



Entry requirements

Bachelor degree in applied science; nuclear medicine technology; medical imaging; chemistry; pharmacy; physics; computer science; or electrical and biomedical engineering; or an approved discipline.

Applications on the basis of post-secondary study and two years work experience in a related field will be individually assessed.

English proficiency

Non-native English speakers must meet UQ's English Language Proficiency. View the policy at future-students.uq.edu.au/english-requirements

Location

The University of Queensland, St Lucia campus or via remote online study.

Delivery mode

Internal or External, requires one week on campus attendance.

Teaching method

Our programs are delivered online and on campus. You need a computer with reliable internet and word processing software such as Microsoft Word or Apple Pages. Candidates are required to have access to a MRI scanner at their workplace or at the Centre by arrangement. Course materials are delivered through Blackboard, UQ's electronic learning management platform.

When to apply

With two intakes per year, your study options are endless. See UQ's Future Students website for admission and enrolment dates for both domestic and international candidates.

future-students.uq.edu.au/apply

Further information

W: cai.centre.uq.edu.au/study

T: +61 7 3365 8263

E: education@cai.uq.edu.au

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CRICOS Provider 00025B



Centre for Advanced Imaging

cai.centre.uq.edu.au/study

Graduate Certificate in Magnetic Resonance and Positron Emission Tomography (MR-PET)



The University of Queensland's (UQ) Centre for Advanced Imaging (CAI) is at the forefront of imaging science and is the only centre of its kind in Australia. The Centre is also a research platform for UQ Neurosciences – one of UQ's research strengths.

CAI's vision is to be a world leader in the development and application of cutting-edge imaging science and technology, through innovation, translation, education and collaboration. The Centre is an integrated, multimodal research facility, encompassing a rich collaborative environment to enhance the student experience.

Learn from leading experts in the field

Led by industry experts and a multidisciplinary team of researchers, our education programs offer students a unique learning experience involving industry skill development and clinical practice.

Premier learning facilities

Study at CAI and receive a competitive edge learning with the latest technology. CAI offers state-of-the-art facilities including \$50 million of imaging technology dedicated to advanced imaging education and research.

Our graduates

Sarah Daniel

Senior Nuclear Medicine Scientist



"I saw this program as an opportunity to up-skill within my profession and learn more about the fundamentals of MR imaging; and how the integration of MRI and PET is achieved to get the best diagnostic result.

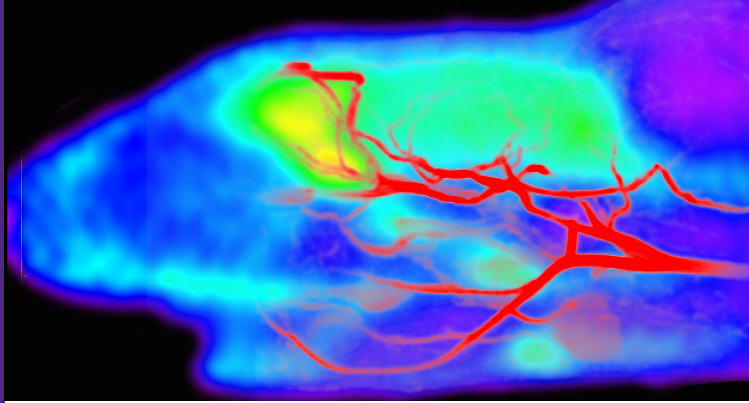
Having the opportunity to undertake a clinical placement in a well-established PET/MRI centre helped me put the theoretical

knowledge I had gained into practice.

I believe this program has given me the tools and knowledge to be confident about the decisions I make within the MRI facility and the effect that has on image quality and patient safety. I am now working with more advanced imaging sequences and understand exactly what is required to achieve the desired result.

As for the opportunities this course has given me, I received a fortunate request to start as an operator of the pre-clinical NIF PET/MRI facility at UQ for a 2019 research program."

Sarah Daniel (right) smiles with her colleagues on her graduation day



MR/PET image of rat brain

Why study MR and PET at CAI?

The blend of high-resolution Magnetic Resonance Imaging (MRI) and the physiological data of Positron Emission Tomography (PET) is making an impression in medical diagnosis. The operation of this new hybrid system requires an understanding of both the MRI and PET standalone technologies.

With the rapid development of medical imaging, hybrid medical imaging systems are becoming more commonplace with practitioners needing to upskill in this emerging specialisation. We have answered this gap in industry with the Graduate Certificate in Magnetic Resonance and Positron Emission Tomography (MR-PET).

The four core courses of the Graduate Certificate equip you with specialist knowledge surrounding MR-PET. Classes are taught by lecturers from multidisciplinary backgrounds including MR radiography, nuclear medicine, physics, and engineering.

The program includes an on-campus workshop, giving students the opportunity for hands on practical component to operate MRI scanners and practice scanning on human volunteers.

Program offered

Graduate Certificate in MR-PET

Program code 5654, CRICOS code 092060D

Program duration

8 units (half-year full-time or part-time equivalent)

Who is the program designed for?

The Graduate Certificate in MR-PET is designed for professionals such as nuclear medicine technologists and diagnostic radiographers who require a more in-depth knowledge of the theoretical fundamentals and operational considerations of a hybrid MRI scanner and PET scanner.

Program of study

MRES7100 Magnetic Resonance Imaging: Fundamentals

Explore the principles and methods that underpin Magnetic Resonance Imaging. Topics include physical principles of nuclear magnetic resonance, underlying mechanisms of relaxation in MR and descriptions of the way in which pulse sequences are able to exploit relaxation to produce contrast.

MOLI7107 MR-PET Hardware and Software Integration

MR-PET instruments used for clinical and pre-clinical applications. Consideration will be given to the physical structure of magnet, gradients and RF coils, and PET ring construction and integration into a combined MR-PET system. Calibration and general workflow considerations will be introduced to enable simultaneous acquisition of MRI and PET images.

MOLI7108 Clinical Magnetic Resonance Imaging

Patient screening, preparation and common clinical MRI protocols used when imaging various parts of the human body. Compulsory one week on-campus component in Brisbane.

MRES7003 MR Safety and Monitoring

Principal hazards of MRI environment and its effects on the human body and equipment. Physiological monitoring strategies examined from the origin of signals to integration with the imaging system.



Head of Education Gail Durbridge

"The Graduate Certificate in MR-PET was borne out of industry need for technologists to have specialist knowledge surrounding the blending of two unique modalities. The curriculum

draws from both magnetic resonance and molecular imaging curriculum with the creation of two new courses. We are excited to be offering a one-week on-campus attendance in Brisbane. Students will cover common clinical MR protocols and experience hands on practical scanning, operating MRI systems and scanning human volunteers."



Did you know most MRI scanners in the world use technology invented at The University of Queensland?