Timothé JOST-MOUSSEAU

Born 19/05/93
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CURRICULUM VITAE

Research experience

1 OCT 2018 - NOW › **THESIS** › *DANIEL SHULZ'S TEAM – CO DIR. ISABELLE FEREZOU – NEUROPSI – GIF SUR YVETTE*

> Study of cortical dynamics on freely behaving murine models, during either discrimination or locomotion tasks.

> This led to the realization of multiple electro-mechanical devices to facilitate behavior during fiberscopic imaging, like an optical rotative joint, automated behavioral setup and custom implants. On the other hand, it required the development of pipelines and algorithms for analysis of heavy datasets both for behavior and fluorescence videos.

> 2020 › **PATTENT SUBMISSION** › *CNRS*

Functional prototype of lockable optical rotary joint with closed loop servo control, developed during the thesis.

28 JAN - 22 JUN 2018 › **M2 NEUROSCIENCES INTERNSHIP** › *CLEMENT LENA'S TEAM– IBENS – PARIS*

> Study of a cerebello-thalamic pathway involved in fine tactile perception, dependent of with snout whiskers.

> Creation of an experimental apparatus to record high-speed videos of freely moving murine models, in order to characterize motor control in relation to touch contacts, in two biological conditions: either with temporary inactivation of DN-Pom pathway with DREADDs, or in control condition.

> We showed no statistical difference between both condition, reinforcing the idea that the DN-Pom pathway could plays a role in sensory processing, as it's inactivation suppresses the ability of mice to discriminate between textures but doesn't affect the motor adaptations of whisker during touch.

24 APR - 29 JUN 2017 › **M1 NEUROSCIENCES INTERNSHIP** › *DANIEL SHULZ TEAM – NEUROPSI – GIF SUR YVETTE*

> Study of neuronal responses to stick-slip whisker events under anesthesia, in the cortex and the thalamus.

> Manufacture of custom implants with 40 channels (10 tetrodes) and individual micro-drives. I performed chronic implantation and recordings experiments as well as analysis of responses evoked by the whiskers kinematics, recorded at high frequency in video during stimuli presentation, and found some neurons that showed tuning to slip events.

Professional formation

2019 › Formation to surgical operations on murine models › (1 week) CNRS, Marseille
2019 › Formation to the conception of scientific experiments and to the well-being of murine models › (1 week) CNRS, Paris
2019 › Formation to laser cutting machines for soft materials and metals › (Half-day) Fablab Digiscope, Plateau de Saclay

Academic formation

2016 – 2018 › **MASTER INTEGRATIVE BIOLOGY AND PHYSIOLOGY** › *UNIVERSITE PIERRE ET MARIE CURIE*

> Overview of the principal experimental approaches in neurosciences, and introduction to systems neurosciences - 4B006, 5BN04, 5BN05

2012 – 2016 › **LICENCE LIFE SCIENCES** › *UNIVERSITE PIERRE ET MARIE CURIE*

> Role of neuronal microcircuits in the emergence of cerebral functions. – 3v544

> Several courses on algorithms and programming for biology. Languages: Python & C – 3v686 – Lv229 – Lv231

Skills

LANGUAGE ›

French:
Mother tongue

English:
CLES B2
in 2015

SOFTWARES›

- Adobe, MS Office suites, Windows & Linux OS.
- SOLIDWORKS, Fusion360, Blender (3D CAD & CAM)
- CURA, Preform (Slicers for FMD/SLA 3D printers)
- AutoCAD Eagle

PROGRAMMING ›

Advanced
- Python 2 & 3
- MATLAB
- C++ & C
- MySQL
- GitHub platform

Bases
- NI LabVIEW
- R
- HTML, CSS, JavaScript
- DOS batch langage

TECHNICAL ›

- 3D printer parc maintenance
- Conception (Schematics and prototyping) as well as manufacture (Gerber files) of electronic systems.
- Usage of sawing machines (table saw, bandsaw) as well as common workshop equipment.
- File server maintenance, with RAID mount