Ph.D. Positions in Neuroscience

Episodic memory consolidation in the hippocampus

Place: Switzerland, Zürich

Institute: University of Zürich, Brain Research Institute

Project description

The SNSF PRIMA-funded research group of Dr. Xiaomin Zhang is offering two Ph.D. positions commencing on May 1st, 2023, or as soon as possible hereafter. The principal supervisor will be Dr. Xiaomin Zhang (PRIMA-funded assistant professor, https://orcid.org/0000-0003-0256-6529), and the formal supervisor will be Prof. Fritjof Helmchen (https://www.hifo.uzh.ch/en/research/helmchen.html). As the proposed work will be conducted in the lab of Prof. Helmchen, the applicants will benefit from collaborations with leading scientists with strong expertise in optical imaging and advanced computational skills.

Our group and research

Our lab will start on May 1st, 2023, with the goal to understand the neuronal mechanisms underlying episodic memory consolidation in the hippocampus in healthy and Alzheimer’s disease mouse models. In particular, we will study how hippocampal neurons are recruited into neuronal assemblies for memory consolidation. Furthermore, we will investigate how neuromodulation coordinates hippocampal-dependent memory consolidation in awake behaving animals.

We will use state-of-the-art in vivo whole-cell patch-clamp techniques and silicon probes to measure neuronal activity at the single cell and population levels, fiber photometry to monitor the release of neuromodulators, together with optogenetic perturbations to manipulate the specific pathways.

Key criteria for the assessment of applicants

Applicants must have qualifications corresponding to a master’s degree related to the subject area of the project, e.g. Neuroscience, Biology, Medicine, Biomedicine, or Physics.

Other important criteria are:

- A curious and internally driven mindset
- Ability to work in teams
- Experience in electrophysiology
- Knowledge of and experience with optogenetics/virus/genetic techniques and tools
- Experience in data analysis using Matlab, Python or R
We offer

- The position is available from 01.05.2023 for four years.
- If the applicant meets the relevant requirements and personal qualifications, the salary is based on the standard Ph.D. salary of the University of Zürich.

Application procedure

Please submit your application as a single pdf, including:

1. Motivation letter of application (max. one page)
2. CV incl. education, experience, language skills, other skills relevant for the position, and contact details of two persons for reference
3. Certified copy of original Master of Science diploma and transcript of records in the original language, including an authorized English translation if issued in a language other than English. If not completed, a certified/signed copy of a recent transcript of records or a written statement from the institution or supervisor is accepted.
4. Publication list (if applicable)

Contact Details

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Applications from female candidates are expressly welcome and will be given priority in the event of equal suitability, competence, and professional performance. People with disabilities are welcome to apply and will be treated preferentially in the event of equal suitability and qualification.