



## Master project 2024-2025

### Personal Information

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**Group** Cancer Epidemiology and Public Health Neurosciences Research groups Programme members Education Translational clinical research OpenLab NEWS 09/02/2024 The analysis of biological networks allows understanding the complexity of multiple sclerosis More Subscribe RSS Good Practices Code Cell-type mechanisms in normal and pathological behavior

### Project

## Web development & bioinformatic tools

#### Project Title:

Developing computational tools to analyze mouse social interactions

#### Keywords:

mouse social interaction, higher-order conditioning, DeepLabCut, machine learning

#### Summary:

Our lab wants to establish a behavioral paradigm to assess why people often are attracted or repulsed by people that they have never encountered before. These processes are caused by higher-order conditioning processes, also known as mediated learning, and can be studied in animals through sensory preconditioning or second-order conditioning. We are seeking to find a student to develop new computational tools (i.e. based on pre-existing software such as DeepLabCut or Deep-OFF) to assess mouse social behavior (both uni- or multi-animal approaches). This will help us in the setting up of this new behavioral task that can be fundamental to better understand the brain mechanisms that are guiding our daily choices.

#### References:

<https://www.nature.com/articles/s41467-023-40040-3>

#### Expected skills:

Python programming, machine learning knowledge,

#### Possibility of funding:

Yes

#### Possible continuity with PhD:

To be discussed