



Cardiff University
School of Psychology

Studentship Title:	ERC studentship
Research Area/ Project Title:	Boosting Creativity through Sleep Engineering
Location:	CUBRIC
Expected Start Date:	1 October 2018
Duration:	3 years
Deadline for Application:	17 th November 2017

Description of Research Opportunity:

We spend 1/3 rd of our life asleep, and the brain is very busy during this time. The neural oscillations of sleep have known restorative functions, and are also critical for memory consolidation and emotional processing. The NAPS research group studies all of these functions of sleep, (see: <http://sites.cardiff.ac.uk/cubric/research-2-2/neuroscience-and-psychology-lab-naps/>). Potential PhD projects include investigations into ways to manipulate sleep (called ‘sleep engineering’) in order to enhance all of these functions. Sleep engineering involves both manipulation of oscillations through auditory and electrical (tACS / tDCS) stimulation and manipulation of memory replay (targeted memory reactivation) in sleep. See my TEDx talk for an easy intro (<https://www.youtube.com/watch?v=9KaMuf0rAY>). In the NAPS lab, we are interested in enhancing sleep to improve health (for instance by counteracting the impacts of ageing which lead to reductions in deep slow wave sleep). We are also interested in manipulating memory consolidation by triggering the replay of selected memories in different combinations and in different sleep stages. This can lead not only to stronger memory, but to integration of new memories with each other and with existing knowledge, providing a basis for creativity.

Many of our projects would be appropriate for those with a Psychology or Cog Neuro background, but we also have a couple of projects that would be appropriate for a computer scientist (somebody with both backgrounds would be great). An example computer science project involves identification of neural replay during sleep using multivariate pattern classifiers. This is a very exciting area, as we’ve developed the first method for noninvasively identifying these replays in humans, and are now hoping to extend/improve this work.

Award:

The studentships will commence in October 2018 (there is potential for an earlier start date) and will cover your tuition fees (at UK/EU level) as well as a maintenance grant. In 2017-18 the maintenance grant for full-time students was £14,553 per annum. As well as tuition fees and a maintenance grant, all School of Psychology students receive conference and participant money (approx. £2250 for the duration of the studentship). They also receive a computer and office space, additional funding for their research, and access to courses

offered by the University's Doctoral Academy and become members of the University Doctoral Academy.

Eligibility:

Full awards (fees plus maintenance stipend) are open to UK Nationals, and EU students who can satisfy UK residency requirements. To be eligible for the full award, EU Nationals must have been in the UK for at least 3 years prior to the start of the course for which they are seeking funding, including for the purposes of full-time education.

As only one studentship is available and a very high standard of applications is typically received, the successful applicant is likely to have a very good first degree (a First or Upper Second class BSc Honours or equivalent) and/or be distinguished by having relevant research experience.

How to apply:

You can apply online - consideration is automatic on applying for a PhD in Psychology, with a October 2018 start date (programme code RFPDPSYA).

Please use our online application service at www.cf.ac.uk/regis/general/applyonline/index.html

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

Please specify that you are applying for this particular project.

Application deadline: 17th November 2017 with interviews (either in person or by Skype) being held on or around 27th November and decisions being made by 4th December.

General Information:

The School of Psychology is one of the largest and most successful in the UK (<http://www.cf.ac.uk/psych/>). The School's excellent standard of research and teaching has been recognised in every Research Assessment Exercise. It has its own brain-imaging centre (<http://www.cf.ac.uk/psych/cubric/>), enhancing the international-leading research in behavioural neuroscience, cognitive ergonomics, forensic, social and developmental psychology.

Cardiff is the youngest capital city in Europe and the fastest growing in the UK. It plays host to many national and international sporting events at the Millennium Stadium (<http://www.millenniumstadium.com/>). Culturally, the city is thriving, with the Wales Millennium Centre (<http://www.wmc.org.uk/>) in Cardiff Bay. Cardiff is in very close proximity to the beautiful Welsh countryside (<http://www.breconbeacons.org/>), has a two hour rail link to London and a (cheap) one hour air link to Paris and Amsterdam (<http://www.cardiffairportonline.com/>)

Please address any informal enquiries to:

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