ACF IMT 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 Neurology OR Dermatology

- Neurology – You can apply at ST1 level in this round of recruitment.
- Dermatology – You can apply at ST1 level in this round of recruitment.

Please note if you are appointed at ST1 or ST2 level, you will be placed in an appropriate Core Medical Training track until you reach ST3 level.

Overview

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 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 Neurology will sit within the GJBRC, with a focus on Parkinson's disease and Movement Disorders, Haemorrhagic stroke or Ischaemic stroke.

Academic Training

Year 1

1. Initial clinical training in neurosciences and passing appropriate examinations (MRCP).
2. Set up supervision and programme management arrangements with 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 Neurology.
2. Obtaining ethical committee and NHS Research & Development proposals 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 Neurology.
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 candidate will become part of the GJBRC, benefiting from a strong inter-disciplinary research partnership between MCCN and UoM. These include well-established collaborative links with basic neuroscience and neuroimmunology, experimental medicine, neuroimaging, data science and implementation science.

The post offers three different research areas which could be pursued:

Parkinson's disease and Movement Disorders:

- Development of improved biomarkers in PD. This includes a high-profile study to develop skin biomarkers in PD which commenced after we met a woman who could smell PD. We have also been pioneering the use of corneal confocal microscopy as a novel biomarker in PD.

- Novel imaging of the pedunculopontine nucleus (PPN) and recording Deep Brain Stimulation signals from the subthalamic nucleus to better understand how the PPN controls gait and how this is impaired in PD.
- Machine learning ultrasound approaches to enable visualisation of the neck muscles and thus enable improved treatments in dystonia.
- Multicentre DBS studies to improve outcomes and indications for DBS. Includes a new trial investigating DBS for Tourette'.
- Studies of non-motor symptoms, in particular pain in PD.

Haemorrhagic stroke research:

There are four main programmes of work with collaborators at the University of Manchester, Manchester Metropolitan University, academic collaborators at external institutions nationally and internationally, as well as industry partners:

- Identification of novel therapies in rodent and zebrafish laboratory models of intracerebral haemorrhage with translational clinical studies and early phase clinical trials.
- Understanding motor recovery after intracerebral haemorrhage with a focus on advanced imaging, machine learning, transcranial magnetic stimulation, and digital health.
- Implementation of an acute care bundle for intracerebral haemorrhage across the North of England, with evaluation of clinical benefit, cost-effectiveness and understanding facilitators and barriers to implementation.
- Characterisation of current treatment strategies and prognosis after intracerebral haemorrhage on anticoagulants in a planned national observational study.

Ischaemic stroke research:

This programme is focused on the interactions between infection, immunity and ischaemic stroke, including post-stroke cognitive impairment. Our research spans basic science (disease models of stroke, cerebral small vessel disease [cSVD] and infection) and clinical research, with collaborators in the University of Manchester, as well as nationally and internationally.

- Investigating the role of preceding infection and thromboinflammation in stroke risk and infarct pathophysiology, including therapeutic opportunities.
- Understanding the contribution of the immune system to the development and trajectory of cerebral small vessel disease and post-stroke cognitive decline, and evaluation of preventive anti-inflammatory therapies.
- The impact of post-stroke pneumonia in clinical practice, using regional and national real-world data.
- Characterising the neurophysiology and neuroimmune mechanisms of oro-pharyngeal dysphagia after stroke, including therapeutic opportunities and clinical applications.

Research Facilities

The research post will be based in the MCCN, with strong links to both UoM and Manchester Metropolitan University. The post will benefit from being part of the GJBRC and MAHSC.

More specifically the post will 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 stroke service in the UK, hyperacute stroke service with thrombolysis, thrombectomy, neurosurgery (neurovascular and movement disorders with brain stimulation), specialist clinics, clinical research facilities, LCRN supported recruitment including hyperacute stroke studies.
- Additional infrastructure i.e. MRI facilities (including newly installed 3T at Salford Royal), human immunology (flow cytometry), data science (GM electronic/linked records, machine learning), neurophysiology /neurostimulation techniques.

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
https://www.ncaresearch.org.uk/gjbrainresearch/
https://www.manchesterneurosciences.com
https://www.braininflamelab.org

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