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M2 Immunology.

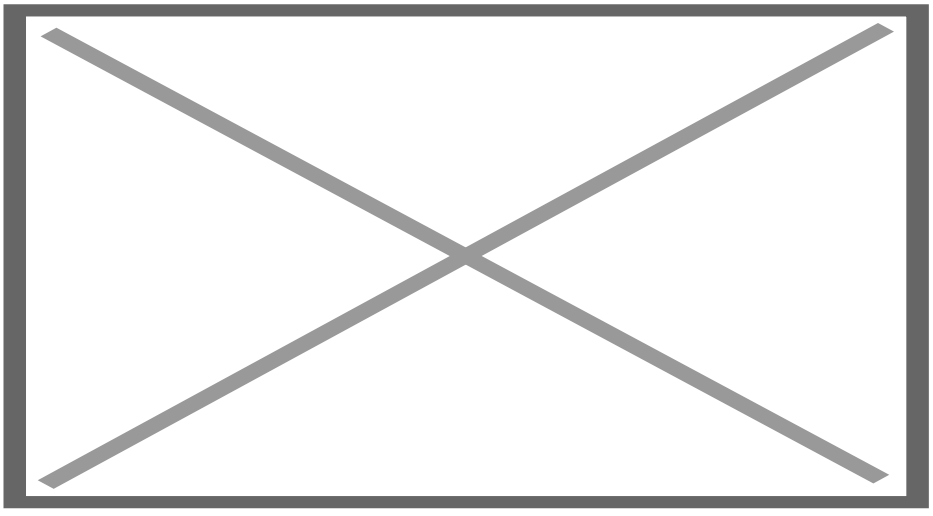
Master's degree
Specialisation Biologie moléculaire et cellulaire
Language(s) of instruction
English
French

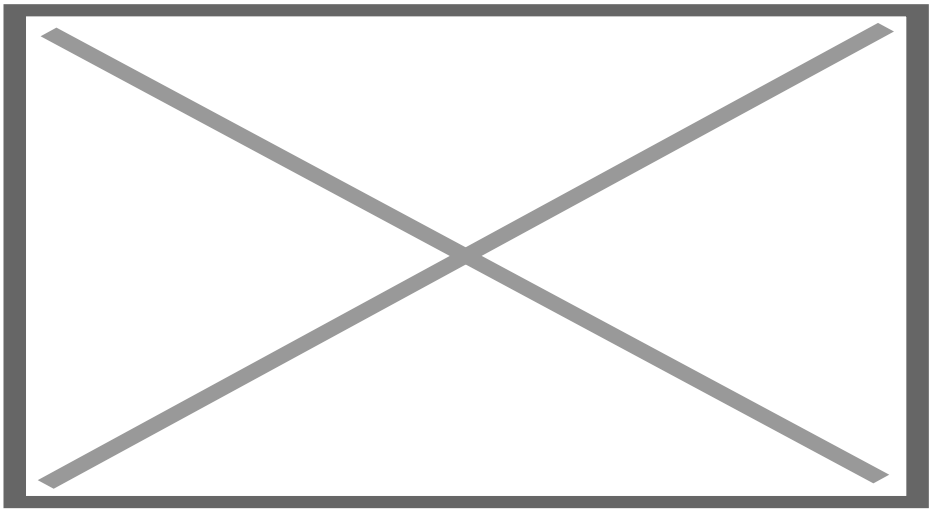
Would you like to understand immunology and transform healthcare? Join the Master's in Immunology to become a specialist in the immune system. You will study its fundamental mechanisms and their recent clinical applications. Backed by biomedical research, this program explores our defences during infections, cancers, autoimmunity and allergies, and offers recognized expertise to science students, medical doctors, pharmacists, veterinarians and engineers.

