Job Description

Please complete all accessible boxes and refer to the guidance on writing Job Descriptions

Position Details

Faculty/Directorate	Heath and Education
School/Department	School of Psychology
Team	TRACE research group
Job Title	Post Doctoral Research Associate
Grade	8
Hours of Work	35
Contract Duration (Perm/Fixed Term)	3-year, Fixed
Reports To (Job Title)	Nicola Ray and Nelson Trujillo-Barreto
Responsible For (Job Title)	Post Doctoral Research Associate

Principal Accountabilities

The main purpose of this role is to undertake research in the field Parkinson's by preparing, conducting, and recording the outcome of experiments and/or field work.

Analyse and disseminate research findings through relevant journals, conferences, and seminars, in order to further the institution's standing in the HE and research community and contribute to the development of new areas in the field of Neuroscience

Take responsibility for leading part of the project, under the overall direction by the project co-ordinator, leading and co-ordinating colleagues as required

Key Tasks

Research Activities

Undertake research within a programme investigating improved methods for predicting treatment response and deep brain stimulation (DBS) outcomes in people with Parkinson's disease. The postholder will have a particular role in a study which combines digital measures of motor function, clinical assessments, neuroimaging and electrophysiology to develop and evaluate biomarkers of levodopa and DBS responsiveness.

Undertake human neuroscience and clinical research in Parkinson's disease, using multimodal methods including smartphone-based motor assessments, wearable accelerometry, clinical measures, MRI, scalp EEG and intracranial/depth electrophysiology, including local field potential recordings from sensing-enabled DBS systems. The postholder will contribute to the integration of these measures with longitudinal clinical outcomes and to the development and validation of predictive models of treatment response.

Contribute to participant recruitment, consent and research assessments, and coordinate longitudinal data collection in collaboration with the Chief Investigator, research team and NHS clinical partners. This will include supporting at-home, laboratory-based assessments and post-DBS follow-up. The study involves repeated at-home assessment before and after medication and longitudinal follow-up at approximately 6, 12 and 24 months following DBS.

Undertake acquisition, processing, quality control and analysis of multimodal neuroscience data. This may include 64-channel EEG; structural, diffusion, susceptibility-sensitive and functional MRI; wearable and smartphone-derived movement data; and depth electrophysiological recordings from implanted DBS electrodes. Develop and implement reproducible analytical pipelines for electrophysiological signal processing, including analysis of oscillatory, aperiodic and time-varying neural activity, and integrate electrophysiological measures with imaging, digital and clinical data.

Use specialist research equipment and techniques requiring a high level of technical competence, precision and attention to data quality, including EEG acquisition systems, wearable movement sensors, MRI-compatible research procedures and systems for recording and downloading electrophysiological data from implanted DBS devices. Appropriate training will be provided where required.

Work within MRI, electrophysiology and clinical research environments in accordance with relevant University, NHS, research governance and local safety procedures. The role does not routinely require work in hazardous environments or the use of specialist protective clothing beyond that required by relevant laboratory or clinical procedures.

Plan and prioritise own work and resources to achieve agreed research objectives, coordinating the work of research assistants, students and research colleagues as required.

Undertake high-quality research and detailed quantitative analysis, including development and evaluation of multimodal predictive models, and present findings to appropriate internal and external groups, such as research forums, conferences and seminars.

Use initiative and judgement to develop and optimise research methods and analytical approaches, troubleshoot complex problems in multimodal data acquisition and analysis, and resolve issues affecting the achievement of research objectives and deadlines.

Develop research objectives and proposals for own and/or collaborative research with senior academic and clinical colleagues, building on findings from the project to support future external funding applications.

Engage in scholarly activities conducive to a long-term successful academic career that will support and enhance the research culture within the department.

Liaison and Networking

Disseminate findings through high-quality peer-reviewed publications, conference presentations and seminars in order to maximise the scientific and clinical impact of the research and enhance the University's standing in neuroscience, Parkinson's disease and neurotechnology research.

Develop and maintain effective working relationships with researchers, clinicians and other stakeholders across Manchester Metropolitan University, NHS partner organisations and external academic and industry collaborators involved in Parkinson's disease, DBS, digital health, neuroimaging and electrophysiology.

Participate in the development of internal and external partnerships and networks in order to share expertise, develop collaborative research, support future funding applications and enhance the reputation of the University.

Develop partnerships with external academic, clinical and technology partners and contribute to collaborative projects that benefit the Department, Faculty and wider research programme.

Teaching Support

Supervise and support taught postgraduate and/or research students undertaking projects related to Parkinson's disease, neuroimaging, electrophysiology, digital biomarkers or quantitative neuroscience, as required.

Provide training to students and research staff in techniques appropriate to the role, which may include electrophysiological recording and analysis, EEG, digital and wearable technologies, neuroimaging analysis, data management and reproducible quantitative research methods.

Contribute to teaching support through demonstrations, workshops or practical teaching relating to neuroscience research methods, data analysis or specialist research equipment, where appropriate.

Service Provision

Keep the Chief Investigator, study management team and relevant clinical and academic collaborators updated on study progress, recruitment, data acquisition, data quality and analysis, and proactively identify and address issues affecting delivery of the research.

Work closely with NHS and University research teams to ensure effective coordination of participant-facing research procedures and the secure transfer, management and integration of clinical, digital, imaging and electrophysiological data.

Collaborate with senior academic and clinical staff to organise, manage and deliver the research programme and contribute actively to the longer-term scientific planning and development of related projects.

Contribute to study documentation, research governance, data-management procedures, ethics amendments and reporting requirements as appropriate to the role.

