

PhD position in Computational Neuroscience

Neural computations for spatial navigation and emotions in the hippocampus

The Department of Physiology at the University of Bern is opening a PhD position in computational neuroscience at the interface with experimental neuroscience.

The cerebral cortex endows us with the ability to perform complex cognitive and emotional processes supporting adaptive behavior. The hippocampus is a high-order cortical area instrumental for cognition and emotions. The PhD project will focus on discovering selective computations related to spatial navigation and emotional states using hippocampal neural recordings in behaving rodents. It will further develop predictive models for animal position taking into account uncertainty of hidden states such as emotions.

The specificity of the project is the close interactions between theory and experiments. The candidate will have access to experimental data acquired within the research group of Stéphane Cioocchi and the supervision will be shared with Jean-Pascal Pfister of the Theoretical Neuroscience Group.

The candidate should hold a Master degree in Physics, Mathematics, Biology, Neuroscience, Computational Neuroscience or a related field. She/he should have keen interests in close interactions between theory and experiments.

Interested candidates can send their application and inquiries via email to pfister@pyl.unibe.ch, cioocchi@pyl.unibe.ch. The application should include the following in one pdf document: letter of motivation, CV, contact details of 2 references. The position is funded for a duration of three years. The PhD position shall start early in 2020.

Deadline for application is the 31st of January 2020 or until the position is filled.

References:

Cioocchi, S., Passecker, J., Malagon-Vina, H., Mikus, N., Klausberger, T.
Selective information routing by ventral hippocampal CA1 projection neurons. *Science* (2015).

Nonlinear Bayesian filtering and learning: a neuronal dynamics for perception.
Kutschireiter A, Surace SC, Sprekeler H, Pfister JP. *Sci Rep* (2017).