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Add to Compare

M2 Computational Neurosciences and Neuroengineering

Master's degree

Specialisation Neurosciences

Language(s) of instruction

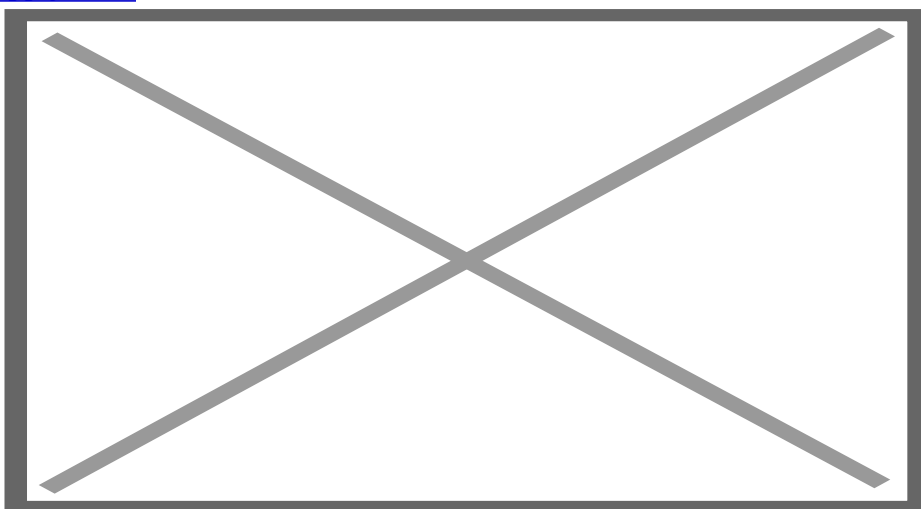
English

One of the greatest challenges of modern science is to understand how the brain processes information — both to replicate its computing and learning capabilities (as in Artificial Intelligence, neuromorphic circuits, and machine learning) and to compensate for its dysfunctions using computational and technological tools (such as Closed-Loop Neuroscience and Brain-Computer Interfaces). These goals are at the core of the M2 Computational Neuroscience and Neuroengineering track.

The Master's programme is divided into two semesters, the first of which consists of six teaching units and a supervised project. The second semester is devoted to a 5-6 month internship.

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Information

- [Overview](#)
- [Application requirements](#)
- [Schedule](#)

Présentation

Skills

To use adequate models, methods, experiments and technological tools. Students have access to a unique interdisciplinary training, enhancing their skills in research, analysis and scientific presentation and developing their ability to work as part of a multidisciplinary team.

Objectives

The Computational Neuroscience and Neuro-engineering Master aims to train students to face problems raised by brain perception, processing and transmission of information. The training program is based on experimental, computational and theoretical approaches, combining neurosciences, physics, applied mathematics and computer sciences at different scales (cell, network, behaviour) and different organizational levels (micro, meso and macroscopic scales). Thanks to the reputation of the laboratories and research teams involved, the Master degree offers a very high level courses programme with a high international visibility. The target of this Master program is to present the concepts, technological achievements, methodological approaches and research challenges in computational neurosciences and neuroengineering. It also aims to raise students' awareness of the theoretical, experimental, applicative, entrepreneurial and ethical themes of Neurosciences using the concepts of Physics and Engineering Sciences. The CNN Master's degree trains future engineers, researchers and lecturers specialized in Computational Neurosciences and Neuroengineering with an interdisciplinary culture and approaches ranging from theory to experimentation by combining computational methodologies. Engineer jobs and Phd projects in academic, industrial laboratories, integration in R-D departments in France or abroad, represent the main opportunities. The CNN

Master courses programme targets students with a range of backgrounds, including Life Sciences, Computing Science, Mathematics, Physics and Engineering. One part of the courses is focused on the theoretical approaches and the remainder is focused on a research project. Student will achieve the CNN Master with his own skills and interests. During the first semester, lectures such as the physiological bases of neurosciences, the neural bases of perception, the techniques for measuring and stimulating neural activity, the processing and analysis of neural signals, the dynamic systems in neuroscience, will provide the necessary tools to understand the complex phenomena involved in processing and transmitting information in the brain. A supervised scientific project will complete the students' training during the semester one. Semester two begins with a research internship of three to six months. This internship gives students real research experiences in computational neurosciences and neuroengineering. They will have the opportunity to work closely with a leading research team in the academic laboratories and opportunities will be created to work on industry lead projects. They will benefit from the supervision of experienced researchers. The project can be carried out with a research group at University Paris-Saclay, with an industrial partner or with a research institute in France or worldwide.