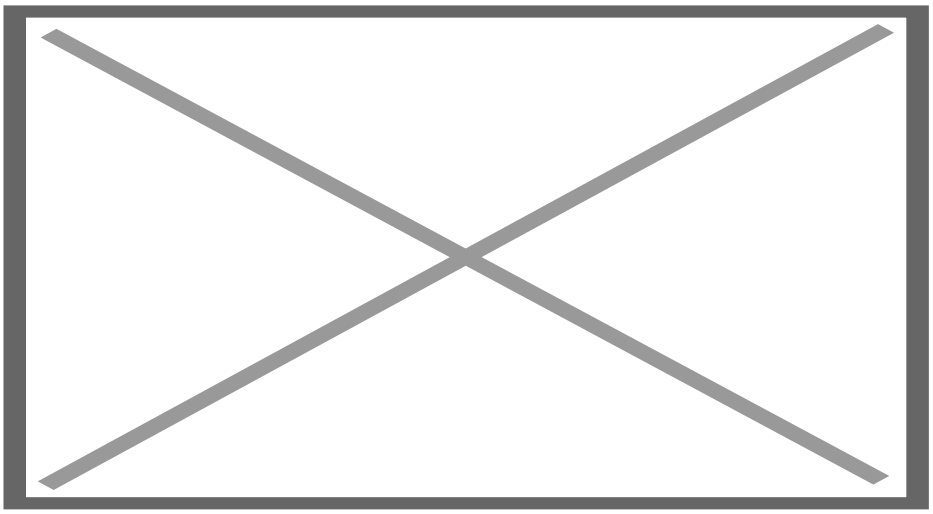
The Master's in Immunology offers in-depth training on the immune system, from its development to physiological and pathological responses and ageing. Taught by researchers, lecturers and clinicians, it provides an integrated view of immunology and its applications in health, particularly immunotherapies for infectious diseases, cancers, autoimmunity and allergies.

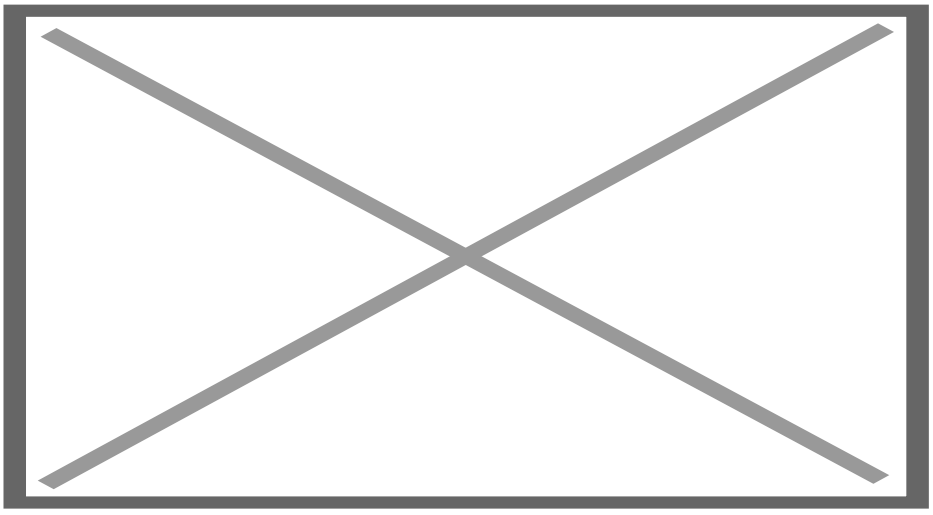
The Immunology program trains specialists with solid, practical expertise who master the diagnostic and therapeutic tools developed in this field. Backed by the Master's degrees in Molecular and Cellular Biology and Health Engineering, it also welcomes students from the Microbiology and Neurosciences programs at Paris-Saclay University. Open to science students, medical doctors, pharmacists, veterinarians and engineers, it provides demanding and rewarding preparation for careers in research and health.

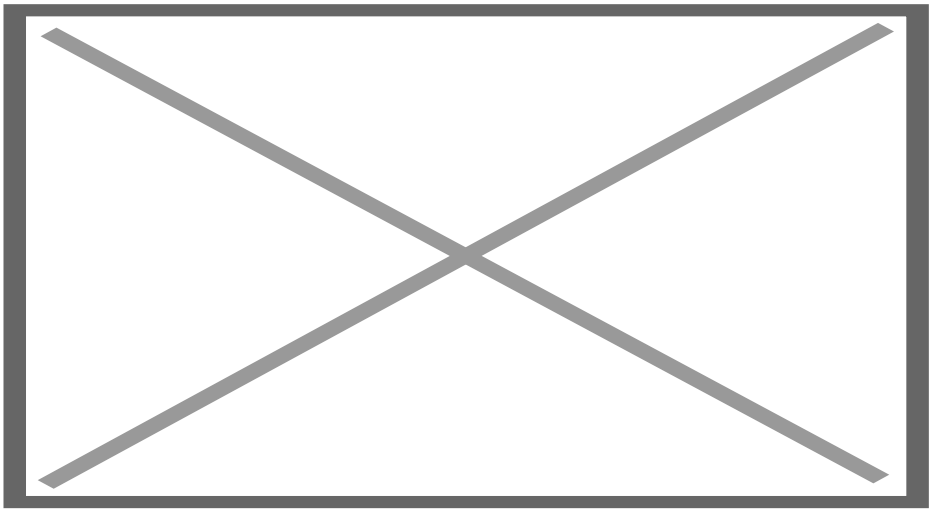
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

