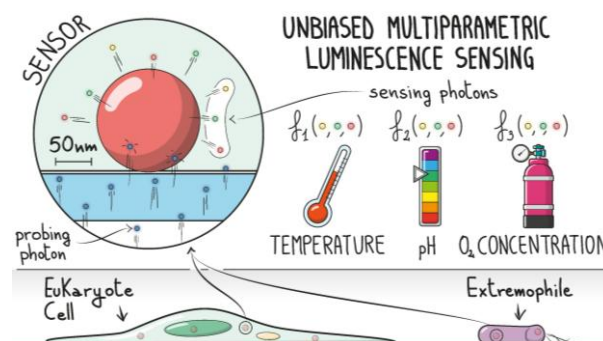


PhD position available

In the newly established Intelligent Optical Nanomaterials (IONs) group, we are looking for a motivated and talented PhD student to carry out research related to the EU-funded ERC Starting Grant project **MAtCHLESS**.

Within MAtCHLESS, we will develop the ultimate luminescence sensing technology to study the inner workings of cells, reaching an unprecedented level of readout complexity and temporal resolution. This technology is poised to support future development of cancer drugs and optimization of biotechnology-based industrial processes.

The candidate (holding a Master's degree in Materials Science, Chemistry, Nanotechnology or a closely related field) will move at the interface between materials science, optical spectroscopy, machine learning algorithms, and biology. The initial phase will be devoted to the preparation and purification of the sub-micrometric luminescent sensors. Subsequently, these materials will be calibrated as luminescent sensors at a fluorescence microscope. Through the collaboration with machine learning experts, the luminescence signal will be analysed to enable simultaneous readout of temperature, oxygen level, and pH. Preliminary tests in cell lines (eukaryotic and/or prokaryotic) will also be conducted.



What we offer:

- An exciting research project at the forefront of luminescence sensing technologies applied to biological systems.
- Attentive and continuous supervision, aimed at honing hard and soft skills alike.
- An extended international network of collaborators. One or more stays at other European institutions are possible and encouraged!
- Attendance to international conferences, workshops, and schools.

Your skills (at least two of the following):

- Experience in the preparation of luminescent organic dyes, metal complexes, or nanoparticles.
- Knowledge of optical spectroscopy (steady-state and time-resolved techniques).
- Basic knowledge of fluorescence microscopy.
- Experience in the use of flow cytometers and/or cell sorters.
- Basic knowledge of Python.

In addition, you will be expected to:

- Communicate in English: We are an international group, and our research is carried out in English.
- Respect deadlines.
- Be proactive and come up with new ideas for your research.
- Contribute to the management of the group's laboratories.
- Have fun while you carry out your research!

Starting dates:

- September 1st, 2025: if the candidate is in possession of the MSc title by July 31st
- November 1st, 2025: if the candidate will be in possession of the MSc title by November 15th

For more information, reach out to riccardo.marin@hotmail.it. If you are interested in the position, also send a cover letter and two letters of recommendation.

Riccardo Marin's link:

Google Scholar page: <https://scholar.google.com/citations?user=HS-irwkAAAAJ&hl=en>

Personal website: <https://riccardomarin.com/>