



Courtesy translation of D.R. n. 074/2023

For more details on the selection process, please refer to the Italian version of D.R. n. 074 /2023 available at <http://www.hunimed.eu/it/lavora-con-noi/>

SELECTION PROCEDURE FOR RESEARCH FELLOWSHIP

Research Program Title	A novel platform to investigate the interaction between MDR bacteria and immune cells
Tutor	Prof. Roberto RUSCONI
Scientific Area	05 – Biological Sciences
Gross amount of the fellowship	25.000 Euro
Duration of the fellowship	12 months
Objectives of the research	<p>The incidence of periprosthetic joint infections (PJIs) is ~2% of total procedures performed and it is expected to rise due to the increasing number of arthroplasties. The most frequently isolated pathogens in PJIs are Staphylococcus species, specifically <i>S. aureus</i>, often associated with acute PJIs, and coagulase-negative (CS) Staphylococci such as <i>S. epidermidis</i>, usually associated with chronic PJIs. Despite the importance of PJI for the human health, the immune response to these pathogens is not fully understood. The goal of this project is to investigate the mechanisms underlying this phenomenon by developing a microfluidic model that simulates the interplay between the implant microenvironment – characterized by the microbial population and the host immune system – and the prosthesis surface texture</p>
Activities to be carried out	<ul style="list-style-type: none">• development and use of an experimental model based on microfluidics and microfabrication to evaluate the interplay between MDR bacteria and immune cells.
Work place	PIEVE EMANUELE - Milan

Mandatory requirements	<ul style="list-style-type: none"> • Master's degree in Biomedical engineering or master degree in any scientific disciplines. • PhD • Proven knowledge on written and spoken English • Adequate scientific and professional background to carry out the research activity described in this call.
Selection process	<p>Application for admissions must be submitted at the following link: https://pica.cineca.it/humanitas</p> <p>No hard copy of the application must be sent by post. At first access, applicants need to register by clicking on "Register" and completing the requested data. 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. 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"> - Background in mechanical and/or biomedical engineering; - experience in molecular biology and/or cellular assays would be also desirable; - proven knowledge of written and spoken English

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. 074/2023** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.