Débouchés

Career prospects

After a Master's + PhD: researcher or lecturer

Research and Innovation Manager

Design engineer industry / public research

Design engineer in the research / scientific sector

Lecturer (after a PhD)

Academic staff

Research or Design Engineer

Research & Development Engineer

Further Study Opportunities

R&D researcher or data modelling and analysis expert in leading-edge companies or laboratories.

Data Scientist, Data Analyst, Ingénieur·e en Machine Learning dans des secteurs innovants (tech, finance, santé, énergie, etc.) ;

PhD

fields of statistical learning, artificial intelligence and advanced data analysis

train international specialists, producing competitive work within reputable teams from public scientific and technological institutions (EPST), in particular the French National Institute of Health and Medical Research (Inserm) and French National Centre Engineering, research and development
Master of Neurosciences
Research dissertation
PhD thesis

Admission

Admission Route

Computer Science
Mathematics
Physics
Life Sciences
Health sciences
Science and Technology
Engineering Sciences
Undergraduate double degree Mathematics - Physics

Capacity

Available Places

16

Target Audience and Entry Requirements

The Computational Neuroscience and Neuroengineering (CNN) Master's program is designed for students from diverse academic backgrounds, including life sciences, computer science, mathematics, physics, and engineering.

- Student with level equivalent to Master 1 or Master 2
- Student with level equivalent to engineer degree
- English level equivalent to B2 certification

Période(s) de candidature

Inception Platform

From 15/02/2026 to 30/06/2026

Supporting documents

Compulsory supporting documents

Copy diplomas.

Motivation letter.

Letter of recommendation or internship evaluation.

List of other masters requested (excluding Saclay).

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Curriculum Vitae.

Fiche de renseignements.

Additional supporting documents

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Supporting documents :

- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Details of the UEs taken for candidates outside the M1 Paris Saclay.

Programme

Master thesis Internship

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	practical class	directed study/practical class	distance learning
Internship	30	Semestre 2							



[Charger le détail](#)

Tronc commun Computational Neuroscience and Neuro-engineering

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
Sensory systems and perception	3	Semester 1	25						
Charger le détail									
Machine learning	3	Semester 1	17		8				
Charger le détail									
Physiological bases of neuroscience	3	Semester 1	25						
Charger le détail									
Supervised project	12	Semester 1		50					
Charger le détail									
Closed loop neuroscience	3	Semester 1	25						
Charger le détail									
Manipulating and recording neuronal activity	3	Semester 1	13		12				
Charger le détail									
Dynamical systems and computational neuroscience	3	Semester 1	19		6				
Charger le détail									
Methods in cognition	3	Semester 1	2	9	9				
Charger le détail									
Human developmental cognitive neurosciences	3	Semester 1	16	4					
Charger le détail									

