the management of acute respiratory infections, general practice research, evidence-based medicine, systematic reviews, and randomised controlled trials.

Professor Del Mar was a former chair of the Royal Australian College of General Practitioners (RACGP) National Research Committee, and a former President of the Australian Association for Academic General Practice.

For 20 years he volunteered as the Co-ordinating Editor of the international Cochrane Collaboration's Acute Respiratory Infection Group.

In 2008 he was honoured with the RACGP's highest award, the Rose-Hunt Medal, and in 2015 was appointed a Fellow of the Australian Academy of Health and Medical Sciences.

Last year Professor Del Mar was named a Member of the Order of Australia in the Queen's Birthday Honours for significant service to tertiary education, to health and medical research, and to professional bodies.

The Governor of Queensland Dr Jeanette Young presented the award at his home late 2021.



Recognition

2021 Australia Day Honours

Professor Tammy Hoffmann (OAM)

Professor Tammy Hoffmann received her Medal of the Order of Australia (OAM) for her services to clinical epidemiology and occupational therapy.

Professor Hoffmann's research helps health professionals and patients make health decisions that are informed by evidence.

Professor Hoffmann holds a Senior Research Fellowship from the National Health and Medical Research Council, is a Fellow of the Occupational Therapy Australia Research Academy and a Fellow of the Australian Academy of Health and Medical Sciences.



2021 Queen's Birthday Honours List

Professor Paul Glasziou (AO)

Professor Paul Glasziou received his Officer of the Order of Australia (AO) for distinguished service to medical education and standards, and to evidence-based medical research.

He is Professor of Evidence-Based Practice at Bond University and the Director of the Institute for Evidence-Based Healthcare.

Professor Glasziou's key interests include identifying and removing the barriers to using high-quality research in everyday clinical practice. His current research focuses on overdiagnosis and overtreatment, general practice, uptake of evidence for non-drug interventions, and automation of systematic review processes.



Clarivate's Highly Cited Researchers List

Professor Glasziou once again appeared in Clarivate's Highly Cited Researchers list, which identifies researchers who demonstrated significant influence in their chosen field or fields through the publication of multiple highly-cited papers in the past decade.

Vice Chancellor's Research Awards 2021

The Vice Chancellor's Research Awards acknowledges the outstanding contributions of our researchers.

2021 Vice Chancellor Award – Research Excellence

Cutmore Distinguished Professor, Helen O'Neill (Faculty of Health Sciences and Medicine)

Professor Helen O'Neill is the Cutmore Distinguished Professor of Stem Cell Research and the Director of the Clem Jones Centre for Regenerative Medicine.

Professor O'Neill's is an internationally recognised and highly accomplished expert in the field of stem cell biology. In her role as Director, she leads a team of 16 researchers and students.

She has been awarded 42 research grants over her career totalling \$9.3 million, has a h-index of 27, a metric reflecting research output and citation impact, and has published a total of 196 times.



2021 Vice Chancellor Award – Research Supervision

Professor Craig Langston (Faculty of Society & Design)

Professor Langston has an international reputation in the disciplines of construction and facilities management, he is also the Director for the Centre of Comparative Construction Research.

Professor Langston is supervisor of eight Higher Degree by Research Students in the field of project management.

His approach to supervision is built on collaboration and engagement. Professor Langston contributes ideas, and publishes with candidates as a genuine way of contributing and sharing his knowledge.



2021 Vice Chancellor Award – Early Career Research Excellence

Dr Loai Albarqouni (Faculty of Health Sciences and Medicine)

Dr Albarqouni completed his PhD in 2019. His research focus has been on improving the update of evidence-based practice in primary care. He has led multidisciplinary teams in several national and international collaborations. These ongoing activities have resulted in the development of important clinical practice guidelines.

He has an exceptional publication output with over 60 peer reviewed publications.

Dr Albarqouni has attracted over \$1 million of competitive research funding, including a prestigious National Health and Medical Research Council (NHMRC) 2021 Investigator Grant.



Higher Degree by Research (HDR)

Graduations

Twenty-six Higher Degree Research students graduated in 2021. The University is proud of this achievement and congratulates all graduates on their research success.

The Vice Chancellor's PhD award recognises exceptional PhD candidates and acknowledges their achievement. Eligibility is based on two of the three Examiner's noting the thesis is in the top 5 per cent that they have examined.

In 2021 the University had six awardees: Dr Milind Tiwari (BBS), Dr Sharelle Smith (FSD), Dr Benjamin Hindle (HSM), Dr Jeffrey Stephenson (BBS), Dr Tom Marty (BBS), and Dr Shiqi Thng (HSM).



