UE Computational biology

Niveau d'étude
Bac +5

ECTS
6 crédits

Crédits ECTS Echange
6.0

Composante
UFR IM2AG (informatique, mathématiques et mathématiques appliquées)

Période de l'année
Automne (sept. à dec./janv.)

> **Langue(s) d'enseignement:** Anglais

> **Méthodes d'enseignement:** En présence

> **Forme d'enseignement :** Cours magistral

> **Ouvert aux étudiants en échange:** Oui

> **Crédits ECTS Echange:** 6.0

> **Code d'export Apogée:** GBX9AM61

Présentation

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.

Objectifs

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.

Heures d'enseignement

CM	CM	36h

Pré-requis recommandés

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

Période : Semestre 9

Infos pratiques

Contacts

Responsable pédagogique

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Lieu(x) ville

❯ Grenoble

Campus

❯ Grenoble - Domaine universitaire