

## PERSPECTIVES PROFESSIONNELLES

- R&D in Neuroengineering and Computational Neuroscience
- Design and development of applications in neuromorphic computing, brain-machine interface, neuro-robotics, neuro-inspired learning and artificial intelligence
- Design and development of visual, auditory and sensorimotor prostheses
- Development of cognitive and functional stimulation tools
- Tools for modeling, analyzing and processing neural signals

### Université Paris-Saclay

- Cutting-edge scientific and technological education
- Pure and applied research of international scope and reputation

### Saclay site

- A scientific and technological cluster (Neuro-PSI, Neurospin, CEA, INRIA...)
- R&D centres of major industrial groups
- An environment favourable to innovative start-ups

## CONTACTS

U.F.R. Sciences  
91405 ORSAY Cedex- France

### Master program coordinator

Pr. Sabir Jacquir  
sabir.jacquir@u-psud.fr

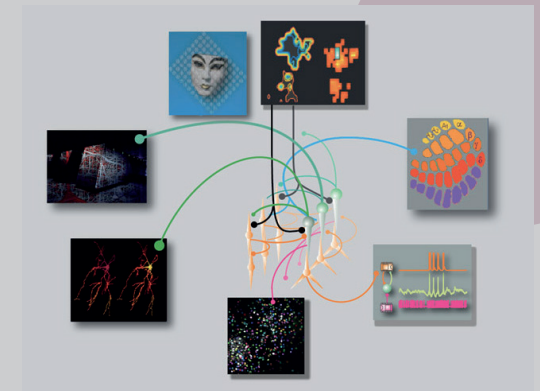
## PARTNERSHIP

### Ecole CentraleSupélec

Renowned and International recognized  
School of Engineering



## MASTER COMPUTATIONAL NEUROSCIENCE & NEUROENGINEERING



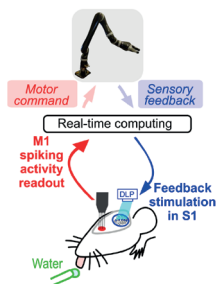
Check the training offer of UP-Saclay  
[www.universite-paris-saclay.fr](http://www.universite-paris-saclay.fr)

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## MASTER COMPUTATIONAL NEUROSCIENCE & NEUROENGINEERING (CNN)

### GOALS OF DIPLOMA

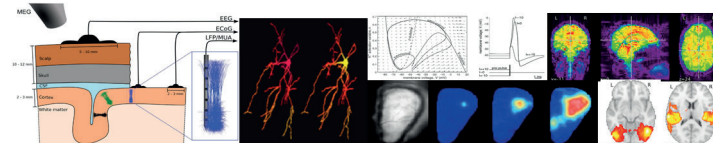
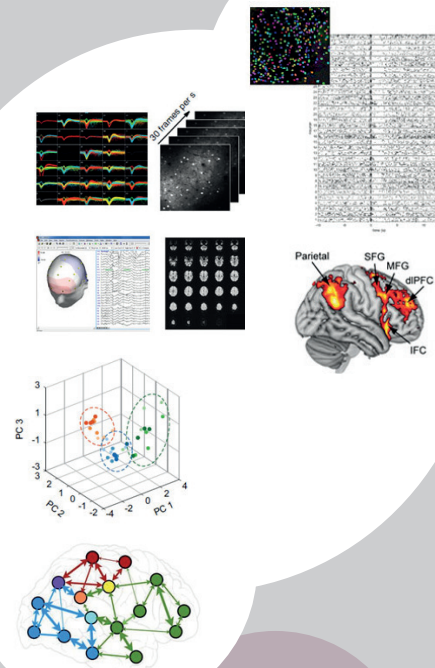
- To train experts in computational neuroscience and neuroengineering.
- To address the problems of perception, processing and transmission of information by the brain through experimental, computational and theoretical approaches.
- To acquire advanced skills in order to develop experimental and simulation skills, technological and computational tools in the following areas:
  - Cognitive and functional stimulation
  - Brain-machine interface
  - Neuromorphic calculus
  - Neuro-robotics
  - Visual, auditory, sensory-motor perception
  - Modeling and processing of neural signals
  - Modeling and analysis of neural networks
  - Functional Brain Imaging
  - Neuro-inspired learning



### INTAKE PROCESS

- Candidates with a sound academic record and a strong motivation for the Master CNN
- Application platform (March to August)

<https://inception.universite-paris-saclay.fr/en/>



### ACADEMIC PROGRAM

**A FIELD AT THE INTERFACE BETWEEN BIOLOGY, NEUROSCIENCE, PHYSICS, MATHEMATICS, COMPUTER SCIENCE, ENGINEERING SCIENCES.**

**A field of excellence, with high visibility in France and in the world.**

- Physiological bases of Neuroscience
- Neural bases of perception
- Dynamical Systems and Computational Neuroscience
- Closed-loop neuroscience
- Experimental Methods for simulating and measuring neuronal activity
- Machine learning
- Research project supervised by experts in the field
- Network of international collaborators for the Master thesis

### ORGANISATION

**Program entirely taught in English**

- **Teaching units** : october to january
- **Master thesis project** : february to august
- **Master thesis defense** : july or september