Université Paris-Saclay
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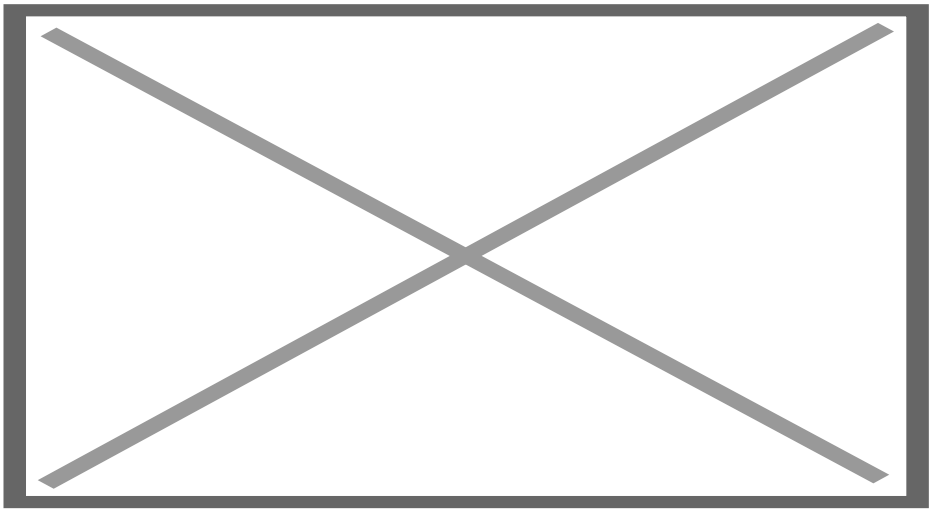
M1 Genome biology - Orsay campus

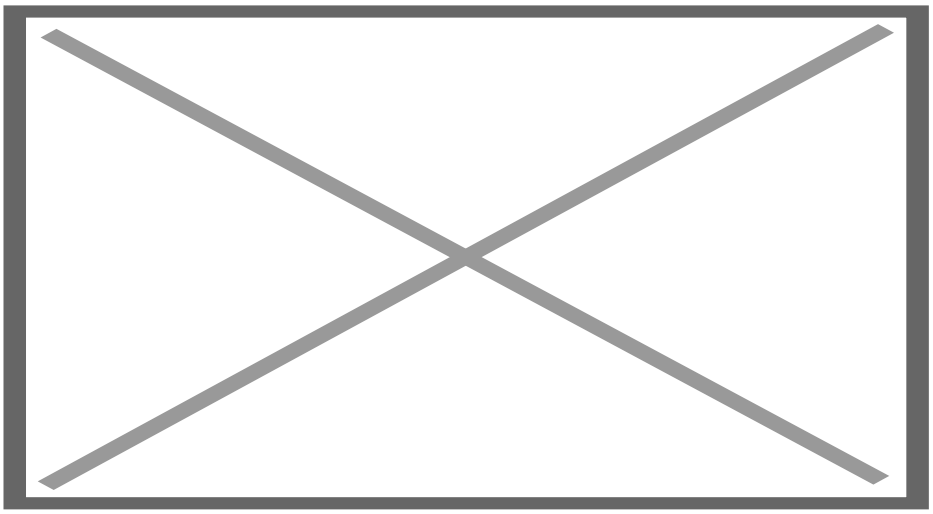
Master's degree
Specialisation Biologie moléculaire et cellulaire
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
English
French

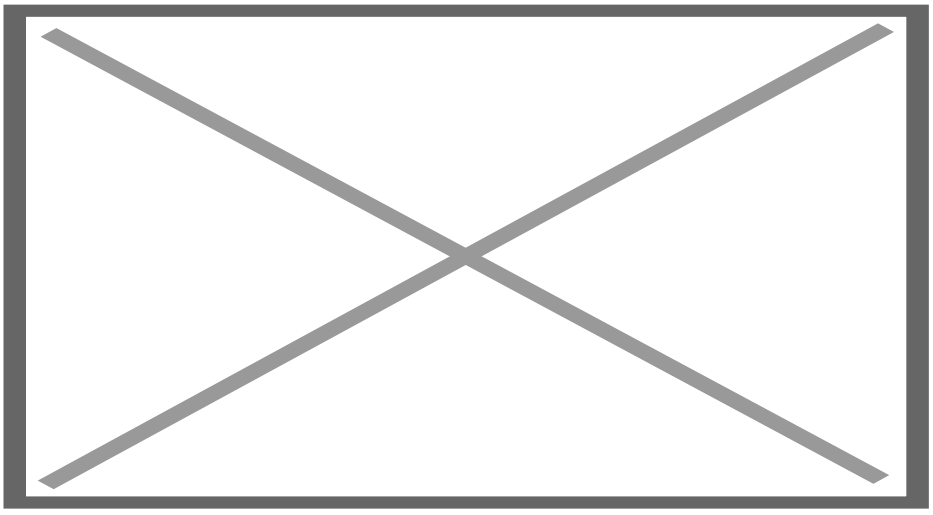
Do you have a passion for genetics, molecular biology and innovation in the life sciences? Join the Genome Biology course. This course offers a curriculum of excellence, combining theory and practice, to understand the structure, dynamics and functioning of genomes, their regulation and applications in biomedical research and biotechnology.

