



<b>Job title</b>	Research Assistant	<b>Job family and level</b>	Research and Teaching Level 4a
<b>School/ Department</b>	Psychology	<b>Location</b>	University Park Campus

## Purpose of role

The Research Assistant will join the Humphries' group on the Innovate UK-funded project "GEMINI : Platform Informatics For Data-driven Neuromodulation". Its goal is to develop a precision medicine platform for neuromodulation. The project team will create a machine-learning platform that synthesises wide-ranging personalised data to predict the suitability of Parkinson's disease patients for deep brain stimulation. The RA will assist with developing the machine-learning pipeline, analysing new data from St George's Hospital, London, and delivering results for scientific papers.

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time per year</b>
1	<b>Co-develop machine-learning pipeline</b> <ul style="list-style-type: none"> <li>▪ Test current implementations on existing data</li> <li>▪ Implement new prediction models for motor and quality-of-life improvements from patients' clinical data</li> </ul>	30
2	<b>Test pipeline on St George's clinical record data</b> <ul style="list-style-type: none"> <li>▪ Clean data for use in prediction pipeline</li> <li>▪ Cross-validate predictions on training data</li> <li>▪ Contribute publication-ready figures of analyses</li> </ul>	40
3	<b>Assess suitability of MRI data</b> <ul style="list-style-type: none"> <li>▪ Quality control MRI data in St George's dataset</li> <li>▪ Determine possible analyses (connectomes)</li> <li>▪ Create summary stats for use in prediction pipeline</li> </ul>	30

## Person specification

	Essential	Desirable
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ Good programming ability in Python and/or MATLAB</li> <li>▪ Ability to build relationships and collaborate with others</li> <li>▪ Ability to manage your own research on a day-to-day basis</li> </ul>	
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Experience of unsupervised machine-learning algorithms</li> </ul>	<ul style="list-style-type: none"> <li>▪ Experience of working with MRI data</li> <li>▪ Knowledge of Parkinson's disease and/or deep brain stimulation</li> </ul>
<b>Qualifications, certification and training (relevant to role)</b>	Completed an undergraduate degree and/ or MSc in a relevant quantitative discipline (computational neuroscience, maths, physics, computer science, or engineering).	



## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

## Key relationships with others