2021 Three Minute Thesis (3MT) competition

The Three Minute Thesis (3MT) competition, developed by the University of Queensland, requires PhD students to present their 80,000-word thesis in three minutes.

In August, 11 Higher Degree by Research students participated in the 3MT competition.

Bond University PhD candidate Ms Sasha Goodwin won the \$2,000 grand prize for her work in the 3MT presentation title "They are disgusting: Language as a moral weapon within legislative debates".

Sasha's research is focused on minimum mandatory sentencing, passport, and publicly available register legislation for child sex offenders, and whether this legislation is appropriate for a broad range of behaviours and offenders who are convicted of a certain offence.

Sasha also won the People's Choice award.

Runner-up, PhD candidate Ms Nikki Cornwell explored advancing operational risk management into the age of big data.



University Research Centres

Centre for Data Analytics

The Centre's staff have specific data analytics interests in finance, machine learning, risk management and climate change, amongst others. They have a genuine desire to collaborate and contribute their complimentary skills on a range of innovative big data projects. The centre's mission can be further delineated into the following research strategies. These are to:

- Elevate the CDAs standing and reach by engaging with academe, business, industry, government, and the community in influential and impactful ways, through research, partnership, and collaboration.
- Developing on their firm foundation of existing research to cultivate our accomplishment in research income through contract research and consultancy work.
- Developing on their firm foundation of existing research to cultivate our success in research output in terms of quality and quantity.

- Grow their strength and capacity through research training, higher degree research students and professional development.
- Develop programs to support our growth in income and research output Contribute to the university's graduate and undergraduate program by involving students in research projects through assistantships and other work arrangements.
- Provide technological solutions through Bloomberg, R and Python training programs.

The Centre fosters a research training environment and there are 30 research students. Masters and Doctoral students are supervised by a panel of academics from the centre, students can draw from the full range of knowledge available from the academics and this provides research students with a broad range of academic skills.



Centre for Professional Legal Education

The Centre for Professional Legal Education (CPLE) is a community of legal educators, researchers, practitioners and administrators who collaborate in defining, understanding, and promoting best practice in the teaching of law, with an emphasis upon professional legal education and training, and understanding and responding to the changing nature of the legal services sector. In 2021 the major projects and legal initiatives launched and/or progressed by the CPLE in 2021 included the following:

- 'The Impact of Emergent Technology Upon the Teaching of Core Law Units' - This Project is investigating the impact of emergent technologies upon the teaching of the core law units in the Australian law curriculum.
- 'Job Readiness of Law Graduates' - Funded by the Queensland Law Society, this project is investigating the job readiness of today's law school graduates.
- 'Australian Law School Yearbook' - The CPLE administered an annual national survey that collected data from Australian law schools and the results of which will be published as the 2021 Australian Law School Yearbook.
- Clinical Legal Education - This project is investigating models for measuring pro bono impact in collaboration with UQ.
- Therapeutic Pedagogy - This project resulted in a book contract with Edward Elgar.
- Mediation Artistry - An RA has been appointed to assist and is progressing analysis of the key mediation artistry texts.
- Council of Australian Law Deans (CALD) Project - The CPLE assisted CALD in administering a review of the regulation of Australian legal education by Professor Sally Kift.
- Wellness in Law - The CPLE administered and supported the Wellness Network for Law, a community of legal academics, practitioners and students who are committed to addressing the high levels of psychological distress experienced in law, and promoting wellness at law school, in the legal academy, and in the profession.
- Internet Law Clinic, Climate Sustainability Clinic, Family Dispute Resolution (FDR) Clinic - These three new law clinics will be launched in 2022.



University Research Centres

Institute of Evidence-Based Healthcare

The Institute aims to improve healthcare by better understanding the causes of, and solutions to, gaps between research evidence and its application in practice. To achieve this, the Institute:

- Undertake research that more closely aligns evidence and patient care.
- Support and extend collaborations between clinicians and health researchers to achieve higher value care.
- Enable patients and families to make evidence-informed health decisions that are congruent with their values and preferences.
- Lead and facilitate the teaching and learning of evidence-based practice
- Develop young researchers for research programs in sustainable health care.

To deliver these aims, the Institute generates new research evidence on four big, neglected problems in healthcare.

Antibiotic resistance: which currently leads to over 30,000 avoidable deaths per year in both Europe and the USA, threatening elective surgery, and a resurgence of the bacterial diseases of the 19th century.

Overdiagnosis: which has led to massive increase in the apparent prevalence of many diseases through definition change and overdetection, causing harm and rising healthcare costs.

Neglected non-pharmaceutical treatments: which are often as effective and as safe, or safer than their pharmaceutical cousins, but are poorly described, poorly “marketed”, and therefore, little used.

