

Courtesy translation of D.R. n. 185/2023

*For more details on the selection process, please refer to the Italian version of D.R. n. 185/2023 available at <http://www.hunimed.eu/it/lavora-con-noi/>*

**SELECTION PROCEDURE FOR RESEARCH FELLOWSHIPS**

Research Program Title	<b>Probing the interindividual synchronization during cooperative motor tasks at the brain, spinal, and muscular levels</b>
Tutor	dr. Francesco BOLZONI
Scientific Areas	05 – Biological Sciences
Gross amount of the fellowship	20.000,00 Euro
Duration of the fellowship	16
Objectives of the research	<p>The primary objective of this research project is to explore the neural foundations that underlie interpersonal coordination and its correlation with motor performance. The experiments will be meticulously designed to gather evidence regarding the mechanisms that govern neuromuscular motor control implicated in achieving interpersonal synchronization. Various movement analysis techniques, including electromyography, stabilometry, and optoelectronic kinematic recordings, will be integrated into human experiments aimed at investigating spontaneous interpersonal synchronization.</p> <p>Furthermore, following a multidisciplinary approach, the data derived from the movement analysis experiments will be applied to design innovative control algorithms for human-robot or robot-robot interactions.</p>
Activities to be carried out	<ul style="list-style-type: none"> <li>• Assisting with subject enrollment, including the completion of consent forms.</li> <li>• Recording signals required for movement analysis, including surface EMG activity, ground reaction forces, and kinematic data from an optoelectronic system.</li> </ul>

	<p>Developing new analysis programs, preferably using Python and Matlab.</p> <ul style="list-style-type: none"> <li>Managing data, conducting signal analysis, and performing statistical analysis..</li> </ul>
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	<ul style="list-style-type: none"> <li>Master degree in biomedical biomedical engineering</li> <li>Adequate scientific and professional background to carry out the research activity described in this call.</li> </ul>
Selection process	<p>Application for admissions must be submitted at the following link:</p> <p><a href="https://pica.cineca.it/humanitas">https://pica.cineca.it/humanitas</a></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"> <li>The candidate should be familiar with standard procedures and techniques of movement analysis, including EMG, ground reaction forces, and kinematic recordings.</li> <li>Previous coursework should include disciplines related to signal analysis, biomechanics, movement analysis, and motor control.</li> <li>Proficiency with tools and applications in the Windows Office suite is essential, with a primary focus on Excel and Word.</li> <li>Familiarity with programming languages such as Python and Matlab.</li> </ul>



	<ul style="list-style-type: none"><li>• Demonstrated strong inclination toward collaboration and teamwork.</li></ul>
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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. 185/2023** (<http://www.hunimed.eu/it/lavora-con-noi/>) or send an inquiry to [ufficiodocenti@hunimed.eu](mailto:ufficiodocenti@hunimed.eu) or telephone +39 02.8224.5642/5421.