



Genetics
Genomics
Epigenetics
Evolution

Master2 GenE² – Master Biology-Health – Paris-Saclay University

The international Master's 2 GenE2 is aimed at students in Biology, Medicine, Pharmacy, or any other relevant scientific curriculum, who wish to acquire skills in the manipulation, processing and statistical analysis of high-throughput sequencing data. This course is suitable for students interested in the concepts and technologies of genetics, genomics, epigenetics and epigenomics integrating structural, functional and evolutionary aspects.

The originality of this M2 is to integrate the recently developed technologies by combining them with a solid training in processing and analysis of high-throughput data including two practical workshops: ChIP-seq and Big Data.

The strengths and originality of the Master2 GenE²

- A **"ChIP-seq" workshop**: A to Z realization of a chromatin immunoprecipitation experiment followed by Illumina sequencing
- A **"Big Data" workshop**: a practical workshop for the analysis of NGS data, aimed at familiarizing students with the manipulation and exploitation of highthroughput sequencing data from genomics, epigenomics and transcriptomics. ...
- Teaching units in the form of **lectures in English** given by specialists in each field
- An **internship of 6 months** in a research team or in a company
- A **network of host laboratories** in Ile-de-France, in France and abroad

Dual skills training in **Biology** and **Data Analysis**



GenE² teaching units



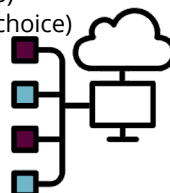
- **ChIP-seq** workshop (25 h / 3 ECTS)
- **Big Data** workshop (100 h / 12 ECTS)
- non-coding RNAs and **epigenetics** (25 h / 3 ECTS)
- Functional **Genomics** (25 h / 3 ECTS)
- Stability and Evolution of **Genomes** (25 h / 3 ECTS)
- **Genome**, Phenotype and Populations (25 h / 3 ECTS)
- One optional Teaching Units (25 h / 3 ECTS – Open choice)
- M2 Internship (6 months / 30 ECTS)



In collaboration with

'ChIP-seq' workshop
Perform a chromatin immunoprecipitation experiment followed by Illumina sequencing

illumina



'Big Data' workshop
Analyze sequencing data and manipulate genomics, epigenomics and transcriptomics datasets

The GenE² internship

- Genetics
- Genomics
- Epigenetics
- Epigenomics
- 3D genome organization
- Human genetics
- Genetics diseases
- Cancers
- Data analysis
- Development
- Evolution
- ...



The GenE² supervisors

- Pr Sébastien Bloyer
- Pr Cécile Fairhead

Secretary: Karina gonalves-gaspar
karina.gonalves-gaspar@universite-paris-saclay.fr

Contact UVSQ: Frédéric Crémazy

The GenE² partnerships

Contact

www.gene2.fr

contact@gene2.fr

