ACF Core Surgical Training Programme Details in conjunction with the University of Manchester

Recruitment to posts starting in August 2022

Post availability

There is one post available in either General Surgery OR Neurosurgery OR Plastic Surgery.

- General Surgery – You can apply at ST1 & ST3 level in this round of recruitment.
- Neurosurgery – You can apply at ST1 or ST2 level in this round of recruitment.
- Plastic Surgery – You can apply at ST3 level in this round of recruitment.

Please note if you are appointed at ST1 level for general or plastic surgery, you will be placed in an appropriate Core Medical Training track until you reach ST3 level.

Overview

You can find generic information about Academic Clinical Fellowships in the North West plus links to the National Institute for Health Research's guidance via https://www.nwpgmd.nhs.uk/nihr-academic-clinical-fellowships-glance

The ACF is an NIHR / University post which runs for 3 years with 25% protected time for research. Following this time, it is expected that the successful candidate will apply for external grants and will be self-funding for their PhD studies. An extension of 6 months would be considered for appropriate candidates, but this would be discussed on a case-by-case basis.

Greater Manchester (GM) has the potential to be internationally leading in neurosciences research. The case volumes and outcomes for the Manchester Centre for Clinical Neurosciences (MCCN), match those of the leading international centres. This, alongside the breadth and scope of Neuroscience research across the Northern Care Alliance (NCA), The University of Manchester (UoM) and other GM partners offers an exciting and unique opportunity to make a real difference to the health and wellbeing of the people of GM and beyond.

To capitalise on this exciting opportunity The Geoffrey Jefferson Brain Research Centre (GJBRC) has been established, a joint venture between the NCA, UoM and Manchester Academic Health Science Centre (MAHSC), working in partnership with Manchester Cancer Research Centre, The Christie NHS Foundation Trust, and Royal Manchester Children's Hospital. The GJBRC aims to become a leading centre for translational brain research in the UK, by combining outstanding discovery science and experimental medicine, to rapidly translate our research into healthcare benefit, developing and implementing optimal care pathways to provide better outcomes and transform the lives of patients living with neurological diseases.

The GJBRC is comprised four main themes (Stroke & Dementia, Movement Disorders, Brain Tumours and Brain Inflammation), with cross-cutting themes in Brain Pathology,

Brain Imaging and Neuro Rehabilitation, chosen due to their strong research portfolio and ability to bring together the translational pathway. The ACF in Neurosurgery will sit within the GJBRC, with a focus on neuro-oncology.

Academic Training

Year 1
1. Initial clinical training in neurosciences and passing appropriate examinations (MRCS).
2. Set up supervision and programme management arrangements with IAT academic lead, research and clinical leads.
3. Set up meetings according to the ACF Monitoring programme.
4. Register for MRes programme or other NIHR programmes in discussion with ACF supervisory team.
5. Identification of topic of interest for research project and initial literature review.
6. Identification of research questions to be addressed in pilot study, protocol development
7. Identification of specific learning needs for the project and appropriate courses.

Year 2
1. Continuing clinical training in neurosurgery.
2. Obtaining ethical committee and NHS Research & Development approvals for exploratory project if required.
3. Attendance at relevant internal and external training courses.
4. Initial laboratory or clinical data collection for pilot study.
5. Develop Clinical Training Fellowship application for PhD funding in conjunction with Fellowship Academy
(https://www.bmh.manchester.ac.uk/research/support/fellowships/)

Year 3
1. Continuing clinical training in neurosurgery.
2. Submission of Clinical Training Fellowship application to external funding agencies if not submitted at end of year 2
3. Completion of laboratory or clinical data collection and writing up of pilot research project

Research Areas / Research Environment

The academic component of the post is primarily targeted towards neuro-oncology including high- and low-grade gliomas as well as benign (meningioma and schwannoma) and malignant (chordoma) skull base tumours. Our neuro-oncology research encompasses a spectrum from laboratory studies of patient-derived tumour cells, novel imaging biomarkers and diagnostics, through to treatment planning, neuropsychology and quality of life approaches.

Inflammation, precision medicine and biomarkers are particular themes of interest with projects developing in potential novel therapeutic approaches building in collaboration with both University groups and industry. Several studies are investigating the role of neuroinflammation in tumour progression and recurrence. These projects are complimented by further work on markers of tumour phenotype and treatment response. This work spans in vitro phenotypic screening of tumour cells through to clinical imaging studies of vascular parameters and hypoxia, and neuronal plasticity as it relates to tumour growth and surgery.

Our research is translational, linking basic laboratory neuroscience (cell culture, genomics, small animal models, preclinical imaging, stem cells) with clinical models (phase 2 trials (including pharmacokinetic and pharmacodynamics) and functional and structural imaging studies and phase 3 trials. Specific research areas in Neuro-Oncology include:

- Development and validation of imaging based, tissue derived and circulating biomarkers of disease progression and treatment response in neuro-oncology
- Imaging mass spectrometry / lipidomic profiling of tumour sub-regions for ultra-rapid and intra-operative diagnostics
- Characterisation of central and peripheral immune response to tumour and role of host immune system in tumour progression
- Tumour heterogeneity including gene expression, treatment sensitivity and corresponding imaging characteristics “radiomics”
- Development of novel animal models to support investigation of tumour infiltrative margin, host response and application of novel diagnostic and therapeutic strategies including nanovectors

Research Facilities

The research post will be centred around the clinical provision at the Manchester Centre for Clinical Neurosciences (MCCN) at Salford Royal Hospital. These include the near-patient laboratory facilities of the Clinical Science Building (CSB) and the newly installed combined clinical and research 3T MRI scanner, a joint venture between the University of Manchester and Salford Royal. Long-standing and well-established links exist with the academic facilities at the University of Manchester, Manchester Cancer Research Centre (MCRC) and the Christie Hospital.

Pre-clinical laboratories are based at the University of Manchester and will include the new Paterson Building at the MCRC, currently undergoing construction after a major fire in 2017 seriously damaged its predecessor. The new building will be twice the size of its predecessor, bringing together the largest concentration of scientists, doctors and nurses in Europe. A further 400 staff will be supported by the facility, alongside the 350 research scientists and support staff who are currently displaced.

The post will additionally benefit from:

- Access to basic science facilities i.e. disease models, pre-clinical MR imaging, small molecule/drug repurposing, nanomaterials etc.
- A dynamic clinical research environment i.e. largest brain tumour service in the UK including specialist neuro-oncology, skull base and NF2 MDTs, largest single site cancer centre in Europe (The Christie Hospital), specialist clinics, clinical research facilities, LCRN supported recruitment studies, Phase 0 and Phase 1 clinical trials facilities currently in development.
- Additional infrastructure i.e. human immunology (flow cytometry), data science (GM electronic/linked records, machine learning),
- Being part of the GJBRC and MAHSC.

Clinical Training

You can find out more about the clinical training programmes in the North West via the following link - https://www.nwpgmd.nhs.uk/specialty-schools

Clinical person specifications can be found via the following link - https://specialtytraining.hee.nhs.uk/Recruitment/Person-specifications.

Useful Links
https://www.oriel.nhs.uk/Web/Vacancies
https://www.nwpgmd.nhs.uk/nihr-academic-clinical-fellowships-glance
https://specialtytraining.hee.nhs.uk/Recruitment/Person-specifications
https://www.nwpgmd.nhs.uk/specialty-schools
[Add any extra links]

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