

## Open Positions in Multiscale Immunolmaging Unit (mlu)

- **Imaging Data Scientist**

Humanitas (ICH, <http://www.humanitas-research.org/>) is a world-famous center of excellence for research and treatment of immune system-related diseases, from cancer to cardiovascular, autoimmune and neurological diseases. In 2005, ICH has been acknowledged by the Italian Ministry of Health as a Clinical Institute for Care and Scientific Research (IRCCS). ICH is recognized for its research and management model. It is member of the European Network of Immunology Institutes. Research activity is based on a strong collaboration between clinicians and researchers. A PhD program, accordant to the highest international standards, is active and provide daily laboratory research practice, together with courses on different disciplines. Scientific research is also integrated with the educational and training activity of the Humanitas University (<https://www.hunimed.eu>), an international university dedicated to the life sciences.

mlu (<https://www.humanitas-research.org/facility/advanced-optical-microscopy/>) provides access to state-of-the-art light microscopes for scientists and clinicians within and outside ICH. The facility is in charge for set up and maintenance of instrumentation and training, development of methods and protocols and *in vivo* experimental models for confocal and IVM analysis. The personnel of the facility are involved in scientific collaborations for the development of optical microscopy-based applications for biomedical research. mlu has an independent research program. mlu is based on multi-scale Imaging approach through the use of technologies, including confocal microscopy, STED-based super-resolution, FLIM/FCS, multiphoton microscopy, *in vivo* optical Imaging based on luminescence and fluorescence tomography, chemical clarification of organs and 3D analysis, high-throughput Imaging on tissues and Imaging Mass Cytometry (IMC). High-capacity network of digital workstations is available for data processing and image analysis.

The person filling this position will collaborate with other members of mlu responsibilities will include:

- design and optimization of image analysis workflows for optical microscopy and IMC;
- development of custom algorithms, integrating existing algorithms into innovative analysis pipelines;
- development of software and pipelines to facilitate the handling and analysis of complex datasets;
- exploratory data analyses, including statistical analysis, quality-check and visualization of complex datasets.

The suitable candidate should have a master or PhD or equivalent qualification in physics, engineering, mathematics, informatics, biology, chemistry, biophysics, or broadly in the natural or applied sciences field.

The candidate is expected to have:

- proficiency in at least one scientific programming language (e.g. R, Python, MATLAB, etc.);
- familiarity with Linux environment and HPC is preferred;
- a solid mathematical background, distinct analytical and numerical skills;
- understanding of data structure, algorithms, and principles of software development;
- familiarity with data manipulation and analysis: ability to handle large datasets, cleaning and pre-processing data, knowledge of data visualization libraries and tools;
- experience with analysis of microscopy data with imaging software or other bioimage analysis software is highly desirable;
- experience with omics data is a plus;
- understanding of biological systems and willingness to familiarize with them is highly desirable;

The applicant should be reliable, well organized and have the flexibility needed for working in a service-oriented context. Candidate must be able to work on a flexible schedule based on research needs and deadlines. Good communication skills in English and the ability to be a team player in a multi-disciplinary environment are required.

**Location:** Humanitas Research Hospital, Humanitas University campus, via Rita Levi Montalcini, 20089, Rozzano, Milan, Italy

**Division:** Multiscale Immunolmaging Unit (mlu)

**Starting date:** October 2023.

**Duration:** three-year project contract.

**Status:** Regular Full Time.

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Interested individuals should send their CV, a statement of interest and their references from previous positions electronically to: [imaging@humanitasresearch.it](mailto:imaging@humanitasresearch.it).