



Courtesy translation of D.R. n. 108/2022

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

D.R. n. 108/2022 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	Advanced diagnostic algorithms for the interpretation of viral genomic data
Tutor	Prof.ssa Valeria CENTO
Scientific Area	06 – Medical Sciences
Gross amount of the fellowship	26.000 Euro
Duration of the fellowship	16 months
Objectives of the research	This project will address an unmet medical need, represented by the lack of accurate genotypic characterization of viruses and bacteria to be used as clinical parameter to guide treatment optimization. The application of next-generation sequencing (NGS) is already applied in several fields of Human Biology, but not yet widespread in Clinical Microbiology nor implemented into standard, routine diagnostic algorithms. Yet, the level and quality of information provided by this technique would allow a much deeper comprehension of phylogenesis, spread and pathogenesis of drug-resistant microorganisms in hospital settings, provided appropriate analysis and interpretation of data. The results of this project will allow to understand if NGS can be routinely used in clinical practice to guide the choice of a therapeutic regimens in patients with bacterial or viral infections.
Activities to be carried out	The candidate will carry out: <ul style="list-style-type: none">- Use and optimization of data analysis protocols for NGS (e.g. genome reconstruction, SNP calling).- Programming in R and Python.- Phylogenetic analysis

	<ul style="list-style-type: none"> - Management of scientific databases. - Data processing and statistical analysis in STTA and Graphpad - Statistical analysis and management of scientific data - Presentation of the research results at internal meetings, national and international conferences - Writing of scientific papers.
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	In order to be considered for the post candidates must hold Master's Degree in Bioinformatics, Biology or Biotechnology, Physics, Biomedical Engineering, Mathematics or Medicine and Surgery, and Master (or equivalent or similar qualifications) and documented skills in the biological and/or biotechnology field
Selection process	<p>Application for admissions must be submitted at the following link:</p> <p style="text-align: center;">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"> - Documented skills in the biological and/or biotechnological field - Basic knowledge in Phylogeny and Microbiology

	<ul style="list-style-type: none">- Experience in NGS analysis with particular interest in bacterial/viral genetics (e.g. genome reconstruction, SNP calling)- Experience in programming in R and Python.- Experience of statistical analysis (e.g. in at least one of R, Python, STATA, Graphpad etc) and/or knowledge of database language (e.g. SQL)- Basic knowledges in Microbiology <p>Further requirements will also be considered, such as:</p> <ul style="list-style-type: none">- Excellent knowledge of English, spoken and written- Research aptitude and ability to manage complex scientific data- Ability to work independently, with a high propensity to interact with other team figures- Scientific publications related to research topics
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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. 108/2022** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.