Actively promote high-quality, reproducible and open research practices where compatible with the clinical and confidential nature of the data, and enhance the reputation of the University within the research community.

Proactively and effectively engage with quality assurance, research governance, data protection and information-security procedures to ensure that University, NHS and regulatory standards are upheld.

Teamworking

Actively participate as a member of the multidisciplinary research team, working with neuroscientists, psychologists, clinicians, engineers, data scientists and other researchers to achieve successful delivery of the project.

Coordinate and, where appropriate, allocate and monitor the work of research assistants and students contributing to data collection, processing and analysis.

Provide expertise and support to other researchers in electrophysiology, neuroimaging, quantitative neuroscience and multimodal data analysis, and contribute to the induction and training of new members of the research team.

Attend relevant Department, research group, project and study-management meetings and contribute proactively to scientific and operational decision-making.

Guide and support research assistants, doctoral researchers and other members of the team in areas of expertise, including experimental design, data acquisition, analysis, interpretation and preparation of research for publication.

Other

The postholder may be required to attend research sessions at NHS partner sites and to work flexibly around participant and clinical schedules. Occasional travel to collaborator sites and national or international conferences may also be required.

Special Features

Ability and willingness to travel between Manchester Metropolitan University, NHS partner sites and, where required, collaborating institutions in order to support participant recruitment, research assessments and data collection. The study involves research activity at Manchester Met alongside clinical assessments undertaken through the Northern Care Alliance DBS service.

Ability to work flexibly around participant availability and clinical schedules, including DBS and levodopa-challenge assessments, where research data collection needs to be coordinated with routine clinical care.

Willingness to undertake appropriate specialist training and comply with relevant NHS, MRI, electrophysiology, research governance and data-security procedures required for the post.

Miscellaneous

You have a legal duty, so far as is reasonably practicable, to ensure that you do not endanger yourself or anyone else by your acts or omissions. In addition, you must cooperate with the University on health and safety matters and must not interfere or misuse anything provided for health, safety and welfare purposes.

You are responsible for applying the University's Equality, Diversity and Inclusion Policy.

You have a responsibility to promote high levels of customer care within your own areas of work.

You are expected to co-operate with the PDR process, engaging in the setting of objectives in order to assist in the monitoring of performance and the development of the individual.

Such other relevant duties commensurate with the grade of the post as may be assigned by the Manager in agreement with you. Such agreement should not be unreasonably withheld.

You may be required to undertake a specific Health & Safety role, commensurate with your grade, to support the University in meeting its statutory Health & Safety obligations. This could include acting as a DSE Assessor, First Aider, Fire Marshall or Departmental Safety Co-ordinator. The allocation of such roles will be subject to the provision of appropriate training and assessment of competence.

You may, with reasonable notice, be required to work at any of the Manchester Metropolitan University sites.

You have the responsibility to engage with the University's commitment to Environmental Sustainability in order to reduce its waste, energy consumption and carbon footprint.

You have the responsibility to engage with the University's commitment to delivering value for money services that optimise the use of resources and therefore should consider this when undertaking all duties and aspects of your role.

Review

This is a description of the job at the time of issue. It is the University's practice periodically to review and update job descriptions to ensure that they accurately reflect the current nature of the job and requirements of the University and to incorporate reasonable changes where required, in consultation with the jobholder.

Person Specification

In order to be shortlisted you must demonstrate that you meet all the essential criteria and as many of the desirable criteria as possible. Where we have a large number of applications that meet all of the essential criteria, we will then use the desirable criteria to produce the shortlist.



All disabled candidates who meet the minimum essential criteria will be included on the shortlist.

Selection Criteria

Attributes		Item	Relevant Criteria	Essential/ Desirable
1	Skills & Abilities	1.1	Ability to lead the work of a research team, co-ordinating effort and resources.	E
		1.2	Ability to build relationships and establish networks with internal and external contacts.	E
2	General & Specialist Knowledge	2.1	Proficiency in the application of relevant neuroscience research equipment, software and analytical techniques, including electrophysiological recording and signal analysis (EEG and/or intracranial/depth electrophysiology), neuroimaging, digital and wearable sensor technologies, and quantitative data analysis. Experience of working with local field potential recordings from implanted or sensing-enabled DBS systems would be advantageous.	E
		2.2	Possess sufficient breadth and/or depth of specialist knowledge in human neuroscience, Parkinson's disease and/or movement disorders, including current approaches to neuroimaging, electrophysiology and digital biomarkers, to work independently within established research programmes and write authoritatively in the area.	E
3	Education & Training	3.1	A doctoral level qualification in a relevant area and evidence of continuous professional development.	E
4	Relevant Experience	4.1	Significant research experience in the field of human neuroscience, Parkinson's disease and/or movement disorders, ideally involving neuroimaging, electrophysiology, digital biomarkers and/or deep brain stimulation, which should have included:	E

			making a demonstrable, independent contribution to research projects; developing effective partnerships with internal and external academic, clinical or other relevant organisations; contributing to the preparation of funding proposals and applications to external bodies; using initiative, creativity and judgement to develop and optimise appropriate research and analytical approaches; synthesising and analysing complex data from multiple sources, including quantitative and/or multimodal datasets, and communicating findings through written reports and peer-reviewed publications; presenting research at national and/or international scientific meetings; experience of supervising student research and providing appropriate support and feedback.	
5	Special Requirements	5.1	Ability to travel between Manchester Metropolitan University and NHS partner sites, and to work flexibly around participant availability and clinical research schedules as required.	E
Date of Revision			September 2026	