

THE UNIVERSITY OF QUEENSLAND

Creating change through expertise, capabilities and partnerships

Ranked among the world's top universities, The University of Queensland is one of Australia's leading and most innovative teaching and research universities.

Innovators at The University of Queensland (UQ) have made life-changing advances. For example, tens of millions of women and girls have been protected against cervical cancer by the UQ-invented Gardasil® vaccine. And most of the world's magnetic resonance imaging (MRI) systems contain UQ technology.

UQ has more than 1,500 active collaborations and partnerships with industry and other partners in Australia and overseas. A large portion of these are in the area of human therapeutics.

Therapeutic strategy

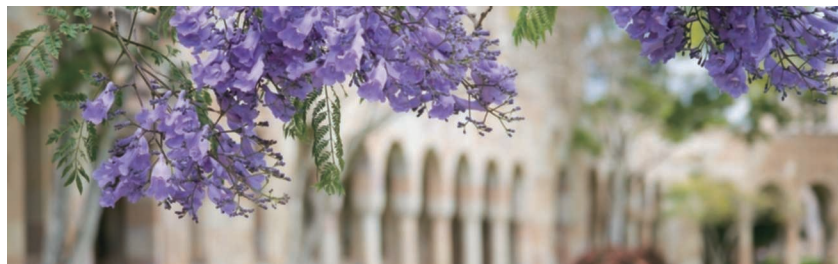
Therapeutic-focused research represents a major portion of UQ's research portfolio. Three key components drive this strategy: a core drug discovery and development capability, therapeutic expertise and assets across UQ, and partnerships.

The Queensland Emory Drug Discovery Initiative

A recent partnership with the Queensland

Recent achievements:

- » Partnered with AstraZeneca through their Open Innovation platform.
- » Joined Pfizer's Centers for Therapeutic Innovation (CTI) programme, which aims to find new biologic-based therapeutics.
- » Partnered with University College London (UCL) to advance joint projects.
- » Working with Emory University on treatments for cancer and infection.



Government and Emory University in the USA will help to accelerate the development of new drugs to target some of the world's unmet diseases. The Queensland Emory Drug Discovery Initiative (QEDDI) is based at UQ and has a dedicated small-molecule drug discovery and development capability. It will provide core capabilities in medicinal chemistry, compound screening and project management to translate new targets into drug leads and clinical candidates. The collaboration will draw on the experience of Emory University's Institute for Drug Development (EIDD), which is led by Dennis Liotta (the inventor of one of the world's most widely-used HIV drugs), and EIDD's commercialization company, DRIVE.

Therapeutic expertise and assets

UQ is developing a pipeline of drug candidates in a number of therapeutic areas and is interested in progressing these candidates in partnership with companies working in areas such as the following:

- **Pain**
UQ is developing molecules of various modalities (peptides, small molecules and natural products) against various targets in chronic and acute pain.
- **Inflammation and immunology**
Novel small-molecule and peptide leads for various inflammatory disorders.
- **Central nervous system**
Technologies and molecules for partnering from UQ's research into central nervous system disorders, including Alzheimer's and Parkinson's diseases and brain cancer.

• Infectious diseases

UQ has a number of small- and large-molecule (macrocycle) projects against gram positive and negative bacteria and the Wellcome Trust funded Community for Open Antimicrobial Drug Discovery (CO-ADD) capability, which provides an antimicrobial screening service for academic research groups.

• Cardiometabolic

Diabetes and obesity are just two areas that UQ researchers are working in and seeking to discover new treatments.

• Rare diseases

UQ is identifying the underlying biologic targets for rare diseases, with the aim of discovering new therapeutics.



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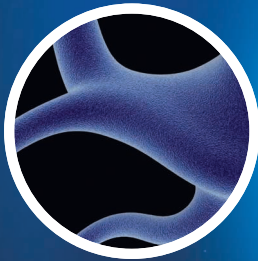
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Leading the world with research breakthroughs

A university ranked in the world's top 50, The University of Queensland is one of Australia's leading teaching and research universities. For more than a century, we have educated and worked with outstanding people to deliver knowledge leadership for a better world. Our successes are embodied in a global network of more than 232,000 alumni and the countless people worldwide who have benefited from UQ innovations. We teach our students to see the world differently, so they can create change on a local and global level.

See more at uq.edu.au/createchange



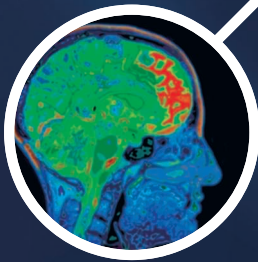
TACKLING AUTOIMMUNE DISEASES

UQ is developing novel immunotherapies to treat autoimmune diseases, including rheumatoid arthritis and type 1 diabetes, which could improve the health of millions.



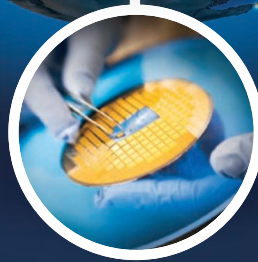
WINNING THE WAR ON CERVICAL CANCER

The world's first cervical cancer vaccine was developed by UQ's Professor Ian Frazer and the late Dr Jian Zhou. Over 144 million doses have been distributed in more than 100 countries since 2006.



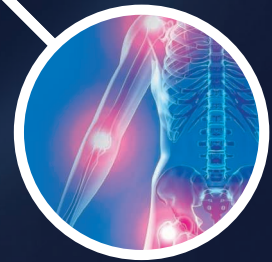
USING MRI TO FIGHT CANCER

With the majority of the world's MRI scanners using technology engineered at UQ, the next step is to integrate radiation therapy with MRI scanners to target and treat cancer.



VACCINES WITHOUT NEEDLES

Research is currently being undertaken at UQ into the Nanopatch™, a revolutionary needle-free method of delivering vaccines. The Nanopatch™ is a small, pain-free patch being developed through a UQ spin-out company, Vaxxas, and has the potential to help save millions of lives.



BREAKTHROUGH TREATMENT FOR CHRONIC PAIN

A potential treatment for chronic pain has led to one of Australia's largest biotech deals with the acquisition of UQ-founded Spinifex Pharmaceuticals by Novartis International AG.