Waste in Medical Research: is estimated to cost more than \$100 billion per year from avoidable design flaws, non-publication and poor reporting, resulting in more than 85 per cent avoidable waste.



Faculty Research Centres

Centre for Comparative Construction Research

The Centre for Comparative Construction Research (CCCR) is focused on creating new insight into the performance of the built environment through an interdisciplinary evidence-based process of:

- translating sustainable design into superior urban infrastructure,
- transforming intelligent assembly into safer and more productive construction practices, and
- transcending benefits realisation into successful financial, social, ethical and environmental outcomes.

The Centre's vision is to be a respected and independent source of research concerning the contribution that the built environment makes to our collective prosperity. Their impact can be assessed in terms of collaborative industry links and funding support.

Centre for Urology Research

The Centre's aim is to enhance knowledge of the lower urinary tract with the aim of developing new treatments or enhancing current treatments of the following conditions:

- Overactive and underactive bladder
- Prostate and bladder cancers
- Stress incontinence
- Benign prostatic hyperplasia
- Interstitial cystitis
- Erectile dysfunction
- Faecal incontinence



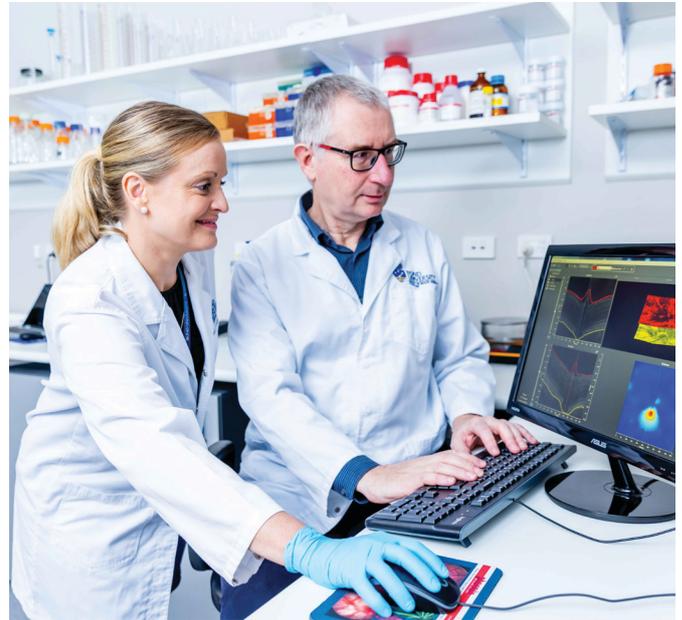
Faculty Research Centres

Clem Jones Centre for Regenerative Medicine

The Centre was established to investigate the therapeutic use of stem cells in tissue repair and disease. The goal is to combine research excellence in stem cell science with clinical translation, and to enhance, induce or transplant stem cells for patient benefit.

The Centre supports studies in the broader field of regenerative medicine and stem cell biology, combining stem cell science, biomaterials, tissue engineering, tissue regeneration, intelligent drug delivery, immunity and inflammation, and advanced surgery.

Research areas of interest include retinal diseases and degeneration, advanced therapies for vision loss, the role of spleen in hematopoiesis and sepsis, regeneration of spleen from stem cells, and enhancement of hematopoiesis during ageing and disease.



The Tactical Research Unit

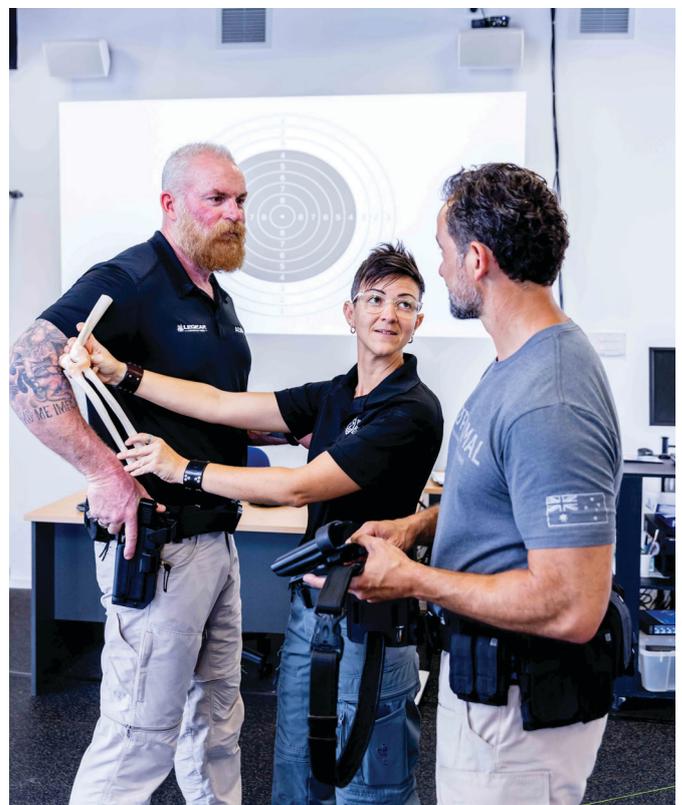
The Tactical Research Unit (TRU) team is composed of well-regarded, experienced and expert researchers, practitioners and educators.

