



Courtesy translation of D.R. n. 019/2022

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

D.R. n. 019/2022 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	MEFISTO: Meniscal functionalised scaffold to prevent knee osteoarthritis onset after meniscectomy
Tutor	Prof.ssa Elizaveta KON
Scientific Area	06 - Medical Sciences
Gross amount of the fellowship	23.000 Euro
Duration of the fellowship	12 months
Objectives of the research	'The aim of the MEFISTO project is to develop novel solutions to treat meniscus loss, to prevent post-meniscectomy knee osteoarthritis. Two different reconstructive strategies will be developed: 1) a controlled vascularized bioactive biodegradable meniscal scaffold to regenerate the native meniscus. 2) a bioactive non-biodegradable meniscal prosthesis, which will act as a mechanical unloading device and drug delivery system, with the capacity to modulate inflammation. The biodegradable scaffold will promote revascularization in the peripheral zone, while leaving the inner zone avascular, reflecting the native meniscal tissue, and functionalization with micro/nanoparticles of the non-biodegradable device will provide modulation of inflammation. The interventions developed in MEFISTO will prevent patients undergoing meniscectomy from receiving joint-sacrificing procedures whilst reducing the social burden, associated costs and high levels of morbidity resulting from osteoarthritis.
Activities to be carried out	1. immunotoxicological and efficacy evaluation in vitro of new meniscus functionalized-scaffolds.

	<p>2. 2D/3D culture systems using macrophages, chondrocytes and endothelial cells will be established and optimized to reduce the need of animal experiments and to facilitate the clinical translation of the new meniscal scaffolds.</p> <p>3. analysis of experimental results and their preparation to write reports, research papers and present research findings at national and international meetings.</p> <p>4. attending consortium meetings and participation in dissemination activities</p>
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	In order to be considered for the post candidates must hold a PhD or an equivalent university qualification awarded by a foreign university (usually referred as a Master's Degree) on above indicated research activities: Biotechnology, Biology, Pharmacology, Medicinal, Toxicological and Nutritional Chemistry and applied Technologies 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	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:

	<ul style="list-style-type: none">- Experience with advanced in vitro models to study inflammation and/or to evaluate new immunomodulatory drugs will be highly appreciated.- 2D/3D culture systems using macrophages, chondrocytes and endothelial cells will be established and optimized to reduce the need of animal experiments and to facilitate the clinical translation of the new meniscal scaffolds.- Previous experience with the biological evaluation of nanomaterials or studies related with their biodegradation will be considered a plus.- Work on the immunotoxicological and efficacy evaluation in vitro of the new meniscus functionalized-scaffold.- 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. 019/2022** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to ufficiodocenti@hunimed.eu or telephone +39 02.8224.5642/5421.