Universitat Pompeu Fabra Barcelona | Master in Bioinformatics for Health Sciences

Master project 2024-2025

Personal Information

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Project

Computational systems biology

Project Title:

Using spatial transcriptomics to understand tumor heterogeneity

Keywords:

Spatial transcriptomics, lymphoma, bladder cancer, single-cell

Summary:

Spatial transcriptomics is revealing the fundamental principles that organize the architecture of human tumors. In our group, we are using this technology to understand how the spatial distribution of the different cell types that co-exist within a tumor determine the clinical outcome of the patient. To do that, we analyze VISIUM and Xenium data from human tumors from clinical trials. In this project, the student will learn how to analyze different types of spatial transcriptopmics data using our datasets from bladder cancer (n = 64) and lymphoma (n = 100), with the goal of identifying spatial patterns that correlate with clinical outcomes.

References:

https://www.biorxiv.org/content/10.1101/2022.06.18.496114v2

Expected skills:

Familiarity with NGS transcriptomics is a plus

Possibility of funding:

To be discussed

Possible continuity with PhD:

To be discussed