**Postdoc in diffusion-weighted MRI for MR-guided radiotherapy**

**LOCATION:** Sutton (London)

**HOURS PER WEEK:** 35 (Fixed term 36 months)

**SALARY BAND:** This is a fixed-term role, with starting salary in range £32,200(*) - £39,350 p.a. (based on experience)

Diffusion-weighted (DW) MRI plays an important role in cancer diagnosis and therapy. Its sensitivity to changes in tissue microstructure makes this technique an ideal candidate to assess and predict treatment response of patients undergoing MR-guided radiotherapy on an MR-Linac. In particular, it could identify resistant sub-volumes of the tumour, which require treatment intensification (dose painting). The DW MRI based technique of intra-voxel incoherent motion imaging (IVIM) is additionally sensitive to changes in microvasculature and has the potential to assess radiation toxicity and inform online adaptation of treatment plans.

Within the CRUK programme grant “Adaptive Data-driven Radiation Oncology”, we aim to enable dose painting on the Unity MR-Linac system by implementing a segmented diffusion-weighted MRI sequence with joint image reconstruction to minimize distortions. The successful applicant will have the opportunity to program MR pulse sequences within the Philips PARADISE (C++) framework and perform image reconstruction using the ICR's high-performance computing architecture. Supported by the Wetscherek Lab's experience in biophysical modelling of IVIM, the post holder will design and implement tailored diffusion-weighting gradients to resolve changes in microvasculature beyond the ADC.

The post holder will drive the work forward within a multi-disciplinary team of computer scientists, medical physicists and clinicians in the Joint Department of Physics at the Institute of Cancer Research and the Royal Marsden NHS Foundation Trust.

Applicants will hold a PhD in Physics, Engineering or another relevant field and ideally have experience in pulse sequence development and/or MR image reconstruction.

Please contact Dr. Andreas Wetscherek (a.wetscherek@icr.ac.uk), if you would like to discuss the job opportunity in more detail.

To apply, please upload your CV and cover letter (addressing how you meet the person specification and including the names and contact details of two referees) using the ICR's e-recruitment system: www.icr.ac.uk/jobsearch

(*) as a minimum requirement, candidates must have submitted their thesis by the start date of their employment and be awarded their PhD within the first six months. After being awarded a PhD, automatic transfer to spine point 2 of the Post Doc Training Fellow scale (£37,850 p.a.) occurs.