Université Claude Bernard Lyon 1- Hosting offer for a MSCA Post-doctoral fellowship candidate in Nucleolar homeostasis following genotoxic stress

Host Organisation	Université Claude Bernard Lyon 1
Department	Institut NeuroMyoGène - Laboratoire Physiopathologie et Génétique du Neurone et du Muscle
Laboratory	Equipe NuDyReCTION
Website (lab / research team)	**https://www.teammari.com**
Supervisor Contact name	Dr Lise-Marie DONNIO
Supervisor Contact email	lise-marie.donnio@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

The **INMG-PGNM** (Institut NeuroMyoGène – Physiopathology and Genetics of the Neuron and Muscle, CNRS UMR 5261 – INSERM U1315 – UCBL1) is one of the leading research units in Europe dedicated to understanding the molecular, cellular, and physiological mechanisms governing neuromuscular function and disease. The laboratory has strong expertise in identifying the genetic determinants of neuromuscular disorders, characterizing dysregulated signaling pathways, and developing innovative diagnostic and therapeutic approaches. The research is structured around three main axes: neuromuscular physiology and cell biology, cellular and molecular neurobiology, and nuclear dynamics.

Supported by state-of-the-art technological platforms — including high-resolution imaging, sequencing, genome engineering, and cellular and animal models — the institute produces high-impact scientific research and contributes actively 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 recognised expertise in DNA repair pathways, nucleolar homeostasis, and the consequences of their dysregulation in neuromuscular disorders.

By combining biochemistry, functional genetics, imaging and cellular model systems, the group aims to bridge molecular defects with disease phenotypes and to 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 defence), 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:

'Nucleolar homeostasis following genotoxic stress: role of the SMN protein, its partners, and SUMOylation'

The nucleolus is a dynamic and membrane-less nuclear organelle essential for ribosome biogenesis and the DNA damage response. Following genotoxic stress, critical factors such as RNA Polymerase 1 (RNAP1), SMN (Survival Motor Neuron), and COILIN undergo dynamic relocalization events that facilitate DNA repair and nucleolar reorganization. However, the molecular mechanisms governing the restoration of nucleolar structure after DNA repair remain poorly understood. Emerging evidence suggests that intricate protein–protein interaction networks and post-translational modifications, particularly SUMOylation, play a pivotal role in this process.

This MSCA postdoctoral project aims to decipher how SMN and its interacting partners orchestrate nucleolar reassembly and functional recovery following genotoxic stress, with a specific focus on SUMO-dependent regulatory mechanisms. The candidate will combine advanced approaches in live-cells imaging, quantitative proteomics, functional genomics, and biochemical approaches in the context of genotoxic stress.

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 Lise-Marie DONNIO, a researcher in 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. DONNIO has extensive expertise in DNA repair, transcriptional regulation, nucleolar homeostasis, and live-cell imaging, developed since joining Dr. Giglia-Mari's team in 2015. The team investigates the dynamic reorganization of the nucleolus, the role of key proteins such as SMN (Survival Motor Neuron) in maintaining nucleolar homeostasis, and the interplay between DNA repair, transcriptional recovery, and cellular homeostasis.

Over the years, Dr. DONNIO has developed strong supervisory and managerial skills through mentoring Bachelor's, Master's, and PhD students, as well as engineers and technicians. Her experience in coordinating research activities and contributing to laboratory organization demonstrates her ability to effectively supervise and guide a postdoctoral researcher within a collaborative and multidisciplinary environment.

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.
- Expertise in DNA repair assays, protein–protein interaction studies, and chromatin immunoprecipitation.
- Training and mentorship in experimental design, data analysis, scientific writing, and career.

Application process

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

lise-marie.donnio@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 the NuDyReCTION team as a host laboratory, to the next MSCA-PF call for proposals.