



1SC4293 – Data analysis for Biology : Leveraging omics data to unravel functional pathways

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Department: DOMINANTE - VIVANT, SANTÉ, ENVIRONNEMENT
Language of instruction: FRANCAIS
Campus: CAMPUS DE PARIS - SACLAY
Workload (HEE): 40
On-site hours (HPE): 27,00

Description

Description. This project, coordinated by the Institut Pasteur, was developed to better understand the diversity of immune reactions within the population with the broader aim of contributing to the development of precision medicine. As part of this project, a cohort of 1000 individuals was formed and several large datasets were generated, including socio-demographic and clinical data, blood cell composition data, as well as gene expression data in different immune stimulation conditions for each individual.

During this session, we suggest to analyze and this heterogeneous data in order to identify the factors that differentiate individuals in their responses to immune stimuli and possibly to explain and predict these reactions. The objective will be to apply descriptive and predictive statistical analysis methods in order to extract relevant biological information from these data.

Associate partner: Pasteur

Location : Paris-Saclay Campus

Quarter number

ST4

Prerequisites (in terms of CS courses)

Statistics and Learning

Biology and Statistics

Class components (lecture, labs, etc.)

The data and the problem being provided by Pasteur, students will have to meet this partner several times. Finally, they will have to report their results to all the students involved in the project, partners and supervisors.

Grading

Oral defense at the end of the project