Most of TRU key staff have first-hand experience in the tactical environment having served in, or with, Defence, law enforcement or fire and rescue.

Our national and international collaborators have diverse qualifications, skill sets and service history, proving the TRU the capacity to provide expert services across an array of tactical topics.

The generic scope of the TRU includes, but is not limited to:

- Physiological and musculoskeletal profiling and fitness screening
- Physical capability and task performance evaluation
- Injury epidemiology
- Equipment to human integration and impact assessments
- Physical conditioning program development
- Tactical performance, health, fitness and wellbeing
- Operational protocols and strategic guidance .



Translational Simulation Collaborative

The Bond Translational Simulation Collaborative (TSC) is an academic and operational alliance formed by Bond University and Gold Coast Health to deliver better care, improve simulation delivery techniques and develop healthcare practitioners who can use simulation for their everyday quality improvement.

Translational simulation is about improving patient care. Carefully designed and delivered simulation activities can help rigorously review healthcare team and system performance, and then help design and test improvements.

The TSC work draws upon our combined expertise in healthcare simulation, education, quality improvement and anthropology.



Research Week 2021

Bond held its 10th annual Research Week. During the course of the week there were 10 events with over 600 registrations.

- The Bond Business School and Library Services hosted two events that highlighted the data resources available through the Australian Bureau of Statistics.
- The Faculty of Health Sciences and Medicine hosted a Research Speed Dating event where researchers connected with others to explore the possibilities of future research collaborations.
- Bond's cohort of Higher Degree by Research Students and Supervisors attended a lunch where we heard from PhD candidate Nikki Cromwell about her Industry collaboration with the Bond, and our 3 Minute Thesis winner Sasha Goodwin presented her winning talk.
- The Clem Jones Centre for Regenerative Medicine showcased their research on vision.
- BUWN's Women in Research Breakfast provided us with inspirational speakers:
 - Rani West-PhD candidate, Faculty of Health Sciences and Medicine
 - Dr Lisa Gowthorp-Early Career Researcher, Associate Dean of External Engagement, Bond Business School
 - Professor Dawn Bennett- Assistant Provost

The Faculty of Law's event highlighted how Bond Researchers are contributing to legal and social change:

- Professor Steven Freeland -Regulating Space Activities for the Benefit of National and International Communities
- Fifi Junita, PhD student- National Interest in Foreign Investment in Australia: Proposed Reforms in the Conception of Transnational Legal Process
- Alice Taylor-The challenges of prohibiting religious discrimination - the researcher's perspective
- Professor Jonathan Crowe-Reforming sexual consent law in Queensland
- Associate Professor Wendy Bonython-Direct Cab to Brisbane? Voluntary Assisted Dying laws in Queensland
- Dr Annette Greenhow- Joining the Dots: Researching the Regulation of Concussion in Australian Sport
- Professor Dan Svantesson- Contributing to legal and social change in relation to the Internet

The Faculty of Society & Design showcased five of the their researchers:

- Professor Martin Skitmore- The post-occupancy dilemma in green-rated buildings - A gap analysis
- Professor Craig Langston- Evaluation of transportation infrastructure: a case study of Gold Coast Light Rail Stage 1&2
- Doctor Victor Schnazi- Virtual Reality and Psychophysiology in spatial cognition
- Associate Professor Katarina Fritzon In a Dangerous World, does it help to be Dangerous?
- Professor Mike Burton- Face recognition in the lab and at the airport

The Bond Business School hosted the inaugural Bond Pitching Research Competition, where four finalists had eight minutes each to pitch their research to a judging panel, with the winner being Ms Charlotte Phelps from Faculty of Health Science and Medicine.



Vice Chancellor's Research Award recipients: Professor Tim Brailsford (Vice Chancellor), Dr Loai Albarquoni, Professor Helen O'Neill, Professor Craig Langston, Professor Keitha Dunstan (Provost).



The Clem Jones Centre for Regenerative Medicine hosted an event during Research Week, titled: Showcasing Bond's research on vision. Professor Helen O'Neill leads the research team. Images (left to right)- Professor Helen O'Neill, Dr Jon Tan, and Associate Professor Nigel Barnett.

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