THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF BIOLOGY, MEDICINE AND HEALTH

SCHOOL OF HEALTH SCIENCES

DIVISION OF PSYCHOLOGY AND MENTAL HEALTH

CENTRUM

RESEARCH ASSOCIATE IN PSYCHOSIS RESEARCH

Vacancy ref: BM&H-14014

Salary: Grade 6: £32,236 to £39,609 per annum depending on qualifications and experience

Hours: Full time

Duration: Fixed term from as soon as possible until 30 September 2019 (Funding has been requested for possible extension until 31 December 2019)

Enquiries about the vacancy, shortlisting and interviews:
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OVERVIEW

The University of Manchester

The University of Manchester is Britain's largest and most popular university, with a distinguished history of academic achievement and an ambitious agenda for the future. The University, with income in excess of £780 million, has four Nobel Prize winners amongst its current academic staff, and has embarked on an exciting and bold course which aims to make us one of the top 25 universities in the world, as set out in the University's strategic vision for 2020: Strategic Vision 2020.

The University of Manchester was established in 1824, bringing together The Victoria University of Manchester and UMIST to form The University of Manchester. It has an excellent track record in research, as demonstrated by a research power exceeded only by Oxbridge in the RAE 2008 and specifically by the award of two Nobel prizes in physics in 2010. The University's research strategy can be found via the following link: UoM Research Strategy.

The academic structure of The University of Manchester is made up of Faculties and Schools. There are four Faculties and further information about each Faculty and its related Schools can be found at UoM Faculties and Schools.

The Faculty of Medical and Human Sciences (FMHS)

The Faculty of Medical and Human Sciences is a leading international centre for research and education in medicine and a spectrum of health-related professions including nursing, midwifery, social work, pharmacy, dentistry, psychology, audiology and speech and language therapy.

Details of the structure can be found at: FMHS Structure.

FMHS has a total income of £210 million, around 6,500 undergraduate students and 2,500 post graduate students. Within the Faculty, CENTRUM is a cross-cutting centre for psychosis research involving researchers from the Divisions of Psychology and Mental Health and Neuroscience and Experimental Psychology. These Divisions have strong links with the NHS via MAHSC.

Manchester Academic Health Science Centre (MAHSC)

The University, and in particular the Faculty of Medical and Human Sciences, is a key member of the Manchester Academic Health Science Centre (MAHSC). Formed in 2008, MAHSC is a Federation of Equal Partners enabled by a Company Limited by Guarantee. The partners involved in the MAHSC are: The University of Manchester, Central Manchester University Hospitals NHS Foundation Trust, Greater Manchester Mental Health NHS Foundation Trust, Salford Primary Care Trust (NHS Salford), Salford Royal NHS Foundation Trust, The Christie NHS Foundation Trust and University Hospital of South Manchester NHS Foundation Trust.

MAHSC is one of only five Department of Health designated AHSCs in the UK. The designation is a mark of excellence across research, innovation, education and patient service, and recognition of the potential to excel in translational medicine. MAHSC's vision is to *be a leading global centre for the delivery of innovative applied health research and education into healthcare*. As with other AHSCs, MAHSC has a dual role: to act as a beacon of international excellence for UK plc and to provide leadership and early adoption for our local health system. This will be delivered via a tripartite approach encompassing: research and innovation; education and training and clinical service.

For further information, please refer to the MAHSC website: www.mahsc.ac.uk.

Imaging Facilities

The Centre for Imaging Sciences is responsible for major biomedical research dedicated imaging facilities within the University, including the £25M Wolfson Molecular Imaging Centre which houses both human and animal PET (animal PET, PET-CT and HRRT head-only system) and 1.5 T Philips MR imaging capabilities. The School also manages the University's 3.0 T Philips scanner in the Wellcome Trust Clinical Research Facility on the main University campus and 3.0 T Philips human scanner sited at Salford Royal Hospital. The University of Manchester, through the Faculty of Medical and Human Sciences, has made considerable strategic investment in its human MR research programme. In addition the Imaging Sciences Research Group runs a 7 T horizontal bore animal imaging system, which has recently been upgraded with a new state of the art console and gradient/RF subsystem from Bruker.

