Laboratoire | Neurosciences Cognitives et Adaptatives | LNCA
Université de Strasbourg | CNRS UMR 7364

FunSy Functional Systems Dynamics

POSTDOCTORAL POSITION OPENING ON ANALYSIS OF MOUSE HIPPOCAMPO-CORTICAL OSCILLATORY ACTIVITY.

Functional System's Dynamics team (Demian Battaglia and Romain Goutagny)
LNCA - University of Strasbourg.

We are currently inviting applications for a full-time postdoc position. The position starts as soon as possible and can last up to two years. Deadline for application is January 15th 2023. The successful candidate will integrate the newly constituted Functional System's Dynamics team (FunSy) at the University of Strasbourg in France under the joint co-mentoring of Dr. Romain Goutagny and Dr. Demian Battaglia (see https://funsyteam.org/ for more info).

The position is part of the French ANR « HippoComp » project, which focuses on the complexity of hippocampal oscillations and the hypothesis that such complexity can serve as computational resource. Our lab performs electrophysiological recordings in hippocampus and cortex during spatial navigation and memory tasks in mice (wild type and mutant developing various neuropathologies) and have access to vast data through local and international cooperation. Furthermore, we use a large spectrum of computational tools ranging from time-series and network analyses, information theory and machine-learning to multi-scale computational modeling. A good idea about some of the approaches used in the lab can be found in this recent preprint:

Douchamps et al. 2022. Hippocampal gamma oscillations form complex ensembles modulated by behavior and learning, bioRxiv (https://doi.org/10.1101/2022.10.17.512498).

We are seeking for various profiles of candidates, closer either to experimental or computational neuroscience. Experimental project components would focus primarily on simultaneous fiber photometry and local-fields potentials recordings, together with the pre-processing of these data. Computational project components would delve with numerically-intensive data analyses (dimensional reduction, encoding/decoding, design of discriminative features…). Interested candidates could have hybrid experimental/computational projects. The ideal candidate will have a doctorate in systems or computational neuroscience, with previous experience in the analysis of rich datasets. In addition, we expect programming skills (e.g., Python, C/C++, Matlab), good communication skills in English (oral and written), the ability to work well in an international team, curiosity and open-mindedness. Strasbourg University is home of an emergent and active community in neuroscience, from molecules and cells to whole brain imaging and behavior, in relation with clinics. The proximity with Germany and Switzerland is an asset allowing interactions with transnational Computational and Neuroscience teams. Strasbourg, home of important European institutions, is a small fascinating city with a rich student and cultural life, well connected via high-speed train to important European cities (e.g. less than two hours from Paris).

Please send your application, including CV, motivation letter and representative publications (preprints accepted) electronically, to both PIs (Romain Goutagny and Demian Battaglia) In addition, contacts of at least two academic references must be communicated (contact email or recommendation letter attachments).

The deadline for applications is **January 15th, 2023**. Pre-selected candidates will be interviewed over Zoom or invited to give a talk if possible. We are committed to equal opportunity hiring. We strongly encourage applications from qualified women or candidates from any country.

Contact persons:
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