



PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD position at FUB for CSC scholarship candidates 2018

Please note: the PhD position is only offered to Chinese PhD candidates for application in the framework of the FUB-CSC PhD Program.

<u>Department/Institute:</u>	Department of Education and Psychology
<u>Subject area:</u>	Cognitive Neuroscience, Cognitive Psychology
<u>Name of Supervisor:</u>	Dr. Radoslaw Martin Cichy
<u>Number of open PhD positions:</u>	2
<u>Type of the PhD Study:</u>	Full-time
<u>Project title:</u>	Cracking the neural code of human vision

PhD Project description:

Within a glimpse of an eye, we effortlessly recognize visual objects such as a coffee cup sitting on the table without effort. The apparent ease of our recognition abilities and the automaticity with which it guides behavior, however, belies its complexity: we correctly identify and classify objects among thousands of alternatives, rapidly within a few hundred milliseconds, and despite huge variation in the retinal image created by changes in viewing conditions through occlusion, lighting, pose, etc. How does the brain mediate this immense feat? The underlying neural dynamics show a bewildering complexity in both space and time. Understanding the neural dynamics thus requires a systematic and integrated analysis in a quantitative framework. The goal of this project is to do just that, using an innovative combination of brain imaging (human 3T and 7T MRI, MEEG), computational modelling (deep neural networks) and psychophysics.

Language requirements:

IELTS 6.5 or TOEFL 95 ibt.

Academic requirements:

A Master degree in Neuroscience, Psychology, Cognitive Science, Computer Science or similar is necessary. Experience with human neuroimaging methods (fMRI and MEEG) and good programming skills (Matlab or Python) are of advantage.

Information of the professor or research group leader:

Website:

http://www.ewi-psy.fu-berlin.de/en/einrichtungen/arbeitsbereiche/neural_dyn_of_vis_cog/team/index.html

Relevant publications:

- **Cichy RM**, Pantazis D, Oliva A (2014). *Resolving human object recognition in space and time*. Nat Neurosci 17(3): 455-462; doi: 10.1038/NN.3635.
- **Cichy RM**, Khosla A, Pantazis D, Torralba A & Oliva A. (2016) *Comparison of deep neural networks to spatio-temporal cortical dynamics of human visual object recognition reveals hierarchical correspondence*. SciReports 10;6:27755. doi: 10.1038/srep27755.
- **Cichy, RM**, Pantazis D & Oliva A. (2016) *Similarity-based fusion of MEG and fMRI reveals spatio-temporal information flow in visual object recognition*. CerebCortex. doi: 10.1093/cercor/bhw135.

Please note: In a first step, the complete application must be submitted to the Beijing Office for evaluation by January 4th, 2018. Please do not contact the professor before. He/She will get in contact with you after having received the complete application via the Beijing Office in January.