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

Contact

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

Master program coordinator
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Ecole CentraleSupelec
Renowned and International recognized School of Engineering

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 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