PhD Advanced Course
Pathogen Multiomics and Bioinformatics

Date (prevista): 11/07/2022- 15/07/2022
ECTS: 6

Classes:22,5 hours
Programa:
- Introduction to NGS data and Quality Control;
- Reference Assembly (mapping): mapping, data visualization, variant calling and functional annotation;
- De novo genome Assembly: concepts and optimization, contig ordering and scaffolding, annotation;
- Introduction to Phylogenetics and Phylodynamics;
- Pathogen profiling toolbox: from NGS to phenotype;
- Transcriptomics and RNA-Seq;
- Introduction to Microbiome Analysis and Metagenomics;
- Genome-Wide Association Studies (GWAS).

	Day 1	Day 2	Day 3	Day 5	Day 6
9:30 . . . **13:00**	Module 1 Mapping, Visualization and Variant Calling	Module 3 Transcriptomics and RNA-Seq	Module 5 Phylogenetics and Public Health	Module 6 Metagenomic Analysis of Bacterial Populations	Invited Guest Seminars
			Lunch Break		
14:00 . . . **18:00**	Module 2 De novo Assembly	Module 4 Pathogen Analytical Toolbox	Module 5 Phylogenetics and Public Health	Module 7 Genome-Wide Association Studies (GWAS)	Invited Guest Seminars