Université Claude Bernard Lyon 1- Hosting offer for a MSCA Post-doctoral fellowship candidate in Cellular and Molecular Biology

Host Organisation	Université Claude Bernard Lyon 1
Department	Institut NeuroMyoGène
Laboratory	Unité Physiopathologie et Génétique du Neurone et du Muscle
Website (lab / research team)	https://www.teammari.com
Supervisor Contact name	**Dr MARI, Pierre-Olivier**
Supervisor Contact email	**pierre-olivier.mari@univ-lyon1.fr**

Host Organisation

The Université Claude Bernard Lyon 1 welcomes Marie Sklodowska Curie Postdoctoral Fellowships applications !

With 62 laboratories and more than 7000 publications per year, and leading French university in terms of the number of patents filed in collaboration with industry, Lyon 1 contributes to scientific and innovation progress in numerous fields: health, mathematics, IT, physics, chemistry, earth and space sciences, life sciences, etc. Creator of emerging knowledge and new technologies, the University is consolidating its research excellence on a global and international level by developing inter- and multidisciplinary approaches targeting the major challenges facing today society.

Host research lab/team

The **Physiopathology and Genetics of the Neuron and Muscle Laboratory (PGNM – Institut NeuroMyoGène)** is one of Europe's leading research centers dedicated to the molecular and cellular mechanisms underlying neuromuscular diseases. The laboratory brings together multidisciplinary expertise in genetics, molecular and cellular biology, physiology, and translational science to unravel how the nervous system and skeletal muscle function in health and disease.

PGNM has a long-standing experience in identifying genetic determinants of neuromuscular disorders, deciphering altered signaling pathways, developing innovative diagnostic and therapeutic concepts. Supported by state-of-the-art technological platforms – including high-resolution imaging, sequencing, genome engineering, cellular and animal models – the team produces high-impact science and contributes to international research networks. The laboratory is strongly committed to training young scientists and fostering scientific excellence.

The NuDyReCTION research team

The **NuDyReCTION research team** (www.teammari.com) focuses on the mechanisms that maintain genome integrity and protect neuromuscular tissues from cellular stress. The team has recognized expertise in DNA repair pathways, nuclear homeostasis, and the consequences of their dysregulation in neuromuscular disorders.

By combining biochemistry, functional genetics, imaging and model systems, the team aims at bridging the gap between molecular defects and disease phenotypes and also uncover novel mechanistic insights into cell survival and tissue integrity. This work contributes both to advancing fundamental knowledge and to identifying potential therapeutic targets relevant to neuromuscular pathologies.

Hosting Offer

The **NuDyReCTION research team** offers to host a MSCA Postdoctoral Fellowship candidate (typically a post-doc of less than 8 years research experience since PhD defense), submitting an application to the next MSCA-2026-PF call for proposals (deadline 09th of September 2026), interested to work on the following research topic:

"Deciphering the Structural and Dynamic Organization of Cajal Bodies during DNA Damage and Recovery"

This project aims to uncover how Cajal bodies are structurally and dynamically remodeled during DNA damage and subsequent repair. Combining three-color STED and STORM super-resolution imaging with quantitative live-cell FRAP analysis, we will resolve the nanoscale architecture of SMN-, Coilin-, and WRAP53-containing assemblies and determine how their organization dynamically evolves in response to genotoxic stress. By integrating structural mapping with precise kinetic measurements, the project will define whether Cajal bodies undergo transient disassembly or adopt distinct post-repair steady states. Functional perturbation approaches will further establish the molecular hierarchy governing their assembly and stability. Conducted within a state-of-the-art imaging environment and embedded in a research program linking nuclear organization to motor neuron diseases, this project offers a unique opportunity to explore fundamental principles of nuclear compartment homeostasis using advanced quantitative microscopy.

The host team offers:

- Full access to state-of-the-art **molecular biology and cell culture facilities**, including iPSC culture and differentiation into motor neurons and muscle fibers.
- Advanced **microscopy platforms** for live-cell imaging of chromatin and mitochondrial dynamics.
- Expertise in **DNA repair assays, protein–protein interaction studies, and chromatin immunoprecipitation**.
- Training and mentorship in experimental design, data analysis, scientific writing, and career.

The fellowship could last for 12 to 36 months, depending on the type of Postdoctoral Fellowship.

Supervision

The successful Marie-Curie Post-doctoral fellow will be supervised by Dr. Pierre-Olivier Mari, researcher at CNRS, a member of the NuDyReCTION team (Nucleolar Dynamics after DNA Repair in Action) at the Institute of Pathophysiology and Genetics of Neuron and Muscle (INMG-PGNM, Lyon, France).

Dr. Pierre-Olivier Mari's research focuses on the structural and dynamic organization of nuclear compartments during and after the DNA damage response. His work aims to decipher how membrane-less organelles such as the nucleolus and Cajal bodies are reorganized following genotoxic stress, and how key factors including SMN, Coilin, WRAP53, and RNA polymerase I coordinate the restoration of nuclear architecture and transcriptional activity. His research combines advanced super-resolution microscopy (STED, STORM), live-cell imaging and FRAP-based measurements to bridge nanoscale structural organization with functional protein dynamics.

Dr. Mari has extensive expertise in quantitative imaging, DNA damage response, and nuclear compartment biology. He supervises doctoral candidates and engineers in the development of advanced microscopy strategies and rigorous image analysis pipelines. The fellow will benefit from close scientific supervision, hands-on training in state-of-the-art super-resolution microscopy and quantitative live-cell approaches, as well as structured guidance in experimental design, data interpretation, and scientific communication.

Application process

Interested candidates are invited to contact us exclusively by email at:

pierre-olivier.mari@univ-lyon1.fr.

Make sure that you include the reference to this offer in the title of your email.

Please attach a CV, a motivation letter, your MSc marks, **as well as a 1 page research proposal**.

Professional grant application support:

Candidates will receive the support of the supervisors, as well as online training from a professional grant application company, and advices from successful applicants, to prepare and submit their application with the NuDyReCTION team as a host laboratory, to the next MSCA-PF call for proposals.