Université Paris-Saclay

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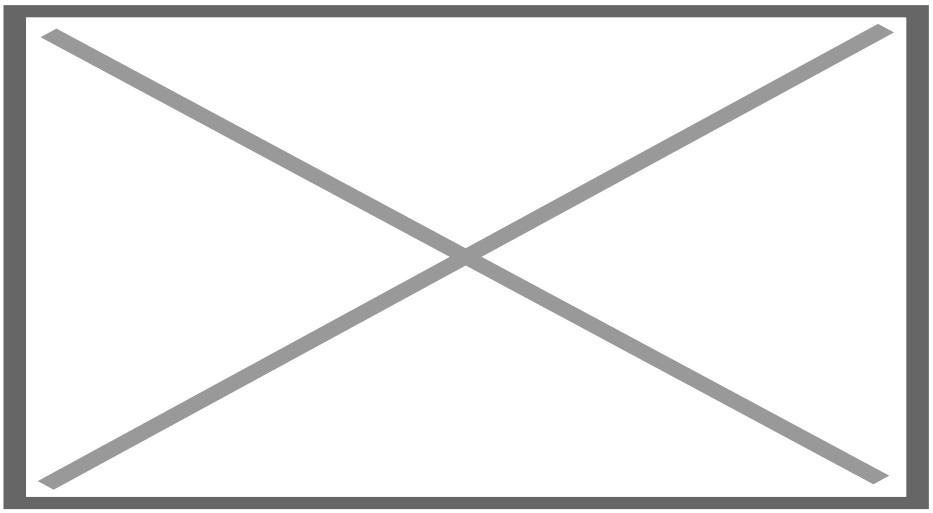
M2 Evolution of Genomes, Populations and Species: Data and Models (EvoGEM)

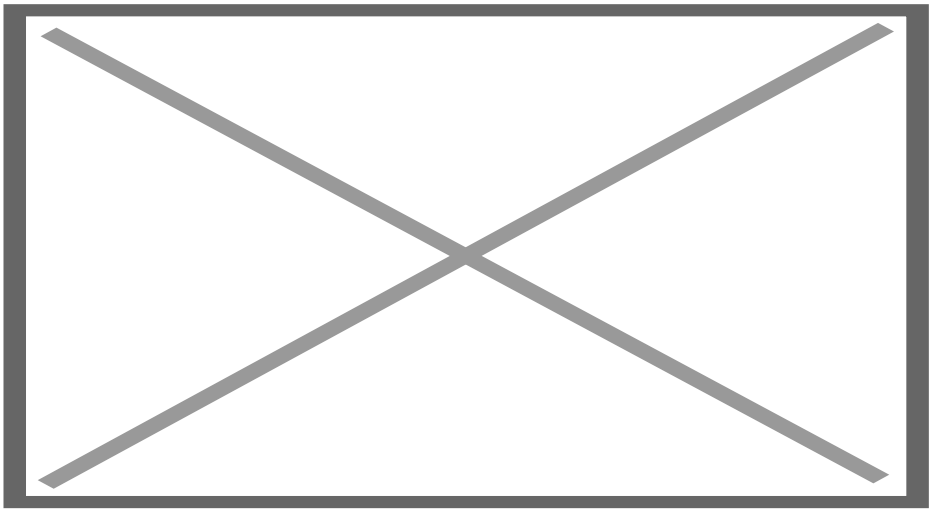
Master's degree
Specialisation Biodiversity, Ecology, Evolution
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
English
French

