

## PhD fellowship position



**Project title:** LEARning from MEmory: brain mechanisms of how prior knowledge influences the formation of new memories (LEARME)

**Funding Body:** Spanish Government

**Host institution:** University of Barcelona

**Contract duration:** 4 years

**Starting date:** First semester 2014.

**Gross salary:** 20.600€/year

### Scientific summary

The need to understand the brain mechanisms sustaining the formation of new and enduring memories represents a crucial issue in cognitive neuroscience research. The current project proposal builds upon both theoretical and experimental evidence in animal and humans establishing a critical role of the coordinated activity of the MTL/hippocampus and neocortical regions (i.e., prefrontal) in the formation of new memories. Our goal is to characterize the precise neural mechanisms sustaining the rapid integration of new memories into pre-existing structures of knowledge. In LEARME, we use a combination of several neuroimaging techniques (i.e., EEG, fMRI/DTI) and novel analytical approaches in healthy populations as well as behavioural and intracortical data (i.e., ECoG) from neurological patients with selective lesion in the hippocampus. The project also seeks to potentiate the emergence of new therapeutic strategies in these neurological patients and others with lesions in similar brain regions.

### Host Research Group

The Cognition and Brain Plasticity group ([www.brainvitge.org](http://www.brainvitge.org)) is a multidisciplinary research group including >30 scientists with interests in many facets of the cognitive neuroscience (e.g., language, executive functioning, music, reward). Among them, the goal of the Learning and Memory group (PI: Lluís Fuentemilla) is to understand human memory function and its implementation in the brain. The team integrates researchers from many research fields such as psychologists, biologists, clinicians, physicists, etc. Very close interactions between experimentalists, methodologists and clinicians, and a strong dedication of the group to the emergence of young scientists, ensure an optimal environment for PhD students in cognitive neuroscience.

**Requirements:** 1) Master degree and excellent academic marks; 2) Programming skills will be a plus; 3) Demonstrated ability and high motivation to conduct high-quality research publishable in quality international peer-reviewed journals.

**Contact:** Lluís Fuentemilla, Associate Professor, UB, [llfuentemilla@ub.edu](mailto:llfuentemilla@ub.edu). Please send application including CV, statement of research interests, and the names and full contact details of two referees (Deadline: 22<sup>nd</sup> September 2014).