MuSkLE
PhD programme
Building, maintaining and repairing the functional locomotor system

Co-funded by the European Union

PhD Position 23 job vacancy

Reference:	**PP23**
Title:	**Integrated analysis of epigenomic, transcriptomic and inflammatory alterations in MORC2-associated neuropathies using patient samples and patient-derived iPSC models**
Hiring institution:	**VetAgro Sup**
Location:	1 avenue Bourgelat, 69280 Marcy L'étoile
Start date:	As from 1st September 2027
Duration:	36 months
Application deadline:	15th January 2027

Job description

Objective:	The recruited doctoral fellow (DF23) will develop an innovative, multi-scale translational project aimed at deciphering the pathophysiology of rare MORC2-associated neurodegenerative and neurodevelopmental disorders (CMT2Z and DIGFAN syndrome). Combining cutting-edge human models and multi-omics approaches, the PhD candidate will leverage a unique French national patient biobank (PBMCs, plasma, fibroblasts) alongside patient-derived induced pluripotent stem cells (iPSCs) differentiated into motor neurons. This integrated framework provides an opportunity to investigate disease mechanisms across multiple biological scales, from epigenetic regulation and gene expression to cellular dysfunction and systemic biomarkers. The primary goals are to: (1) map epigenomic, transcriptomic, and neuro-inflammatory alterations associated with MORC2 pathogenic variants; (2) identify novel circulating biomarkers linked to disease severity and progression; and (3) establish a therapeutic proof-of-concept using allele-specific CRISPR/Cas9 gene editing delivered via lipid nanoparticles (LNPs). Through a combination of stem cell biology, bioinformatics, and gene therapy approaches, the doctoral fellow will contribute to advancing the understanding of MORC2 disorders and support the development of future precision medicine strategies for affected patients.
Collaborations and co-supervisions:	The PhD project will be co-supervised:
Supervisors:	Main supervisor : Thomas CHETOT - thomas.chetot@vetagro-sup.fr Supervisor 2 : Arnaud JACQUIER - arnaud.jacquier@univ-lyon1.fr Supervisor 3 : Carole VUILLEROT - carole.vuillerot@univ-lyon1.fr
Place of work:	Institut NeuroMyoGène Laboratoire Physiopathologie et Génétique du Neurone et du Muscle. CNRS UMR 5261 -INSERM U1315. Université de Lyon - Université Claude Bernard Lyon 1 8 Av. Rockefeller, 69008 Lyon, France
Required degree	Master's degree or equivalent in Cell Biology, Neurosciences, Molecular Biology, Biochemistry, or Biomedical Sciences.

Skills/Experience:	Candidates must hold a background and hands-on experience in wet-lab experimental techniques, including mammalian cell culture and molecular/cellular biology assays (prior experience with iPSCs, neuronal differentiation, or CRISPR/Cas9 is an asset). While advanced bioinformatics skills are not required, candidates should be curious and motivated to learn multi-omics data interpretation. A collaborative spirit, a positive mindset, rigor, and autonomy will be highly appreciated to join in our dynamic, multidisciplinary team.
Keywords	MORC2, Neurodegenerative Disorders, iPSCs, Motor Neurons, Omics, Precision Medicine, Neuroinflammation, Biomarkers

Mandatory requirements

Eligibility:	The doctoral fellow: - should not have resided or carried out his/her main activity (work, study) in the country where he/she is being recruited, i.e., France, **for more than 12 months in the 3 years before the application call deadline,** unless this time was part of a compulsory national service or a procedure for obtaining refugee status under the Geneva Convention, - **must be in possession of a master's degree** at the date of the call deadline. Applicants who have completed their cursus but not yet been awarded the formal master's degree by that date will not be considered eligible. - must be **a doctoral candidate** (not already in possession of a doctoral degree at the date of the application call deadline).
Languages:	Oral and written skills must meet the standards of academic English used in international research.

Job details

Type of contract:	Full time position
Gross salary:	The monthly **living allowance, including employer and employees' social charges, is 3,500€.** This amount corresponds to a gross monthly salary estimated to 2447 €, and to an estimated net monthly salary before income tax of 1933€. On top of the monthly salary, the candidate will have access to a budget of 4752 € to cover relocation expenses.
Other benefits:	**Social Protection**: The candidate will benefit from **full social security coverage**, including health insurance, unemployment insurance, and pension contributions. He/she will also have access to occupational health services (*médecine du travail*), as required by French labour law. **Additional Insurance**: The candidate may choose to subscribe to complementary health insurance plans at Mercer marsh, at affordable rates (approximately 34 € *per* month). Host institutions will provide 37 € *per* month. **Paid Leave**: The candidate is entitled to up to **50 days of paid leave annually**, in accordance with national labour law, and will enjoy the same employment rights as other public-sector employees, including student union membership. **Transport**: The candidate benefits from significantly **reduced fares on public transport**, available in all partner cities. Additionally, the host institution will cover 75% of the monthly transportation costs.