Timothé JOST-MOUSSEAU

Né le 19/05/93
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CURRICULUM VITAE

Research Experience

OCT 2018 – 2022 › PHD › *NEUROPSI – DIR. ISABELLE FÉRÉZOU & DANIEL SHULZ – SACLAY*

- Study of the cortical dynamics involved in sensory prediction in freely moving mice.
- Development of electronic and mechanical devices for coupling fluorescence imaging and animal behaviour.
- Design and implementation of a framework for data acquisition, management, and control of experimental sessions
- Software development and analysis for large behavioural and neurophysiological imaging data sets.

2021 › PATENT DEPOSIT › *CNRS INNOVATION (PATENT N°2103848)*

« Dispositif et procédé d'imagerie de cibles mobiles »

- Construction of a functional prototype of an optical device for the coupling of fibre imaging experiments and free behaviour.

2022 › ARTICLE PRE- SOUMISSION › *ARTICLE DE METHODOLOGIE – REVUE NEUROIMAGE*

« Imaging the brain in action: a motorized optical rotary joint for wide field fibroscopy in freely moving animals »

- Quantification of the device's contribution to helping behaviour and locomotion, measurement of optical performance during imaging.

JULY 2020 & JULY 2022 › FENS FORUM › *SCIENTIFIC POSTER PRESENENTATION*

JANUARY - JUNE 2018 › M2 INTERNSHIP › *CLEMENT LENA'S TEAM – ENS – PARIS*

- Study of a cortico-cerebello-thalamo-cortical loop involved in vibrotactile texture discrimination in mice model.
- Design of the experimental set up. Use of chemo-genetics (DREADDs). Video analysis done with MATLAB.

AVRIL - JUIN 2017 › M1 INTERNSHIP › *DANIEL SHULZ'S TEAM – NEUROPSI – GIF SUR YVETTE*

- Manufacture of 10 tetrode implants with individual "micro drives". Chronic electrophysiology. High frequency imaging of the whiskers.

Training courses

2022 › Multiscale optical technologies for deep and large volume brain imaging › *(1/2 a day) FENS FORUM*
2021 › Introduction to computer numerical control of machine tools › *(1 week) AFORP, Tremblay-en-France*
2020 › Laser cutting machines initiation› *(1/2 a day) FABLAB DIGISCOPE, Saclay*
2019 › Design of scientific experiments, welfare monitoring and surgical interventions in the mouse model › *(1 week) CNRS, Paris + (1 week) CNRS, Marseille*
2018 › Research integrity in scientific professions › *(2 days) MOOC, Bordeaux University*

Academic background

2016 – 2018 › MASTER IN INTEGRATIVE BIOLOGY AND PHYSIOLOGY › *SORBONNE UNIVERSITY*

- Overview of the main techniques for reading neuronal activity. Introduction to systems neuroscience.
  UEs: 4B006, 5BN04, 5BN05

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

- Training in programming, analysis, and modelling of biological phenomena. Languages: Python, MATLAB, C.
  UEs: LV229 – LV231 – 3V686 – 4B030

Skills

EXPERIMENTATION ›

- Image and signal analysis and processing
- Epifluorescence imaging & electrophysiology in vivo
- Chemo-genetics (DREADDs)
- Operant conditioning rodents

PROGRAMMATION ›

Advanced
- Python
- MATLAB
- C/C++
- MySQL
- Git & GitHub

Bases
- LabVIEW
- R
- HTML / CSS / JS

COMPÉTENCES TECHNIQUES ›

Domain
- 3D modelling
- Technical drawings & mechanical parts CAM
- Design, prototyping & CAM of PCBs
- Use & maintenance of 3D printers (FDM SLA)

Software
- SolidWorks, Blender
- SolidWorks CAM, Python (custom ISO code prod.)
- Eagle, KiCad (Gerber format output)
- Cura, Simplify3D, PreForm

LANGUES ›

French
Native language

English
2015 - CLES B2 (Sorbonne University)