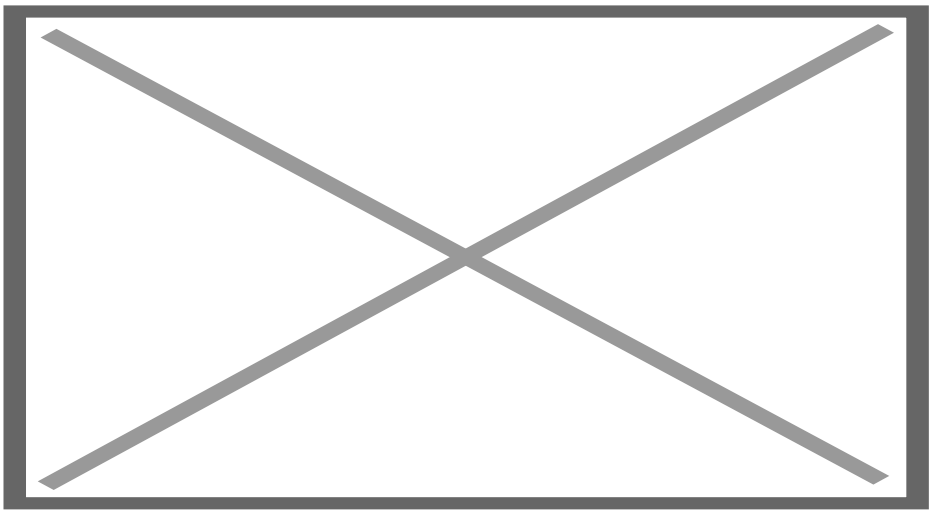
2nd year Master's in Evolutionary Genetics

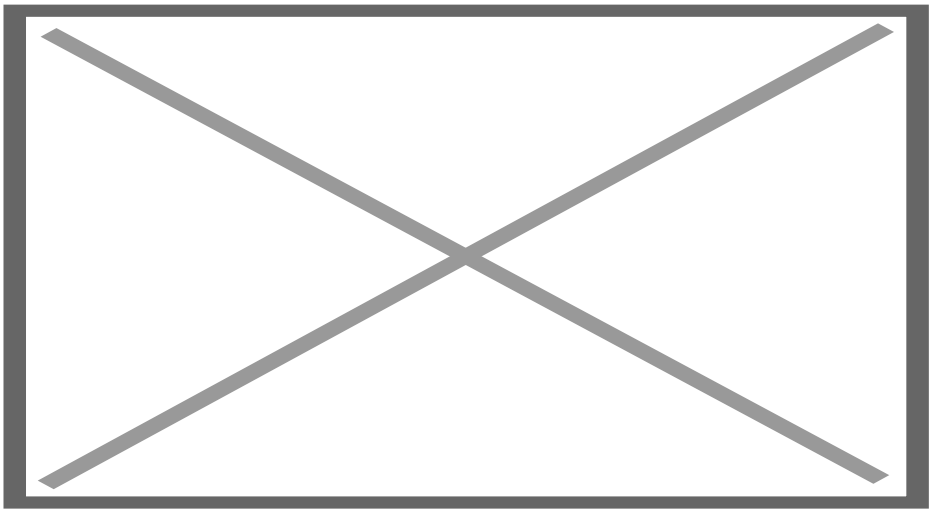
3 refresher TUs (Mathematics, Biology, Computer Science) without ECTS, 6 TUs in Semester 1 (Theory of evolution, Random models in ecology and evolution, Population genetics, Quantitative genetics, Comparative analyses in phylogeny, Advanced mathematics for evolutionary genetics, Cross-disciplinary project), followed by an internship in Semester 2.