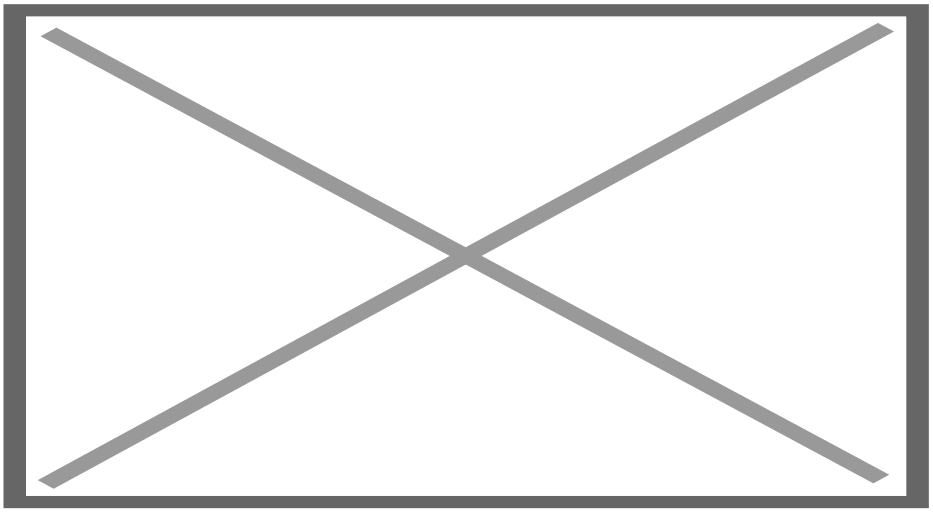
The **1st year Master's BMC Genome Biology** is organised around four blocks of knowledge and competencies: **Methods and Fundamentals for the Study of Living Organisms** (12.5 ECTS) A springboard to an integral understanding of the life sciences! Strengthen key disciplines (scientific English, cellular and molecular biology, biochemistry, cell signalling and genomics) while developing the essential methodological competencies for analysing biological systems. **Genome Biology Major** (25 ECTS) Give your 1st year Master's a specific focus by choosing from among the many TUs offered in the core of your course. **Minor (10 ECTS)** Broaden your scientific culture to develop a cross-disciplinary approach. **Immersion in Research** (12.5 ECTS) Dive right into the heart of research: Draft a bibliographic dissertation and complete an 8-week laboratory internship. For the more inquisitive, combine the core TUs of two Majors to develop a double course.

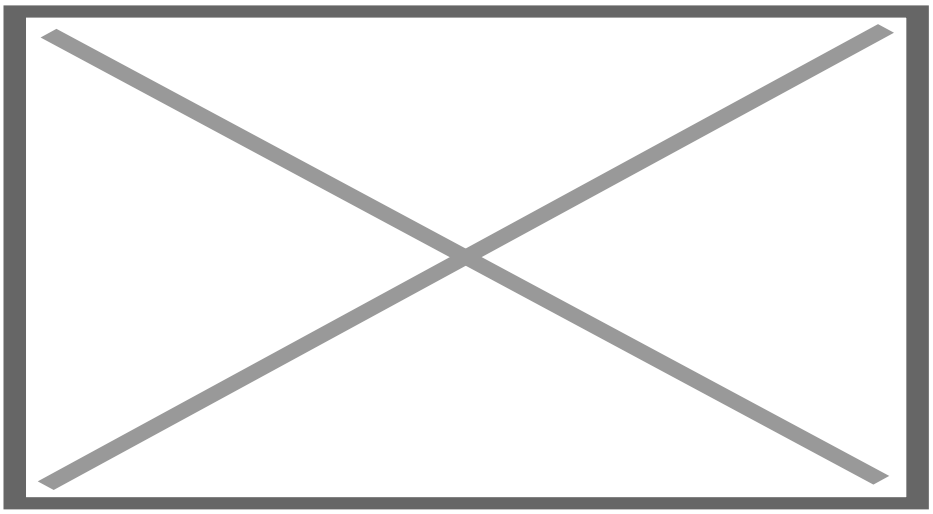
Télécharger la fiche détaillée
Apply Now











Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

Competency 1: Scientific approach C1. Take a scientific approach, develop innovative ideas and produce new knowledge. Competency 2: Expertise, critical thinking and self-training C2. Acquire highly specialised disciplinary knowledge and methodologies in one field and at the interface of several fields of work (complex interdisciplinarity) Competency 3: Scientific communication C3.3: Extract and scrutinise relevant information from scientific documents or lectures in English. Competency 4: Professional soft skills C4. Analyse and adapt actions to a professional context

Objectives

The Genome Biology course prepares you for deciphering the structure, functioning, evolution and alterations of genomes. You will **consolidate your disciplinary foundations**, learn to **analyse scientific literature**, **lead projects** and **work on specific problems**, while enjoying the freedom to **personalise your course** according to your preferences and ambitions. *Plan your course now using the online tool: \https://master-biologie-sante.eu/parcours/index.php]*. In particular, you will explore the multiple scales of genetic and epigenetic regulation of gene expression, with a focus on functional genomics and its applications. You will also learn how genetic diversity, at both the individual and population level, modulates phenotypes and leads to susceptibility to certain pathologies. You will develop your competencies in cutting-edge experimental and technological tools (transgenesis, viral models, biotechnologies, etc.), as well as in bioinformatics and multiomics analysis, essential for exploiting large datasets and meeting the challenges of modern genomics. You will develop both practical and conceptual expertise, preparing you for careers in basic or applied research in burgeoning fields including biomedicine, biotechnology and applied genomics.

Débouchés

Career prospects

After a Master's + PhD: researcher or lecturer
Research & Development Engineer
Research and Innovation Manager
Research or Design Engineer
Research professions

Further Study Opportunities

M2 Tissue, Cell and Gene Biotherapies
M2 Gene, Cell, Development and Diseases
M2 Genetics, Genomics, Epigenetics and Evolution
M2 Human Genomics In Biotherapy, Health and Disease
2nd year Master of Oncology
2nd year Master's Training in Higher Education in Life Sciences: 'Agrégation' Life Sciences - Earth and Space Sciences

Admission

Admission Route

Life Sciences
Life and Earth Sciences

Capacity

Available Places

15

Target Audience and Entry Requirements

Hold a National undergraduate degree in Life Sciences or Life and Earth Sciences, obtained before September 1st of the academic year for which you are applying. Have a solid foundation in the fundamentals of biology: Molecular biology, cell biology, biochemistry, genetics. Must have validated TUs in the 2nd/3rd year undergraduate degree in line with the themes of the relevant course. For international French-speaking students: Have a diploma equivalent to an undergraduate degree in Life Sciences, guaranteeing the same prerequisites, obtained before 1st September of the academic year for which you are applying. If your full-time academic programme is highly specialised, we recommend that you first apply for a 3rd year undergraduate degree in Life Sciences (National diploma). Required level of French: C1 (certification). For English-speaking international students: You may apply to the International track in France if you graduated with a Bachelor degree, major in Biology, or if you will graduate before Sept 1st of the academic year for which you apply.

Période(s) de candidature

Inception Platform

From 15/01/2026 to 16/03/2026

MonMaster Platform

From February 17th to March 16th, 2026

To find out which platform you should apply through, please see the Masters' applications and enrolment page.

Supporting documents

Compulsory supporting documents

Motivation letter.

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

Curriculum Vitae.

Additional supporting documents

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

Cette fiche n'est pas demandée si vous êtes ou serez diplomé·e d'une Licence ou d'un Bachelor obtenu en France ou à l'international.
Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
Formation Préparatoire	0	2	22,5	7,5				
Méthodes et Fondamentaux pour l’Exploration du Vivant	0	2	22,5	7,5				
Immersion Recherche	0	3	22,5	7,5				
Mineure BDG	0	9	22,5	7,5				
Majeure 1 (Double Majeure BDG)	0	1	22,5	7,5				
Majeure 2 (Double Majeure BDG)	0	5	22,5	7,5				

