Research Associate/Research Assistant
National Heart and Lung Institute, Imperial College London and Cardiovascular Magnetic Resonance Unit, The Royal Brompton Hospital

APPLY NOW

Key information
Location: Royal Brompton Campus(map)
Position type: Full time, fixed term
Salary: £41,593 – £49,210 plus benefits
Category: Researcher / Non Clinical Researcher
Closing date: 10 June 2022

Job description
Job summary
The National Heart and Lung Institute (NHLI), Imperial College is seeking a highly motivated Research Associate to develop novel in-vivo magnetic resonance imaging techniques in the heart.

As part of an ongoing research programme at the Cardiovascular Magnetic Resonance (CMR) Unit at the Royal Brompton Hospital (RBH), NHLI researchers are developing diffusion tensor CMR (DT-CMR) methods that provide information on the 3-dimensional microstructure of the muscle in the beating heart of patients and healthy volunteers non-invasively. With this new technology, which has already provided novel insights into the microstructural dynamics of cardiac contraction, we aim to improve our understanding of how the healthy heart functions as well as how microstructural dysfunction contributes to disease. This exciting new modality will yield a disruptive reassessment of cardiac function and will have important diagnostic and prognostic value in cardiac disease. The successful candidate will join a multi-disciplinary team of physicists, computer scientists, cardiologists and technologists embedded within RBH and work on MRI sequence development, image reconstruction and artificial intelligence under the supervision of Dr Andrew Scott in the CMR physics team, led by Dr Sonia Nielles-Vallespin.

Duties and responsibilities

While DT-CMR has already been successfully applied in clinical research studies, it remains a time-consuming method which is only available in a handful of specialist research centres and is only applicable in healthy volunteers and highly cooperative patients. Bringing this method to the clinic will require cutting edge CMR research.

You will develop, implement and test state-of-the-art CMR sequences and image reconstruction techniques improving the efficiency, clinical applicability and reliability of DT-CMR, transforming this novel research method into a clinically useable tool. You will also contribute to collaborations with departments across Imperial, including Aeronautics, Computing and Bioengineering and with the national microstructural facility, CUBRIC, University of Cardiff. You will work closely with the DT-CMR clinical research
team, assisting with problem solving, supporting data analysis, developing custom tools tailored to the clinicians' challenges and helping to draw sound conclusions from ongoing experiments. In all ways possible, you will be expected to assist in maintaining the high international standing of the CMR Unit.

**Essential requirements**

- **Research Associate**: Hold a PhD (or equivalent) in MRI, CMR, DTI or a closely related discipline, or equivalent research, industrial or commercial experience

- **Research Assistant**: Near completion of a PhD (or equivalent) in MRI, CMR, DTI or a closely related discipline, or equivalent research, industrial or commercial experience

- Knowledge of research methods and statistical procedures

- Practical experience within a research environment and / or publication in relevant and refereed journals

- Experience in a programming language (C++, MATLAB or Python preferred)

**Further information**

The post is Full Time and Fixed Term for 3 years based at the Royal Brompton Campus.

Candidates who have not yet been officially awarded their PhD will be appointed as a Research Assistant within the salary range £36,694 - £39,888 per annum.

For informal enquiries please contact Dr Sonia Nielles-Vallespin at s.nielles-vallespin@imperial.ac.uk or Dr Andrew Scott at a.scott07@imperial.ac.uk

*The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see [https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/](https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/)*

*The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes where their use is shown to be necessary for developing new treatments and making medical advances. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College’s care are treated with full respect, and that all staff involved with this work show due consideration at every level.* [http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/](http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/)

**Job Description**

- [JD - Research Associate - RS.docx](#)

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You will find our main London campus in South Kensington, with our hospital campuses located nearby in West and North London. We also have Silwood Park in Berkshire and state-of-the-art facilities in development at our major new campus in White City.

We work in a multidisciplinary and diverse community for education, research, translation and commercialisation, harnessing science and innovation to tackle the big global challenges our complex world faces.

It’s our mission to achieve enduring excellence in all that we do for the benefit of society – and we are looking for the most talented people to help us get there.

**Additional information**

Please note that job descriptions cannot be exhaustive, and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.

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- Respect
- Collaboration
- Excellence
- Integrity
- Innovation

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