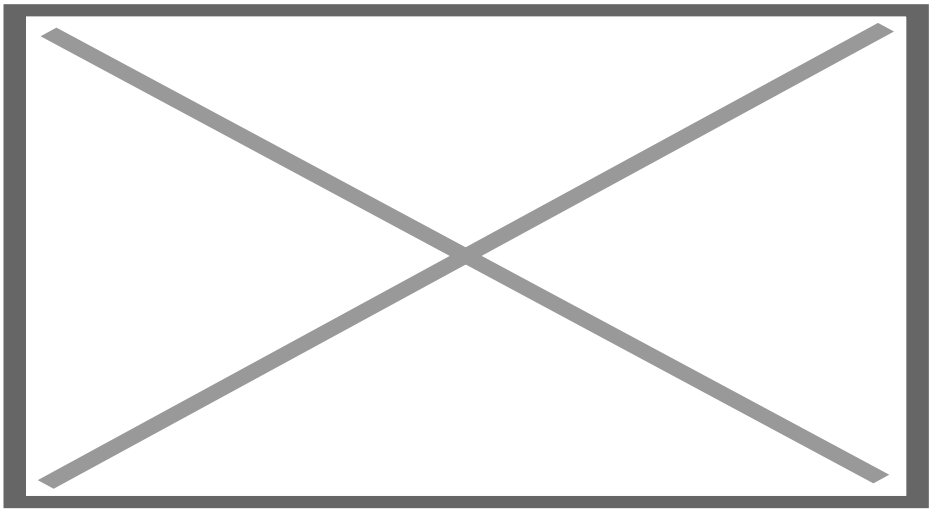
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

A robust and evolving general culture

Objectives

The genomic approach has revolutionised almost every field of life sciences, with applications in medicine, epidemiology, ecology, microbiology, plant breeding and conservation biology. More than ever, research in these fields relies on the evolutionary sciences and requires substantial theoretical and methodological developments. These developments are essential for integrating the complexity and heterogeneity of data, and for refining our understanding of evolutionary mechanisms within populations, species and ecosystems. The 2nd year Master's EvoGEM aims to acquire solid expertise in evolutionary genetics, with a specialisation in modelling, mathematics, bioinformatics and genomics. EvoGEM is being developed in collaboration with four other establishments in the Paris region. The involvement of researchers in the curriculum reinforces the curriculum-research continuum.

Admission

Capacity

Available Places

20

Target Audience and Entry Requirements

This curriculum is aimed at French and foreign students from universities and engineering schools in the fields of study of mathematics, computer science or biology, who have shown an interest in either biology or data modelling and processing, depending on their background. Students must therefore: * Have a 1st year Master's in life sciences or equivalent, and have good mathematical and computer competencies (programming and software use)or * Have a 1st year Master's in mathematics/physics/computer science, with a strong interest in biological issues.

Période(s) de candidature

Inception Platform

From 01/05/2026 to 30/06/2026

Supporting documents

Compulsory supporting documents

Motivation letter.

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.

Detailed description and hourly volume of courses taken since the beginning of the university program.

Additional supporting documents

Letter of recommendation from a trainee.

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.

Proof of comparability of diplomas (compulsory for students who can not justify a university degree) https://www.enic-naric.net/.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
Refresher course in computer science	0	Semester 1	2		21				
Charger le détail									
Refresher course in mathematics	0	Semester 1	21	15					
Charger le détail									
Refresher course in biology	0	Semester 1	13						
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
Theory and models in evolutionary biology	3	Semester 1	27						
Charger le détail									
Genomes Populations Species (GPS)	6	Semester 1	34.5	6	7.5				
Charger le détail									
Quantitative genetics (Qg)	6	Semester 1	24	24					
Charger le détail									
Phylogenetic Comparative Analysis (PCA)	6	Semester 1	27		21				

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co

Charger le détail

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le c
Advanced Mathematical Modeling for Evolutionary Genetics (MAGE)	3	Semester 1	27						

Charger le détail

Modèles aléatoires en Ecologie et en Evolution	3	Semestre 1	15	12					

Charger le détail

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distan learn cour
Tutored projects (PRO)	3	Semester 1	8						

Charger le détail

Internship	30	Semester 2							

Charger le détail

Contact

- **Christine DILLMANN**
- **Pierre GERARD**

http://www.universite-paris-saclay.fr/formation/master/biodiversite-ecologie-et-evolution/m2-evolution-des-genomes-des-populations-et-des-especes-donnees-et-modeles-evogem