THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF BIOLOGY, MEDICINE & HEALTH

SCHOOL OF HEALTH SCIENCES

IMAGING FACILITIES

PET-MR PHYSICIST

Salary: Grade 6

Hours: 1 FTE

Duration: Permanent

Responsible to: Academic MR Lead

_____

Overall Purpose of the Job:

You will develop and implement imaging methods for use on the PET-MR scanner with a particular focus on magnetic resonance imaging (MRI). The scanner is housed in a dedicated suite in St Mary's Hospital, Manchester University NHS Foundation Trust (MFT). The scanner was funded by the Medical Research Council (MRC) with a particular focus on dementia research. It is one of five PET-MR scanners funded by the MRC under the auspices of the Dementias Platform UK Initiative (DPUK).
You will work closely with all imaging research, operational and clinical staff at the University and MFT and also with other DPUK PET-MR sites, with particularly close interactions with sites that are part of the DPUK partnership. In addition, you will work with representatives from GE to develop advanced imaging methods for the PET-MR scanner.

The Imaging Facilities also has 3 MR scanners, located at Salford Royal NHS Foundation Trust (SRFT), the Manchester Clinical Research Facility (MCRF) and the Wolfson Molecular Imaging Centre (WMIC). You will be expected to undertake work at these sites as well as the PET-MR scanner.

Key Responsibilities, Accountabilities or Duties:

- MR sequence development and protocol design for MRI imaging

- Development of methods for the efficient and optimised simultaneous acquisition of MR and PET-MR data on the PET-MR scanner .

- Liaison with study teams, developing sequences and providing specialist physics advice

- Input into the training of others within Manchester and within external partners in the use of imaging methods

- Development of computational analysis algorithms for the interpretation of images

Academic Profile: R6

- Writing of research papers for journal and conference publication

- Contribution to the development and writing of procedural documentation and associated processes (e.g. standard operating procedures for scanning methods or analysis methods)

- Contribution to the development of regulatory documentation and associated processes (e.g. regulatory clearance documentation, ethics applications)

- Where neccessary, involvement in non-MRI imaging activities, likely including PET-MRmethods.

- Monitor own workload, raising any issues with the reporting Line Manager, to ensure priorities are addressed correctly

- Perform QA and QC activities on the PET-MR and MR scanners

- Liaise with the MR physicist to ensure there is no overlap between duties

- Provide support to all colleagues, as and when required, promoting a positive team environment

- Highlight any issues (and potential solutions) to the reporting Line Manager for resolution to ensure smooth running of business

- Participate proactively in research meetings within the University and MFT

- Willingness to travel to Imaging Facilities' scanner sites and collaborating centres to participate in multicentre studies.

- Work with the reporting Line Manager to identify areas for continuous professional development.

- Maintain a committed, proactive and flexible attitude to work.

- Where relevant, maintain research participant information confidentiality and compliance with Data Protection and GDPR requirements.

-

PERSON SPECIFICATION

**Essential Knowledge, Skills and Experience*:*

- Good honours degree in physics or closely related discipline

- PhD in magnetic resonance imaging research (candidates with a postgraduate degree in a closely related area may also be considered, particularly in PET methods)

- Experience of MRI sequence development and/or protocol design

- Scientific programming experience using Matlab and/or other appropriate languages/environments

- Experience of writing research papers for journals

- Experience of presenting work at international conferences

- Problem solving skills

- Excellent written and verbal communication skills

- Flexible with a willingness to learn

- Able to prioritise with proven ability to work to deadlines

- Able to work individually and as part of a team

- Excellent interpersonal skills

- Willingness and ability to travel.

Desirable Knowledge, Skills, Experience and Qualifications:

- Experience of University and clinical research environments

- Experience of interaction with scanner manufacturers

- Experience of image reconstruction methods

- Experience of working with PACS and DICOM

- Knowledge of:

  - brain anatomy, metabolism and physiology.

  - cancer physiology.

  - imaging in oncology.

  - neuroimaging.

  - musculoskeletal imaging.

- Experience of X-ray CT imaging.

- Experience of nuclear medicine imaging (PET, SPECT).

- Experience of working effectively with clinically-qualified individuals, including doctors and radiographers.

Expectations and success factors

- To be a proactive team member and treat all colleagues and students with respect in accordance with the established PS Behaviours
- To be willing to work across organisational boundaries
- To seek new knowledge and share ideas
- To be open and responsive to change and innovation