

Metabolomics



En bref

- **Langue(s) d'enseignement:** English
- **Forme d'enseignement :** Cours magistral, Travaux dirigés & Travaux pratiques
- **Ouvert aux étudiants en échange:** Non

Présentation

DESCRIPTION

This lecture will introduce metabolomics, define its concepts, as well as the methods targeting metabolite analysis. We will notably introduce the basis of sample collection, data acquisition, processing and interpretation to address targeted and untargeted studies. We will describe the multidisciplinary features of metabolomics workflows, which combine analytical chemistry, biochemistry and bioinformatics. Applications to case studies notably in the field of Health Sciences will be described, involving Mass Spectrometry and/or Nuclear Magnetic Resonance techniques.

Content:

Introduction: metabolomics analysis workflow 2h

Basics of NMR (physical principle + equipment) 3h

Basics of mass spectrometry (physical principle + equipment) 4h

Data processing (tools, post-processing) 1h

Basics of Statistical analysis 2h

Basics of biochemistry for metabolomics: metabolism, lipidomics, glycolization (presentation of KEGG-type online tools), fluxomics 4h

Practical work: NMR and MS analysis of a biofluid (preparation, data acquisition and analysis, metabolic profiling (MS + NMR), metabolomic analysis, data interpretation and validation). 4h

HEURES D'ENSEIGNEMENT

Metabolomics	Cours Magistral	12h
Metabolomics	Travaux Dirigés	4h
Metabolomics	Travaux Pratiques	4h

PRÉ-REQUIS NÉCESSAIRES

Basics of NMR and Mass Spectrometry – Basics of Chemometrics

En bref

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CONTACTS

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