

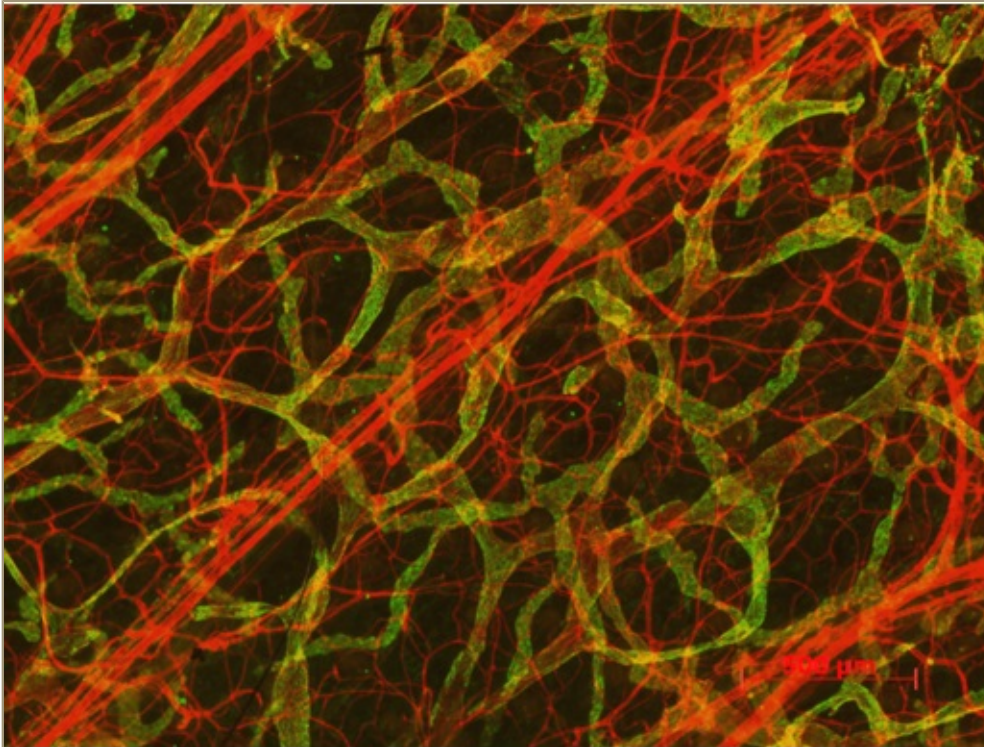
Master in Biology

Physiology Epigenetics Development cell Differentiation (PhEDD)

Presentation

Scientific and professional objectives of the "Physiology-Epigenetics-Development-Cell Differentiation" (PhEDD) Master program.

At the end of this 2 year Master program, the enrolled students should be able to master the theoretical knowledge and the technical expertise in the fields of Physiology, Cell Biology, Molecular Biology, Cancer and Cell Differentiation, be fluent in English (oral communication and writing skills for the preparation of research projects and scientific reports), have acquired an expertise in synthesizing bibliographic data, be able to propose autonomously a research project and develop it using the most advanced technological equipment.



Le réseau sanguin et lymphatique dans l'oreille de la souris : un modèle d'étude du développement des vaisseaux sanguins.
Laboratoire de Biologie du Cancer et de l'Infection, INSERM U 1036, CEA Grenoble

At the end of this 2 year Master program, the students should be able to undertake a PhD program in the fields of Physiology, Epigenetics, Development, Cell Differentiation, or become an engineer in one of the aforementioned fields.

The first year of the IMID Master program ("Molecular and Cellular Biology" program) is meant to complete the general scientific background of the enrolled students in various fields of Biology (Cell Biology, Genetics and Biochemistry) (first semester of the Master 1 program), introduce the students to their specific Master 2 program by offering them specialized courses (second semester of the Master 1 program), introduce the students to a research project, from its conception to its experimental undertaking and up to the report of the obtained results by an oral presentation as well as a written report (module of 18 ECTS during the first semester of the Master 1 program; internship of 2 months in a research laboratory or in a R&D laboratory from a private company), allow the students to develop their written and oral skills for the search of internships and/or jobs as well as for the presentation of research projects and experimental results (mandatory modules of 3 ECTS - "Communication tools" - and 18 ECTS during the first semester of the Master 1 program, 2 month internship during the second semester).