The Master's degree in Immunology will enable you to develop your skills in the following areas:

1 - Conducting scientific research, developing innovative ideas, and generating new knowledge.

- Drawing on scientific literature in immunology to define and justify working hypotheses.
- Ensuring the technical feasibility of planned experiments, their compliance with ethical rules, and their environmental impact.
- By complying with good laboratory practices and hygiene, environmental, and safety rules when conducting experiments.

Critical learning outcomes:

1.1: Formulate issues and working hypotheses enabling the design and implementation of a project in immunology and/or at the interface between immunology and other fields of biology.

1.2: Design an experimental approach.

1.3: Establish, carry out, and optimize experimental protocols.

1.4: Produce, validate, and analyze scientific data.

2. Acquire highly specialized knowledge and methodologies in immunology and at the interface with other fields of biology or science (interdisciplinarity)

- Using bibliographic resources (databases, scientific journals) and bibliography software.
- Demonstrating critical thinking.

Critical learning outcomes:

2.1: Update theoretical and technological knowledge by monitoring the state of research.

2.2: Independently synthesize and structure a state-of-the-art review on a specific issue in a context related to scientific research and/or research and development.

2.3: Learn to use new technological tools.

3. Communicate and argue about scientific concepts and data

- By expressing oneself clearly in writing and orally, in English or French, in a manner appropriate to the audience.
- By complying with academic standards in science reports, projects, and publications.
- By using the appropriate digital tools (text, slideshow, binder, poster, online document).

Critical learning

3.1: Extract and question relevant information from a scientific document or lectures in English.

3.2: Structure and present scientific data and concepts to specialists or novices.

3.3: Argue the methodological choices and interpretations of a study.

4. Analyze and adapt actions to a professional context

- By adopting ethical, professional, honest, and responsible scientific behavior.
- By demonstrating reflexivity in one's work.

Critical learning

4.1: Work independently and collaborate with team members to achieve common goals.

4.2: Interact with partners outside the team, whether national or international, scientific or non-scientific (public bodies, suppliers, sales representatives, etc.).

4.3: Organize and plan your work time in order to meet deadlines.

Objectives

The Immunology track of the Molecular and Cellular Biology program trains experts in immunology. It will provide you with solid knowledge and skills in the various fields of the discipline, with an emphasis on diagnostic and therapeutic applications. By studying immunology, you will be engaging in a key discipline of biology and medicine. You will contribute to discoveries of innovative treatments and advances in biotherapies in a rapidly growing field that combines fundamental research and clinical practice.

By completing this program, you will develop a thorough understanding of the concepts and mechanisms of fundamental immunology, from the development of the immune system to its normal activation, pathological disorders, and aging. You will delve into the heart of immunotherapies, biotherapies, and cell therapies, oncology, transplants, host-infectious agent relationships, and autoimmune and inflammatory diseases.

You will learn about research project implementation methodologies (statistical analysis, regulatory and ethical aspects, commercialization) and innovative investigative techniques used in immunology research (e.g., systems biology, high-throughput quantitative approaches, genome editing). This expertise will be acquired during a six-month internship in a laboratory of excellence at research institutes and hospitals in the Paris region, elsewhere in France, or abroad. The internship may also be carried out in a private organization.

By completing our program, you will

- master the concepts and mechanisms of fundamental immunology
- learn how to conduct bibliographic research and critically analyze scientific articles
- acquire skills in presenting projects and results, both in writing and orally, in French and English, as well as in discussing them with a jury
- learn how to apply your knowledge to your research project, design and implement an experimental protocol, analyze, interpret, and format your results, and integrate into a research team.
- master basic health and safety rules and learn how to work in a team.
- be able to assess your knowledge and skills in immunology.

