TITLE

Statistical analysis of high dimensional omic data

DESCRIPTION

High-throughput technologies have made the collection of genome-wide data in single cells, tissues and model organisms easier and cheaper. These data allow one to investigate biological aspects of cell functionality and to better understand previously unexplored disease etiologies as well as understand gene regulatory mechanisms.

However, to fully benefit of the huge amount of data available from international consortia, novel statistical and computational methods have to be developed. The present PhD project is aimed to investigate and to develop novel statistical methods for the analysis of high-dimensional omic data, as -for example- those arising from next generation sequencing experiments. Specific applications might concern the analysis of RNA-seq data, and/or ChIP-seq, and/or the multi-omics data integration.

Implementation and developmennt of novel computational tools as open-source software constitute part of the project.

SELECTION CRITERIA

Eligibility Criteria

- Academic degree: Applicants shall have a master degree in: **Mathematics, Statistics, Computer Science, Physics, Engineering, Bioinformatics**, corresponding to the second level of studies
- Mobility rule: There will be no nationality restrictions. Applicants can be from any Country. However, according to the mobility rule, at the time of the application deadline researchers should not have resided or carried out their main activity (work, studies, etc.) in Italy for more than 12 months in the 3 years immediately prior to the reference date. Compulsory national service and/or short stays such as holidays will not be taken into account.
- Research experience: Applicants shall, at the time of the application deadline, be in the first four years (full-time equivalent research experience) of their research careers and not yet awarded a doctoral degree.

Full-Time Equivalent (FTE) Research Experience will be determined from the date when a researcher obtained the degree which would formally entitle him or her to embark on a doctorate, either in the country in which the degree was obtained or in Italy, irrespective of whether or not a doctorate is or was ever envisaged.

Evaluation Criteria

Step 1 -Evaluation of documentation provided by the candidate: a) Academic record and training b) Research activities c) CV/motivation letter; d) Level of English; e) Reference letters

Step 2 -Interview : a) Scientific knowledge in the field of interest; b) Research experience in the field of interest c) Motivation d) English proficiency.