UNIVERSIDAD DE GRANADA

Centro de Investigación
Mente, Cerebro y
Comportamiento

Post-doc proposal: Inst. Neurosciences (IONS), Univ. catholique Louvain, Brussels, Belgium

22/03/2017

Post-doc proposal: Short-term temporal memory in idiopathic Parkinsons disease: a behavioural and electrophysiological approach.
https://www.uclouvain.be/en-425366.html#Team

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Parkinsons disease (PD) is characterized by both motor and non-motor symptoms. Impairment of cognitive functions like memory, attention and time perception has important but often underestimated consequences in the everyday life of patients. The candidate will investigate the influence of short-term temporal memory on the preparation of eye movements in idiopathic PD patients. This research should lead to the proposal of a simple and reliable oculomotor assessment of short-term temporal memory in idiopathic PD patients that could be used to estimate cognitive decline and evaluate treatments. Furthermore, analysis of EEG data (in the temporal and frequency domains) together with eye movements should lead to the formulation of quantitative hypotheses about the underlying neural processes. Analyses will be performed in patients at different stages of progression of the disease and with different anti-parkinsonian treatments.

Significance of research

Cognitive decline has a major impact in PD patients and in the aging population in general with a significant cost for families and the society. Most of the time, cognitive decline is evaluated using questionnaires and psychological testing. These methods rely on introspection, require good language skills and are often approximate. We

suggest that an oculomotor approach based on implicit methods could yield significantly better estimates of early cognitive decline, at a reasonable cost, and help better understand underlying neural dysfunctions.

Funding

Support by private donators through the Louvain Foundation is available to fund the post-doctoral research during a period of 2 years. Approximate stipend: 2000 euros/month after taxation (this estimate could vary according to family situation, age and education). Health insurance provided. Funding will be re-evaluated every year according to achievements.

Various

Location: Institute of Neurosciences (IONS), Universit catholique de Louvain, Brussels, Belgium. Financial support for commuting between the private domicile and the University will be provided. All equipment currently available in the Lab to perform the project (https://www.uclouvain.be/en-425366.html#Team). EEG analysis will be realized in collaboration with Prof. A. Mouraux (same institute). Patients will be selected from the Cliniques Universitaires Saint-Luc (on the same campus) in collaboration with Dr. Anne Jeanjean. Age and sex-matched controls should be recruited amongst the people accompanying patients or locally. The candidate is expected to start working in April 2017, with some flexibility.

Requirements: PhD in Sciences, Biomedical Sciences, Applied Sciences, Psychology, or equivalent. Excellent academic grades. Training in systems, cognitive neurosciences or equivalent. Training in statistics (ANOVA). Knowledge of SPSS will be appreciated. A very good command of English. Training in MATLAB. Support letters are welcome. Team spirit.

Please communicate with Professor Marcus Missal (marcus.missal@uclouvain.be) Institute of Neuroscience (IONS) Cognition and Systems (COSY) Avenue Mounier 53 bte B1.53.04 1200 Brussels

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