Job title: Research Fellow in MRI Physics

Department: Department of Biomedical Engineering, School of Biomedical Engineering & Imaging Sciences, King’s College London

Salary: Grade 7, £48,737 - £57,353 per annum, including London Weighting Allowance

Building and Campus: South Wing, St Thomas’ hospital Campus

Contact: Professor Jo Hajnal, Dr Shaihan Malik
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Job description

In the era of big data, there is a growing need for systematic imaging on larger cohorts of subjects. The School of Biomedical Engineering & Imaging Science at KCL has a large MRI capability including 7T, three 3T, 1.5T, 0.55T, XMR, PET-MR and ultra-low field (0.064T) systems. This 4 year MR physics post has been created to achieve larger scale coordinated activities across these systems to support a coming generation of cohort studies. A primary objective will be to set up and be the key MR physics lead for a UK-Biobank inspired study on a cohort of ~3000 twins who have been deeply genotyped and phenotyped. This will involve doing initial pilot testing, optimising imaging performance and putting in place sustainable practices for data handling and quality assurance to support the study. Further activities will relate to systematic use of our capacity to support the research portfolio of our NIHR Imaging Clinical Research Facility, to create opportunities for small and large scale research and to achieve added value by harmonisation and optimisation of individual systems and protocols.

This role requires someone who has strong MR physics knowledge and a capacity for achieving and maintaining evidenced based imaging capacity. The work will be varied and will require a high level of technical ability, understanding of working in a clinical context and capacity to work across disciplines. The post holder will be expected to do pulse programming as needed and to be capable of data analysis using Matlab, python or similar.

This post will be offered on a fixed-term contract until 31.08.26

This is a full time post

Key responsibilities

- Set up and develop optimised MR imaging protocols as needed for large scale cohort studies
- Develop and sustain appropriate quality control and diagnostic methods to ensure data quality
- Trouble shoot scanning related problems and be proactive in resolving these
- Work closely with clinical colleagues to test out methods and deliver large studies
- Analyze data and interpret results
- Communicate research findings within the group and more widely
- Perform research studies that exploit the novel methods you develop
- Offer MR physics support to the wider Imaging Clinical Research Facility
- Contribute to the provision of comprehensive, accessible and relevant MR safety advice
- Initiate and develop software solutions for specific clinical and research goals, e.g. image analysis. Use spreadsheet and database software to manage data and extract information
- Supervise and take responsibility for the work of other staff and students when they are performing work under the post holder’s direction.
• Work hours necessary for the proper and efficient performance of the work. In practice, the postholder may occasionally be required to perform duties outside the normal working hours of the department.

The above list of responsibilities may not be exhaustive, and the post holder will be required to undertake such tasks and responsibilities as may reasonably be expected within the scope and grading of the post.

Skills, knowledge, and experience

Essential criteria
1. Knowledge and practical experience of MR physics
2. PhD in a relevant discipline
3. Use of computers, software, research literature
4. Presenting scientific research in the form of papers, posters and oral presentations
5. Good verbal and written communication skills
6. Ability to work in a scientific context
7. Ability to plan and prioritise workload
8. Working as part of a multidisciplinary research team, relying on and supporting others effectively

Desirable criteria
1. Experience of pulse programming MRI scanners
2. Experience of sequence development
3. Experience in phantom, healthy subject and patient scanning
4. Experience in Matlab, Python, C++ or similar
5. State registration as a Clinical Scientist, or ability to achieve within a reasonable timeframe

Further information
The recruitment process will include a presentation and an interview.

This post is subject to Disclosure and Barring Service and Occupational Health clearance.

To apply, please visit:
https://jobs.kcl.ac.uk/gb/en/job/056416/Research-Fellow-in-MRI-Physics