The Wolfson Molecular Imaging Centre (WMIC)

The WMIC (Director: Prof. Alan Jackson) has been established as a clinical research led, experimental medicine facility at the University of Manchester. Its focus is on Positron Emission Tomography (PET) based research in oncology, neurology (Leader: Prof. Karl Herholz) and psychiatry (Leader: Dr. Peter Talbot) along with the development of the underlying methodology. The Centre is housed in a purpose designed four floor building encompassing a total of 3600 square metres of accommodation on the Christie Hospital site. It is the first (and currently only) academic PET laboratory that has been set up from the outset to comply with all current regulatory requirements for use of new radiotracers in humans. It will function as the primary academic UK centre and "technological platform" for such specialised research both for clinical academia and for collaboration across the pharmaceutical industry.

The WMIC is a clinical research facility based on experimental medicine to perform in-vivo measurements of molecular interactions and pathways that underlie diseased tissue and are central to therapeutic strategies. Such studies serve to translate laboratory observations of disease biology to patients. They also serve to provide "proof of concept" of the presence and accessibility of molecular therapeutic targets within diseased tissue as well as mechanisms of action and efficacies of treatment.

The WMIC is equipped with state of the art cyclotron and radiochemistry facilities including a Clinical Good Manufacturing Practise (cGMP) hot cell laboratory for aseptic tracer synthesis, the most advanced brain and body PET scanners and supporting chemical analysis laboratories, and a 1.5T magnetic resonance (MR) scanner. There is also expertise and equipment for computerised data analysis of recorded PET and MR data. To develop and characterise new PET tracers prior to their application in patients, a whole floor has been dedicated to preclinical laboratories including a PET-MR scanner. This provides for the two way exchange between pre-clinical and clinical research thereby supporting, under one roof, a "molecules to people" strategy. WMIC staff currently comprises 19 scientific and 29 operational and administrative positions.

Psychiatric PET neuroimaging at the WMIC focuses on in vivo characterisation of the neurobiology of severe and enduring mental disorders including schizophrenia, major depressive disorder and impulsive aggression using a combination of advanced PET and MRI techniques. Collaborations are ongoing with the Neuroscience and Psychiatry Unit (schizophrenia), Pharmacy and Faculty of Life Sciences (preclinical models of schizophrenia), Dermatology (depression in severe psoriasis) and University of Bristol Neurosurgery and Psychiatry (Deep Brain Stimulation in treatment-refractory depression; opiate system in phantom limb pain).

NIHR/Wellcome Trust Manchester Clinical Research Facility (MCRF)

The MCRF is a purpose-built facility focused on supporting experimental and medicine research in adults and children. Situated on the Manchester Royal Infirmary site, the facility enables researchers the opportunity to conduct medical research to the highest standards, with a track record of supporting over 600 commercial and academic studies. The facility offers state-of-the-art equipment, including a 3T MRI scanner, along with a team of specialist nurses dedicated to medical research.

Outline of the Research Project

STRATA - Schizophrenia: Treatment Resistance and Therapeutic Advances project is a UK, multicentre study, funded by a £5M Medical Research Council award. STRATA is a multi-site

study co-ordinated from Kings College London that includes Manchester, Cardiff and Imperial College London.

STRATA`s overarching objective is to develop a method to predict, ultimately as early as first admission, which patients will respond to standard dopamine antagonist drugs, and which people are instead more likely to respond to clozapine or the new drugs. There are several elements, including using machine learning analyses to identify associations of response or treatment resistance, genomic analyses, and evaluation of a potential algorithm to identify non-response early and allow treatment with clozapine or novel agents as early as possible.

This post is part of the latter strand of the programme. Patients in their first episode of schizophrenia will be recruited in London and Manchester (20 each over 21 months) within a fortnight of initiating treatment. Those who agree will have magnetic resonance and PET imaging soon after recruitment, as well as clinical assessment with the Positive And Negative Syndrome Scale and Brief Assessment of Cognition battery. They will have blood taken for genomic, metabolomics and proteomic analysis. All assessments except PET will be repeated after 2 weeks and all including PET after 6 weeks. Recruitment will take place across NHS Mental Health Trusts in the Northwest of England.