Débouchés

Career prospects

After a Master's degree: Data scientist
After a Master’s degree: Research analyst
After a Master's + PhD: researcher or lecturer
After a Master's or Master's + PhD: researcher or lecturer
After a Master's or Master's + PhD: engineer (R&D, control, production, etc.)
After a Master's or Master's + PhD: engineer (research and development, control, production, etc.) in the fields of health, pharmaceuticals, agri-food, biotechnologies, instruments and reagents, cosmetics, pollution control and the environment.
After a Master's or Master's + PhD: engineer (Research & Development, control, production, etc.)
Data scientist

Design engineer in the industrial sector
Lecturer (after a PhD)
Research Engineer
Design Engineer
Research professions

Further Study Opportunities

Clinical Research associate or assistant course
Further curricula in innovation management
Master of Innovation Management
Specialised Master’s programmes (MBA in Project Management, Business, and Innovation Management in the Bio-industries)
PhD thesis
Engineering, research and development

Calendar

Start of programme (indicative date)
26/10/2026
End of programme (indicative date)
02/07/2027
Admission

Capacity

Available Places

25

Target Audience and Entry Requirements

This program is intended for science students, doctors, pharmacists, veterinarians, and engineers who have completed Master's 1 (M1) immunology teaching units (TU). These immunology TUs must have been completed at a French university. A very high level of general scientific knowledge, immunology and language skills (French (minimum C1) and English (minimum B2)) is required.

The Master's in Immunology is open to:

- Science students with a Bachelor's and Master's degree in Molecular and Cellular Biology or Health Engineering. It is also open to students majoring in Microbiology and Neuroscience at Paris-Saclay University, as well as those from other French universities offering equivalent programs. The

prerequisites for these students are to have validated at least two M1 Immunology TUs.

- - Medical students who have completed a Master's 1 degree including 2 ECTS credits in immunology (1 ECTS credit on an exceptional basis for a profile reinforced by another immunology course such as a DU or DIU).
- Pharmacy students who have completed a M1 program including one or two TUs in immunology.
- Students from engineering schools and veterinary schools who have completed a solid course of study in biology and immunology.

Période(s) de candidature

Inception Platform

From 07/04/2026 to 30/06/2026

Supporting documents

Compulsory supporting documents

Motivation letter.

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

Certificate of English level.

Curriculum Vitae.

Additional supporting documents

Document at your convenience.

Certificate of English level (compulsory for non-English speakers).

Certificate of French (compulsory for non-French speakers).

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

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.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practic class
Immunologie Cellulaire Approfondie - UPSaclay	3	Semestre 1	30					
Charger le détail								
Immunopathologie et innovations thérapeutiques en autoimmunité - UPSaclay	3	Semestre 1	23	6				
Charger le détail								
De la cellule souche à l'immunité fonctionnelle	3	Semestre 1	28					
Charger le détail								
Outils et Plateformes Technologiques pour l'Immunologie UPSaclay	3	Semestre 1	20	6				
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dista lear cou
Stage en Laboratoire	30	Semestre 2							
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practic class
Immunité et vieillissement : de la physiologie à la pathologie	3	Semestre 1	24					

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practic class
Charger le détail Inflammation et réponse innée anti-infectieuse - UPSaclay	3	Semestre 1	24	4				
Charger le détail Immunothérapie des cancers - UPSaclay	3	Semestre 1	22					
Charger le détail Immunologie anti-virale - UPSaclay	3	Semestre 1	26	4				
Charger le détail Analyse multiparamétrique des voies de signalisation à l'échelle cellulaire - UPSaclay	3	Semestre 1	7		18			
Charger le détail UE libre Catalogue S1	2.5	Semestre 1						
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
Communication orale en anglais - UPSaclay	3	Semestre 1	2	2				
Charger le détail Projet de stage	9	Semestre 1	0	2				
Charger le détail								

Teaching Location(s)

ORSAY

CRETEIL
LE KREMLIN BICETRE
VILLEJUIF

Contact

- **Géraldine SCHLECHT-LOUF**

  PR
- **Olivier LAMBOTTE**

  PU PH

http://www.universite-paris-saclay.fr/formation/master/biologie-moleculaire-et-cellulaire/m2-immunologie