



Courtesy translation of D.R. n. 164/2024

*For more details on the selection process, please refer to the Italian version of D.R. n. 164 /2024 available at <http://www.hunimed.eu/it/lavora-con-noi/>*

**SELECTION PROCEDURE FOR RESEARCH FELLOWSHIP**

Research Program Title	<b>Understanding and dissecting the role of Tumor microEnvironment of Lung Adenocarcinoma in the era of precision medicine (TELUAD)</b>
Tutor	Prof. Giuseppe MARULLI
Scientific Area	06 – Medical Sciences
Gross amount of the fellowship	26.000 Euro
Duration of the fellowship	12 months
Objectives of the research	Lung cancer is the worldwide leading cause of cancer-related death. Non-small-cell lung cancer particularly lung adenocarcinoma (LUAD) is the most common form with targetable genetic alterations. The discovery of cancer cell ability to silence the anti-tumor immune response has opened the door to the development of immune checkpoint inhibitory (ICI) therapies, mainly targeting the programmed cell death PD-1/PD-L1 (PD-ligand) axis. However, the treatment still faces many challenges even in highly selected patients. The research hypothesis is that other tumor microenvironment (TME) components, in addition to PD-L1 axis, may influence and modulate the response to ICI treatment. The primary aim is to carefully investigate immune TME in LUAD tissues of responders and non-responders to ICI treatment. A secondary aim is to evaluate if new genetic alterations are differently present in responders versus non-responders, thus exploring if the PD-L1 neoplastic cell expression is constitutive or an epiphenomenon. An exploratory aim is to develop a more objective computational analysis of TME components. Moreover, to better understand how tumor genetic

	<p>background influences circulating and tissue cytokine/chemokine milieu and TME composition and function, we will use innovative preclinical models, such as patient-derived organoids (PDO). This research is a retrospective and prospective longitudinal multicentric study involving surgically resected LUAD patients treated with ICIs in case of recurrence/metastasis. Immune TME components will be evaluated by immunohistochemistry, including quantification and precise spatial organization. Next-generation sequencing with the 56-gene panel and TME computational analysis will be additionally performed. An orthotopic animal model of LUAD will be used to replicate clinical findings. Anti-PD-1 treatment and possible different combinations will be planned to deeply understand key targets and optimize new treatments. Appropriate statistical tests will be applied in clinical and experimental study. The main expected result is to identify key TME components, in addition to PD-L1, that may influence immunotherapy efficacy. The results could made significant contributions to the field of lung cancer leading to a better patient stratification and outcome, also improving cost-effectiveness and efficiency of the healthcare system.</p>
<p>Activities to be carried out</p>	<ul style="list-style-type: none"> <li>• The candidate will study the role of the TME in lung cancer, an orthotopic model in which murine lung cancer cells are implanted into the lungs of syngeneic C57BL/6 mice will be used.</li> <li>• In particular, the experimental study will be divided into three steps with the aims to develop an orthotopic model of lung cancer, PD-1 pharmacologic blockade and combination therapies and radiologic evaluation of tumour response.</li> <li>• The candidate will be involved in the starting part of the project, being active part of the practical and conceptual development of the</li> </ul>

	project progress, and assessing the experimental results.
Work place	PIEVE EMANUELE - Milan
Mandatory requirements	<ul style="list-style-type: none"> <li>• Master degree in biomedical disciplines and/or PhD in Biological Sciences or equivalent. 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>• experience in cellular and molecular biology;</li> <li>• great capacity of independent work and organization;</li> <li>• critical thinking;</li> <li>• Adequate scientific and professional background to carry out the research activity described in this call</li> </ul>

**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. 164/2024** (<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.