



## Cardiff University School of Psychology

<b>Studentship Title:</b>	School of Psychology
<b>Research Area/ Project Title:</b>	PhD studentship in functional and structural properties of spatial processing networks in the brain
<b>Location:</b>	School of Psychology, Cardiff University
<b>Expected Start Date:</b>	1 <sup>st</sup> July 2017
<b>Duration:</b>	3 Years
<b>Deadline for Applications:</b>	1 <sup>st</sup> May 2017

We are currently accepting applications to be considered for School of Psychology funding.

### **Description of Research Opportunity:**

In the human brain, a posteromedial network including the hippocampus has been identified which is heavily involved in spatial processing. Furthermore, animal research suggests that performance on spatial tasks can be predicted by the comodulation of brain rhythms of different frequencies in the hippocampus. This comodulation of frequencies seems to be related to properties of white matter pathways to the hippocampus. The relationship between functional oscillatory activity in the posteromedial network, structure and performance has not been systematically investigated in humans. This PhD project will involve the development of cognitive electrophysiological paradigms which are sensitive to the functional properties of a spatial processing system and investigate the relationship of white matter pathways and oscillatory dynamics during spatial tasks as compared to non-spatial tasks. The project will integrate three areas: 1) spatial information processing during perception and memory, 2) functional properties of hippocampal theta- and gamma-frequencies in healthy human individuals, and 3) microstructural properties of the major input/output white matter pathways to the hippocampus. The methods to be used for the project are behavioural paradigms from cognitive psychology, electrophysiology (magnetoencephalography) and neuroimaging (diffusion tensor imaging). Cardiff University Brain Imaging Centre (CUBRIC) houses all the facilities required for this project (cognitive behavioural laboratories, MEG laboratory and four MRI laboratories).

**Award:**

The studentships will commence in July 2017, and will cover your tuition fees (at UK/EU level) as well as a maintenance grant. In 2016-17 the maintenance grant for full-time students was £14,296 per annum. As well as tuition fees and a maintenance grant, you will receive a participant allowance and conference funding (approx. £2250 per annum). You will also receive a computer and office space. You will become a member of, and have access to courses offered by the University's Graduate College.

**Eligibility:**

Full awards (fees plus maintenance stipend) are open to UK Nationals, and EU students. International students will typically be eligible for a UK/EU equivalent award only.

School studentship funding is highly competitive. In view of the limited number of awards and the very high standard of applications received, successful applicants are likely to have a very good first degree (a First or Upper Second class BSc Honours or equivalent).

**Requirements**

The successful candidate will be an enthusiastic and innovative individual. You will have, or expect to gain, a first class/good upper second degree, or a distinction/merit at masters level, in psychology, biology, neuroscience, or engineering/computer science (with good knowledge of motivational theory). Research experience in psychology is desirable but not essential, as are programming skills (e.g., C/Java/Matlab/Python). You will need to have good written and oral communication skills, and be able to work in a team.

**About Us**

We are one of the largest and strongest psychology departments in the UK, allowing us to offer well-resourced research opportunities in all areas of psychology, from neuroscience and brain imaging to social and developmental psychology, encompassing both basic science and applied aspects. In the 2014 research excellence framework, Cardiff is one of the UK's top three universities for its world-leading research in psychology, psychiatry and neuroscience. The school were ranked 40th in the 2014 QS World University Rankings. The School has an Athena SWAN Bronze Award that recognises good employment practice and a commitment to develop the careers of women working in science. Please consult the School's web pages for more information <http://psych.cf.ac.uk/>. Cardiff is a thriving city in very close proximity to the beautiful coast and countryside (<http://www.breconbeacons.org/>). It has a two-hour rail link to London and easy access to airports at Cardiff and Bristol.

For informal enquiries about the project, please contact Tom Freeman ([freemant@cardiff.ac.uk](mailto:freemant@cardiff.ac.uk))  
<http://psych.cf.ac.uk/contactsandpeople/academics/freeman.php>

**How to apply:**

No separate application is necessary – consideration is automatic on applying for a PhD in Psychology, with an July 2017 start date (programme code RFPDPSYD). Please use our online application service at

<http://www.cardiff.ac.uk/regis/general/applyonline/psychpgr.html>

and specify in the funding section that you wish to be considered for School funding.

**Application deadline:** 1<sup>st</sup> May 2017 with decisions being made at the mid-June 2017.