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Formation Préparatoire	0	2	22,5	7,5				
Méthodes et Fondamentaux pour l’Exploration du Vivant	0	2	22,5	7,5				
Immersion Recherche	0	3	22,5	7,5				
Majeure BDG	0	1	22,5	7,5				
Mineure BDG	0	9	22,5	7,5				

Training campus

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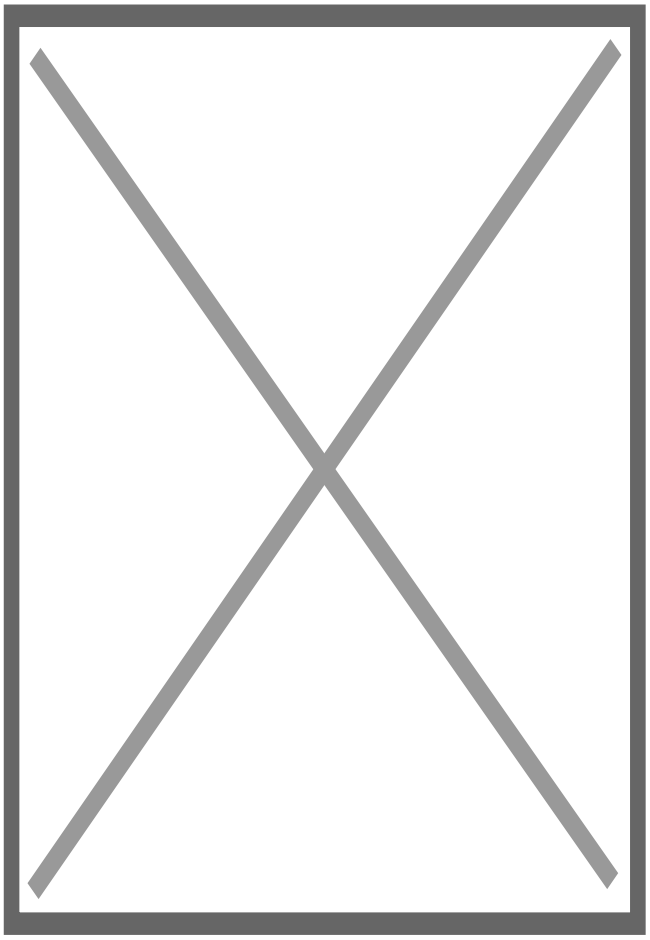
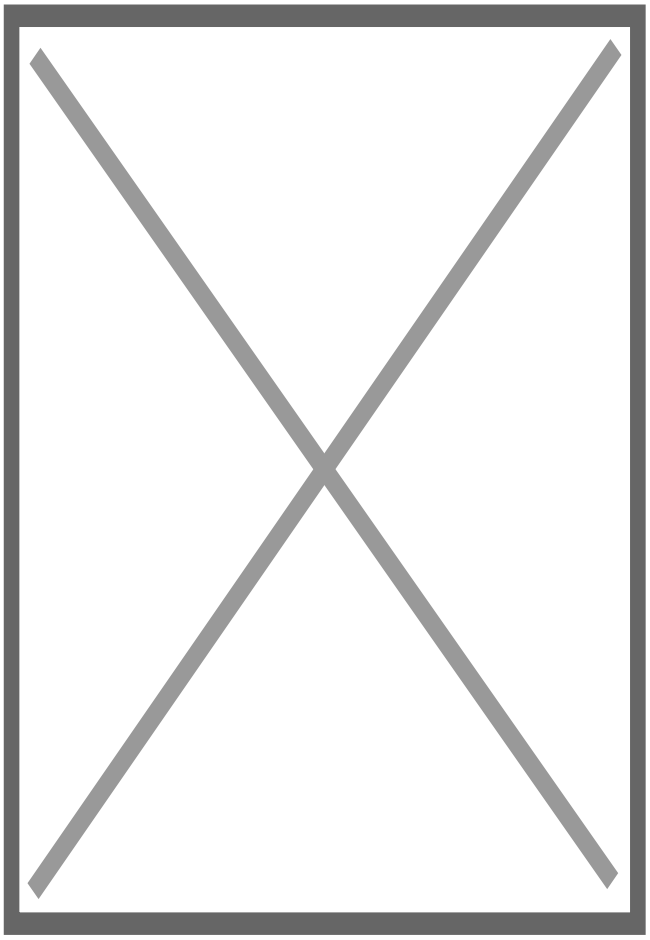


Orsay Bures

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

- **Patricia Uguen**

http://www.universite-paris-saclay.fr/formation/master/biologie-moleculaire-et-cellulaire/m1-biologie-des-genomes-site-orsay