MRC Precision Medicine - iCASE: Quantitative magnetic resonance imaging of the prostate at 7 tesla

University of Glasgow, College of Medicine, Veterinary and Life Sciences

PhD Project for UK and EU Students

Prof D Porter, Prof H Leung
Application Deadline: 07 September 2020

Details

MRC DTP in Precision Medicine iCASE studentships

Fully funded studentship position is available in the College of Medical Veterinary, Medical and Life Sciences.

The iCASE scheme:
• Provide students with experience of collaborative research with a non-academic partner
• Offer students an experience of at least two distinct research cultures
• Provide access to a wider than usual range of technology, facilities and expertise
• Enable the student to spend a period of time with the non-academic partner (no less than 3 months over the lifetime of the PhD).

The iCASE scheme is integrated with our MRC-funded Doctoral Training Programme (DTP) in Precision Medicine which involves the student spending at least 3 months over the lifetime of the PhD with a non-academic partner. This is a collaborative programme with the University of Edinburgh. This DTP addresses key MRC skills priorities in Quantitative Skills (mathematics, statistics, computation, developing digital excellence) as applied to variety of data sources (from 'omics' to health records) or Interdisciplinary Skills including imaging, and stratified medicine. The programme has a tiered access model allowing students to undertake a 3.5 year PhD, for students who already have a Masters degree (in a relevant field), or a 4 year PhD for those entering with a BSc Honours (in a relevant field). The mandatory taught training element is a vital aspect of the programme and is designed to ensure students gain skills aligned with the MRC skills priorities outlined above. Students on the 3.5 year programme are required to take 30 credits and those on the 4 year programme 120 credits across the first 3 years, with 40 credits completed in Year 1. Mandatory taught elements will include Statistics, Research Ethics, Innovation and Entrepreneurship, Health Economics, Data Management and Bioinformatics.

Supervisors:
Prof David Porter
Prof Hing Leung
Dr Kristin Flegal

Industrial Partner: MR CoilTech Limited
Shajan Gunamony

PhD project summary:
We are looking for a physicist or engineer to participate in a major initiative to develop the Precision Medicine Living Lab at the Queen Elizabeth University Hospital in Glasgow. This will integrate medical research across a range of disciplines, including technology development for clinical MRI, based in the Imaging Centre of Excellence (ICE), which houses one of the first 7T MRI scanners in a clinical setting. The PhD project is a partnership with a local technology company, MR CoilTech, and there is close collaboration with the NHS and Siemens Healthcare.

The project will use 7T MRI to develop an advanced imaging capability for the diagnosis of prostate cancer. Compared to standard MRI at 1.5T or 3T, this field strength allows a higher spatial resolution and improved precision of quantitative parameters, providing the potential for a detailed characterisation of prostate disease in individual patients. The successful candidate will be involved in the design and construction of dedicated radiofrequency hardware, as well as software modules to control data acquisition and processing. The candidate will contribute to a clinical study to assess the benefits of this new technology and to support its integration into a wider programme of precision medicine for prostate cancer.

Enquiries regarding programme: Alexis.Merry@glasgow.ac.uk

Funding Notes
Funding:
Before applying please view qualification and residence eligibility requirements detailed here:
https://www.gla.ac.uk/colleges/mvls/graduateschool/mrcdtpinprecisionmedicineicase/

Full eligibility details are available: http://www.mrc.ac.uk/skills-careers/studentships/studentship-guidance/student-eligibility-requirements/

Apply here: https://www.gla.ac.uk/study/applyonline/?CAREER=PGR&PLAN_CODES=A31D-7101