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

Sacly 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

Check the training offer of UP-Saclay
www.universite-paris-saclay.fr
**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 computing
  - 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 July)
  
  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