Overall Purpose of the Job:

Main duties and responsibilities to be conducted in close collaboration with Dr Richard Drake, Dr Peter Talbot (PET), Dr Julian Matthews (PET methodology), Professor Steve Williams (MRS), and Professor Bill Deakin and Professor Shon Lewis. The post-holder will also interact with King's College London - Institute of Psychiatry.

The postholder will be based in the Jean McFarlane Building at the University of Manchester. The successful candidate will work closely with other members of the research team to ensure successful and timely completion of STRATA research programme. The primary practical responsibility is to recruit patients, organise assessments and train and supervise an RA post involved in the same work stream. This will include some participation in recruitment and assessment procedures to provide e.g. holiday cover and help in periods of heavy workload.

The candidate will have previous experience of clinical imaging using MRI and MRS and ideally PET. They will be meticulous, show excellent attention to detail and be able to work as part of a laboratory-based team and independently without close supervision following appropriate training. They should have experience of analysing imaging, or spectroscopic data, as well as experience of recruiting clinical groups. Some weekend and out of hours working will be expected.

List of Duties and Responsibilities

- Managing recruitment onto the STRATA study including managing a team of researchers.
- Responsible for record keeping of patient recruitment progress and informing the London team of Manchester team's progress.
- Orchestrate a recruitment plan across Greater Manchester to ensure recruitment target is met.

- Liaise with Mental Health service providers and staff to ensure effective recruitment to the study, including brief presentations to service teams informing them about the study and eligibility criteria.
- Schedule all patient visits across all study sites to ensure protocol is adhered to for each consented patient, including PET imaging.
- Approach and consent patients adhering to GCP and study protocol.
- Conduct all patient visits following appropriate training in study related procedures, including rater training for data collection in clinical interviews.
- Data collection, management and entry onto electronic CRF in keeping with GDPR including quality assurance checks on imaging data.
- Manage participant travel via accounts and schedule all necessary patient transport.
- Manage and keep records of participant reimbursement for study visits.
- Liaise with local the R&D of local trusts to ensure all regulatory requirements are met and upheld, including Greater Manchester Mental Health NHS Foundation Trust and Pennine Care NHS Foundation Trust.
- Responsible for assisting in hiring all new members of the team and following through with new appointment induction.
- Train and supervise all new staff and existing staff in study protocol and procedures where appropriate.
- Contributing to papers and presenting data at conferences.

Qualifications and skills required

Essential

- Experience of recruiting patients with psychosis from the NHS, ideally first episode non-affective psychosis.
- Transferrable skills to enable rapid training to a high standard in the relevant assessments. Desirably, experience of the relevant assessments, or
- A PhD in a relevant area, for example, MRI/MRS/PET methods or application.
- Experience of MRI, MRS or PET in humans.
- Experience in analysis of MRS or PET data.
- Role in recruiting participants for imaging studies.
- Experience of NHS ethics requirements, Good Clinical Practice, and legal requirements that go with working with this group.
- Have excellent organizational skills, with the ability to prioritize and organize own workload and that of others, to work to strict deadlines, using own initiative.
- Meticulous record keeping skills and good laboratory report writing skills including statistical analysis and data presentation.
- Be able to work independently and as part of a team.
- Ability to develop effective working relationships with all levels of staff, students and external contacts.
- Have a proactive and flexible approach to work, and be willing to undergo training and to learn new skills as required.

- Demonstrate pro-activity and the ability to multi-task, prioritise, handle projects and deliver high quality outputs on time without direct supervision.
- Excellent verbal and written communication skills and the ability to communicate with a wide range of people at all levels.
- Excellent computer literacy, specifically in the use of Microsoft Excel, statistical and specialist software for image data management and quantitative image analysis, plus a willingness to expand knowledge/develop further skills in this area.
- Ability and enthusiasm to learn new skills.

Desirable

- Have experience in collaborating with other health professionals including radiographers and other imaging staff.
- Role in recruiting patients from inpatient/outpatient and/or community based facilities
- Have expertise in multivariate statistical data analysis.
- The potential to publish in peer-reviewed high-impact journals and other forms of dissemination.