

## ROLE OF HIPPOCAMPAL PLACE CELLS IN OBSERVATIONAL LEARNING

**Supervisor: Tiaza Bem, Assoc. Prof.**

*Institute of Biocybernetics and Biomedical Engineering PAS*

*Department III*

*Laboratory of Modeling and Electrophysiological Methods*

Observational learning (OL), occurs when a given subject learns a specific behavior by observing another conspecific performing the behavioral task. OL allows avoiding the costly trial-and-error learning, therefore, saves time and energy and enhances the chance of survival and reproduction. Although OL has been found in many species from invertebrates to human, using a number of different learning paradigms so far underlying neuronal mechanisms are unknown. Our aim is to investigate how hippocampal place cells may control OL of spatial task in mice. We will first use single unit recordings to identify the firing pattern of hippocampal place cells during OL. In a second step we will manipulate these place cells using optogenetic approaches to causally demonstrate their involvement in OL. (Collaboration with Bordeaux University).