



Courtesy translation of D.R. n. 213/2021

For more details on the selection process, please refer to the Italian version of

D.R. n. 213/2021 available at <http://www.hunimed.eu/it/lavora-con-noi/>

SELECTION PROCEDURE FOR A RESEARCH FELLOWSHIP IN COMPLIANCE WITH ART. 22 OF LAW 240/2010

Research Program Title	Deciphering the molecular and functional heterogeneity of myeloid cells in cancer
Tutor	Dr.ssa Giulia SOLDA'
Scientific Area	06 – Biological Sciences
Gross amount of the fellowship	25.000 Euro
Duration of the fellowship	12 months
Objectives of the research	<p>'Tumors exploit the plasticity of myeloid cells to reprogram their functions towards tumor promotion. Expansion of heterogeneous myeloid populations also contributes to anticancer therapy resistance. However, our knowledge on the actual heterogeneity of myeloid cells in tumors and their variability between patients and disease stages is still limited.</p> <p>Data in mice suggest that a population of monocyte precursors can be found before the occurrence of metastatic spread. This population has both proliferative and cell differentiation ability and, when transferred to tumor bearing mice, it favors metastatic dissemination to the lung. It is not entirely known if similar populations are present also in human patients.</p> <p>We plan to analyze human monocytes from the blood of tumor-bearing patients both by bulk RNA-seq and single-cell sequencing. In particular, we want to understand whether immune suppressive and pro-tumoral monocytes are distinct subsets in cancer-bearing hosts. In addition, we will analyze the ability of emerging gene signatures to</p>

	discriminate cancer patients with poorer disease outcome and at risk of developing metastatic disease.
Activities to be carried out	The candidate will have to deal mainly with computational analyses of transcriptomic data (bulk RNAseq and single cell RNA sequencing) and epigenetics data (DNA methylation and CHIPseq)
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	In order to be considered for the post candidates must hold a MSc in Biological Sciences, Molecular Biology, Biotechnology, Biomedical Engineering, Informatics, Physics or related disciplines; PhD or an equivalent university qualification awarded by a foreign university (usually referred as a Master's Degree) in Molecular Biology, Genetics, Biostatistics, Bioinformatics, Computational Biology, Data Science or related disciplines and a scientific and professional CV suitable to the carrying out of the research activities outlines above.
Selection process	<p>Application for admissions must be submitted at the following link:</p> <p>https://pica.cineca.it/humanitas</p> <p>No hard copy of the application must be sent by post.</p> <p>At first access, applicants need to register by clicking on "Register" and completing the requested data.</p> <p>If applicants already have LOGINMIUR credentials, they do not need to register again. They must access with their LOGINMIUR username and password in the relevant field LOGINMIUR.</p> <p>Applicants must enter all data necessary to produce the application and attach the required documents in PDF format.</p>
Selection criteria	<p>Selection criteria are predetermined by the Selection Committee. As part of the selection process, the Committee will evaluate the curriculum, titles and publications presented by the candidate and will consider, in particular:</p> <ul style="list-style-type: none"> - a basic knowledge of Biology and Molecular Genetics.

	<ul style="list-style-type: none">- Familiarity with Linux-based Operating system, bash scripting, R and/or Python.- Previous experience with NGS data analyses (QC, alignment, differential gene expression, etc).- Previous experience with single-cell sequencing data analysis would be preferred.- Fluent English (written and spoken) is required.
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FURTHER INFORMATION:

In the event of any conflict between Job Opening text and Italian D.R. text, the Italian version will prevail.

For more details on the selection process please refer to the **D.R. n. 213/2021** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.