

## TITLE

### **Integrated analysis of multi-omics single cell sequencing data**

## DESCRIPTION

Single-cell next generation sequencing techniques are now used to examine tissues at a cellular resolution. This provides more insight and novel information that enhances our ability to unveil molecular mechanisms. Methods for single-cell DNA and RNA sequencing are mature, whereas epigenetics and traslatomics methods are now reaching single-cell resolution.

The aim of this PhD fellowship is to study and develop novel techniques for quality filtering, normalization, integration, feature selection, iterative dimensionality reduction, classification and clustering of large ensembles of multi-omics single-cell NGS datasets.

### Eligibility Criteria

Academic degree: Applicants shall have a master degree or equivalent in **Mathematics, Statistics, Computer Science or related disciplines**, corresponding to the second level of studies, 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.

### Supervisor

Dr. Mario Rosario Guarracino

<http://www.na.icar.cnr.it/~mariog>