Universitair Medisch Centrum
Utrecht

PhD position vacancy for project

'brain connectomics: exploring the functional and structural brain network'

The Rudolf Magnus Institute for Neuroscience has a PhD position available on complex brain networks.

Job description. Thanks to recent advances in MR brain imaging it has become possible to examine the connectivity structure of the human brain. These studies have dramatically changed our perspective of the brain, showing that the human brain is not a collection of independent regions, but rather a complex web of interacting regions. Using Diffusion Tensor Imaging and resting-state fMRI is it now possible to map the structural information highways of the human brain in high precision, as well as the functional communication between regions.

The position. This project concerns the investigation of the topology of the brain network and the development of new graph models to examine the dynamical effects of brain communication. For this purpose, you will acquire multiple forms of high resolution MR connectivity data, covering high-field structural and functional connectivity data (3T and 7T DTI and rs-fMRI) and analyze this data with complexity theory (graph theory), examining the organizational characteristics of the brain network. Furthermore, you will be involved in the development and application of novel graph modeling.

You will be working in a young, energetic and highly multidisciplinary team, covering neuroinformatics, mathematics and medicine.

Requirements. Owing to the multidisciplinary character of the team, candidates with a wide variety of master's degrees are welcome to apply, including (cognitive) neuroscience, artificial intelligence, informatics, physics, and medicine. You should have a wide interest in medical science and an open view to the use of novel methodology.

Conditions of employment. For this 100% post, the maximum salary will be € 2.673,-. This project is funded by a grant of Martijn van den Heuvel of the Rudolf Magnus Institute of Neuroscience (RMI). The appointment is for a period of 4 years (1 fte) and should lead to a doctoral degree.

Department. Rudolf Magnus Institute for Neurosciene at the University Medical Center Utrecht. You will work at the department of neuroimaging at the Rudolf Magnus Institute for Neurosciene at the University Medical Center Utrecht.

Additional information and applications. Additional information can be obtained from and applications with curriculum vitae and letter of interest can be sent to Dr Martijn van den Heuvel (+31 88 75 58244), m.p.vandenheuvel@umcutrecht.nl, smri.nl. Deadline for applications is 1 June 2011.