Registration and scholarships

- to the first year of the Master's degree in Biology ("Molecular and Cellular Biology" program): if you have completed a Bachelor's degree in Sciences or are enrolled in the final semester of a Bachelor's program in Sciences in France, you are eligible to apply for the first year of the Master's degree in Biology;

- to the second year of the Master's degree in Biology: to be eligible to apply, you should have completed (or you should be enrolled in) a first year of a Master's degree in Sciences *i.e.* you should have validated 60 ETCS of a Master's degree in Sciences by the end of your current academic year.

Candidates from a foreign University, please see the admission requirements on the following website: <http://www.univ-grenoble-alpes.fr/fr/grandes-missions/formation/candidatures-et-inscriptions/>

An interview will be proposed to the applicants to the first or second year of the Master's degree in order to test their motivation.

Public continuing education:

You are in charge of continuing education:

- if you resume your studies after 2 years of interruption of studies,
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed.

If you do not have the diploma required to integrate the training, you can undertake a [validation of personal and professional achievements \(VAPP\)](#).

Do you want to apply and sign up for a course?

Please be aware that the procedure differs depending on the diploma you want to take, the diploma you have already obtained and, for foreign students, your place of residence.

Let us be your guide – simply follow this link:

<http://www.univ-grenoble-alpes.fr/fr/grandes-missions/formation/candidatures-et-inscriptions/>

Further studies

Graduating from a Master degree in "Physiology – Epigenetics – Development – Cell Differentiation" leads to a career as a research engineer in academic or private laboratories.

For the students interested in a career as a research scientist in academic institutions or in private pharmaceutical industries: consecutively to a Master degree in "Physiology – Epigenetics – Development – Cell Differentiation", the students may choose to continue with a PhD program depending from a French Doctoral School or foreign universities and related to the aforementioned fields of Biology.

Consecutively to their PhD, the young researchers undertake one or two post-doctoral trainings of 2-3 years each, usually in foreign countries, in order to diversify their expertise. They can then apply to permanent positions as

- full time researchers at the national French organizations of research ("CNRS", "INSERM", "INRA", "IRD", etc);
- project managers in R&D laboratories from private biotech companies;
- part time researchers, part time teachers in French or foreign universities.

Practicals informations :

- > **School** : UFR Chimie-Biologie
- > **Duration** : 1 year
- > **Course type** : Initial and Continuing Education
- > **Location(s)** : Grenoble - University campus
- > **Contacts** :

Programme director

Francois Boucher
Francois.Boucher@univ-grenoble-alpes.fr

Administrative contact

Chemistry-Biology Course Services
ufrchimiebiologie-formation@univ-grenoble-alpes.fr

Program

Master 2nd year

Semester 9

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| UE Research project | 6 ECTS | 38h |
| 2 option (s) to choose from 4 | | |
| UE Ageing and longevity | 6 ECTS | 43h |
| UE Evolution and development of Eukaryotes | 6 ECTS | 36h |
| UE Epigenetics and cell differentiation | 6 ECTS | 36h |
| UE Cardiovascular physiology and integrated metabolism | 6 ECTS | 44h |
| 2 option (s) to choose from 6 | | |
| UE Cancer disease : experimental and therapeutical approaches | 6 ECTS | 40h |
| UE High throughput in biology | 6 ECTS | 70h |
| UE Biostatistics, bioinformatics and molecular modeling (part II) | 6 ECTS | 39h |
| UE Neurodegeneration and repair | 6 ECTS | 50h |
| UE Plasticity of the adult nervous system | 6 ECTS | 40h |
| UE Neurophysiology | 6 ECTS | 40h |

Semester 10

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|---|---------|-----|
| UE Communication in scientific english (part II) | 3 ECTS | |
| UE Business plan of your start-up (entrepreneurship and science) | 3 ECTS | 24h |
| UE Laboratory internship PhEDD (part II) | 24 ECTS | |