Universitat Pompeu Fabra Barcelona | Master in Bioinformatics for Health Sciences

Master project 2024-2025

Personal Information

Supervisor	Cecilia Klein
Email	cecilia.klein@clarivate.com
Institution	Clarivate
Website	https://clarivate.com/products/life-sciences-and-healthcare-consulting-services/research-and-development-consulting/
Group	Discovery and Translational Science Consulting

Project

Computational genomics

Project Title:

Bioinformatics Consulting

Keywords:

Systems biology, transcriptomics, genomics, drug discovery, data analysis

Summary:

Are you looking for an exciting internship opportunity that will enable you to gain practical experience in cutting-edge Bioinformatics techniques and make a meaningful contribution to drug discovery research? If so, we invite you to consider joining the Discovery and Translational Science team at Clarivate. Our mission is to help pharma and biotech companies accelerate their drug discovery and preclinical and clinical activities. To achieve this goal, we offer a wide range of Bioinformatics services focused on Target Identification, Indication Prioritization, Drug Repurposing, Biomarker Discovery, Mechanism of Action Reconstruction, and Drug Toxicity Prediction, as well as omics data analysis, Statistical & ML techniques, and implementation of Data Processing Pipelines. As an intern on our team, you will have the opportunity to apply a range of Bioinformatics and data analysis methods to a variety of real-world pharma and biotech. Since our work is customer-driven, we cannot provide the exact specification for the project(s) you would be asked to contribute to. The focus of our team is on application of the state of the art methods to provide our customers with insights to advance their innovation. While we often need to implement and combine computational tools, it is unlikely that you will be developing a tool or method. Below is the brief summary of the most frequent project and data types we work on. - Discover new drug targets or new applications for established therapies via proprietary workflows combining systems biology and machine learning approaches. - Analyse omics data to identify biomarkers, stratify patients, reconstruct disease and therapy mechanisms and predict drug combinations and toxic effects. Omics data types that we frequently encounter include genomics, transcriptomics (bulk and single-cell) and proteomics, as well as integration of multiomics datasets. - Develop and implement efficient and reproducible analytical pipelines for pre-processing, normalization, quality control, and statistical analysis using technologies such as Nextflow, Docker, Singularity, WDL, CWL, DNAnexus, Data Version Control, and SnakeMake. By the end of the internship, you will have gained valuable experience in Bioinformatics techniques, worked on real-world projects, and developed practical skills that are highly sought after in the industry. Our team has a strong track record of long collaborations with a variety of customers from top 10 Pharma companies to stealth mode biotech start-ups. We are looking for motivated and talented Bioinformatics MSc students who are eager to learn and contribute to our mission.

References:

https://www.frontiersin.org/articles/10.3389/fmolb.2023.1258902/full https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0060618

Expected skills:

Proven experience in Bioinformatics, Computational or Systems Biology or a related field. Experienced user of R, and Linux/Unix command line with strong understanding of statistics and data analysis.

Possibility of funding:

Yes

Possible continuity with PhD:

No

Comments:

This is a fixed term full-time position from July 2024 until March 2025 both inclusive at 40 hours a week (35 hours during July and August). The working schedule is flexible, mostly centred on CET time zone with occasional need to accommodate late or early meetings with US or East Asia time zones. The position is hybrid going to the office in Barcelona 3-4 times per week. The intern will be directly supervised by one of the team's consultants. Depending on the project needs, the intern is likely to work with multiple consultants acting as project managers. Additional guidance, support and mentorship will be provided from team leads and the consulting practice head. As the intern will work on real customer projects, the final thesis and presentation will need to be anonymised to exclude the possibility of linking the results to the customer or their asset as well as to remove any potentially sensitive insights (e.g. a novel target identified through the work).