

INCF National Node of the Netherlands

Coordinator: Jaap van Pelt / Paul Tiesinga
www.neuroinformatics.nl

Introduction

The NL National Node started officially with the INCF membership of the Netherlands in 2007. The coordinator Jaap van Pelt and his successor Paul Tiesinga are supported by a Steering Committee composed of representatives from the Neuroinformatics community, Neuroscience societies and Science Foundations.

The NL node aims to promote Neuroinformatics within the context of the INCF Program. Actions include the www.neuroinformatics.nl website, the organization of regular workshops and promotional activities.

New programs

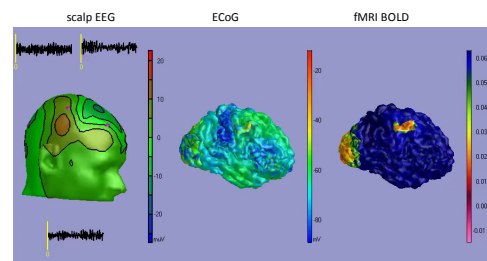
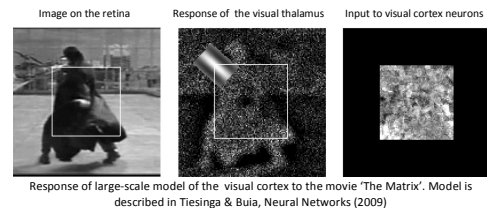
The national node is now in the process of initiating a number of new programs.

First, we will start a national colloquium, the location of which will cycle through the different sites listed on the map. The goal of this colloquium is to attract both practicing neuroinformaticians as well as experimental systems neuroscientists who would benefit from applying neuroinformatics techniques. The colloquium also aims to provide PhD students and postdocs with further training in neuroinformatics, inform them about the current topics and provide a platform to meet and interact with fellow scientists. We have tentatively identified coordinators at each site and have listed the main interests at those sites.

Second, researchers from the Donders Institute will in collaboration with the national node initiate a summerschool in Systems Neuroscience. The goal is to recruit PhD students (and some advanced master students) in systems neuroscience and introduce them to neuroinformatics techniques. The present focus is on analyzing and modeling networks derived from EEG, ECoG, MEG and fMRI measurements. The setup is a different from a normal summerschool in neuroinformatics, of which there currently are plenty. Even though the lectures will be given by senior scientists, the practical training will be given by neuroinformatics graduate students and will involve a practical project using the experimental data of the participating students. It is hoped that the summerschool will provide a start for longer-term collaboration between neuroinformaticians and experimental neuroscientists.

Third, the national node will act as a matchmaker for projects involving collaborations with a neuroinformatics group and help identify funding sources. As national funding is limited, these projects will often need to have an international component, with which the national node can help through contacting other national nodes.

As an example of broader-based neuroinformatics projects, at the Donders Institute (Radboud University Nijmegen) researchers are trying to link network dynamics at the single cell level (Tiesinga), which provides biophysical insight into the different oscillations that emerge, to large-scale brain dynamics modeled through mean-field equations (Bojak), thereby helping the interpretation of whole-brain measurements (MEG and fMRI) conducted at the Donders Centre for Cognitive Neuroimaging. Together these approaches allow for the exploration of hypotheses about biochemical bases of diseases such as schizophrenia and attention deficit disorder.



Realistic mean field models of cortex. Simulations from Bojak et al, Brain Topograph. 23: 139-149.

Neuroinformatics sites and local coordinators in the Netherlands

