



Courtesy translation of D.R. n. 187/2023

For more details on the selection process, please refer to the Italian version of D.R. n. 187/2023 available at <http://www.hunimed.eu/it/lavora-con-noi/>

SELECTION PROCEDURE FOR RESEARCH FELLOWSHIPS

Research Program Title	Exploring the antibiofilm activity of natural extracts
Tutor	Prof. Roberto RUSCONI
Scientific Areas	05 – Biological Sciences
Gross amount of the fellowship	20.000,00 Euro
Duration of the fellowship	18
Objectives of the research	Bacteria, despite traditionally being studied in the planktonic phase, are often found within surface-attached communities known as biofilms. Biofilms frequently grow on biomedical devices such as stents and catheters, posing serious health threats and reducing the lifespan of these devices. However, even though biofilm-associated infections represent a significant global healthcare issue, very little is known about the potential for surface colonization and biofilm formation by pathogens isolated in clinical settings. In this project, we aim to elucidate the effect and mechanisms of antimicrobial formulations composed of natural compounds. This evaluation will be conducted through microfluidic experiments that allow us to assess their potential to inhibit biofilm formation under physiological conditions. The use of natural compounds, known for their antioxidant, anticancer, and antibacterial properties, could provide an alternative and safe solution to combat biofilm infections, reducing the dependence on antibiotics
Activities to be carried out	<ul style="list-style-type: none">• Cultivation and maintenance of the bacteria used in the study,• Execution of microfluidics and optical microscopy experiments,

	<ul style="list-style-type: none"> analysis and interpretation of experimental data.
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	<ul style="list-style-type: none"> Master's degree in physical or biological sciences; 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:</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"> laboratory experience, preferably in microbiology or biotechnology; analytical skills for interpreting experimental data; good knowledge of the English language for reading scientific literature and communicating within the team.

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. 187/2023** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.