



Brain imaging PhD trainee project available

Keywords: sleep, emotion, arousal, high-density EEG, fMRI, insomnia, internet assessment

The Sleep & Cognition group at the Netherlands Institute for Neuroscience in Amsterdam, the Netherlands, performs top-notch neuroscience research on causes and consequences of disturbed sleep. The Memory and Sleep group at the University of Amsterdam focuses on the neural basis of memory, emotional housekeeping and the role sleep in these processes. Both groups apply state of the art research techniques, including MRI, 256-channel EEG, TMS, computational modeling and internet assessment. Group profiles can be found on: http://www.nin.knaw.nl/research_groups/van_someren_group/ and <http://www.uva.nl/profiel/l.m.talamini>. In this project, the expertise of both groups is combined to investigate the interplay between sleep disturbance and emotional coping.

Excellent candidates with a Masters degree and sufficient relevant background are invited to apply for a 3-year PhD project. In this project, the role of sleep in emotional regulation will be addressed from both a fundamental and clinical perspective. An important aim is to elucidate brain mechanisms underlying the elevated risk that people with insomnia have to develop depression. The project builds on two recent insights. The first is that unperturbed periods of REM sleep ameliorate emotional arousal indexed by autonomic and central nervous system measures, including amygdala activation. The second is that perturbed REM sleep is a key signature of people suffering from insomnia. A possible consequence of these two findings is that the chronically perturbed REM sleep of insomniacs could interfere with emotion regulation and lead to their typical chronic hyperaroused state, which in turn makes them vulnerable to exhaustion and depression. To address this hypothesis, the project integrates 256-channel sleep EEG and fMRI experiments with web-based assessment tools implemented on the Netherlands Sleep Registry platform (www.sleepregistry.org).

The candidate has experience with fMRI and/or high-density EEG. Good English writing skills as well as experience with javascript and software like Matlab, R and E-prime are appreciated. Mastery of the Dutch language will be necessary to conduct the experiments with people suffering from insomnia. The project results in a PhD degree.

For further information about this position please contact Prof. dr. E.J.W. Van Someren, (phone: +31 20 5665497, e-mail: e.van.someren@nin.knaw.nl) or Dr. L.M. Talamini (phone: +31 20 5256764, e-mail: L.M.Talamini@uva.nl). Applications including a letter stating motivation and relevant background, a CV and letters of recommendation of two referees can be emailed until January 31, 2013, to Prof. dr. E.J.W. Van Someren, e.van.someren@nin.knaw.nl.