UE Computational biology

Level
Baccalaureate +5

ECTS
3 credits

Component
UFR IM2AG (informatique, mathématiques et mathématiques appliquées)

Semester
Automne

- **Teaching language(s):** English
- **Teaching method:** In person
- **Teaching type:** Lectures
- **Open to exchange students:** Yes
- **Code d'export Apogée:** GBX9AM61

Presentation

Description

This interdisciplinary MSc course is designed for applicants with a biomedical, computational or mathematical background. It provides students with the necessary skills to produce effective research in bioinformatics and computational biology.

Objectives

The objective is to provide a short introduction on bioinformatics modelling and advanced tools for the analysis of sequence data. The first part of the course focuses on application in molecular biology and evolution, including hierarchical clustering and the analysis of phylogenetic and population genetic data.

The second part of the course focuses on machine learning for biological data, and includes change point detection in sequences and unsupervised clustering of massive genetic data. The course is evaluated with two lab-works, one for each part of the course.

Course parts

Lectures	Lectures (CM)	36h

Recommended prerequisites

Basic statistics (Poisson distribution), algorithmic (complexity), programming (python required, and R or Matlab).

Period : Semester 9

Useful info

Contacts

Program director

Clovis Galiez

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Place

Grenoble

Campus

Grenoble - University campus