Elective courses in CNN

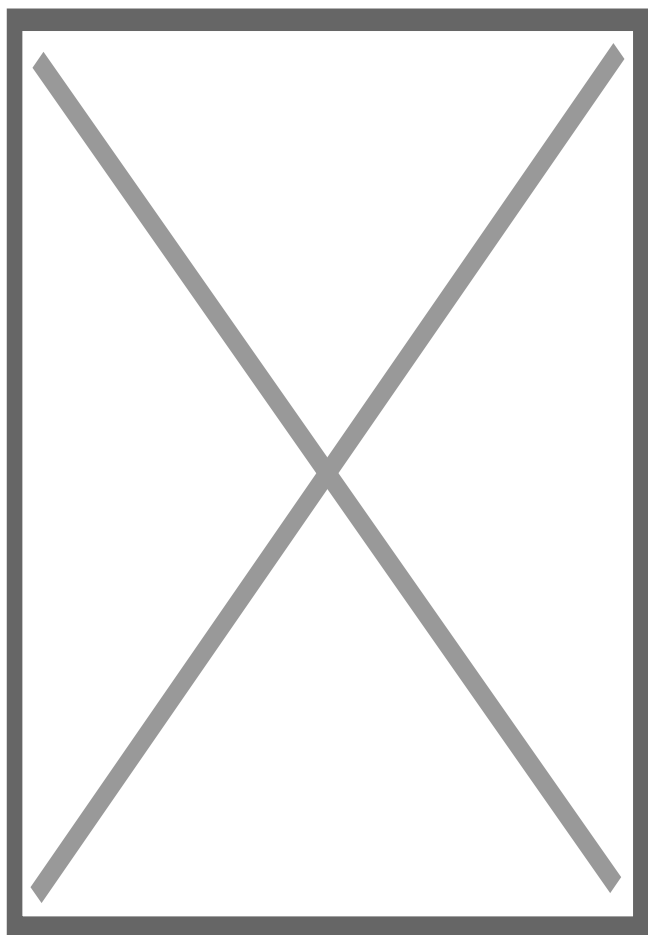
Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	d
Methods in cognition ■	3	Semester 1	2	9	9				
Charger le détail Human developmental cognitive neurosciences ■	3	Semester 1	16	4					
Charger le détail Medical Image Processing ■	3	Semester 1	25						
Charger le détail									

Teaching Location(s)

SACLAY

Training campus

Javascript est requis pour visualiser cette carte.



Orsay Bures

Orsay / Bures-sur-Yvette

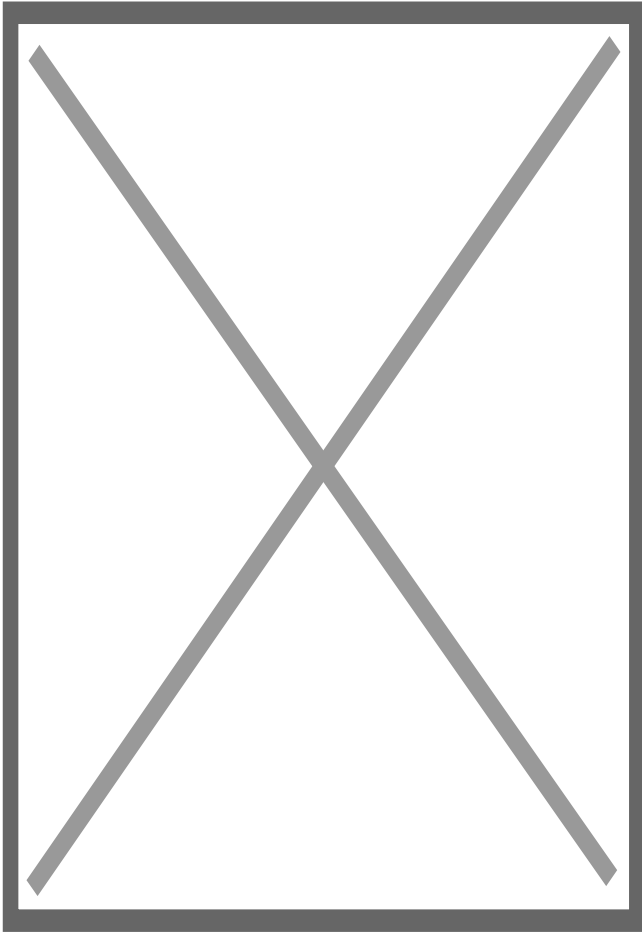
Bus 4607, 4626

RER B Orsay ville ou Bures-sur-Yvette

[Voir](#)

Library

Community center



Saclay Moulon

Saclay / Gif-sur-Yvette / Orsay

Bus 4606 / 4609 / 4611 / 5154

RER B Le guichet

[Voir](#)

Student restaurant (CROUS)

Library

Sports facilities

Student residence

Contact

- **Sabir Jacquir**

PR

<http://www.universite-paris-saclay.fr/formation/master/neurosciences/m2-computational-neurosciences-and-neuroengineering>