

PhD position

A VetAgroSup funded PhD position, starting November 2021, is available in the MNCA (Muscle nucleus and cytoskeleton architecture) team at the NeuroMyoGène Institute ([INMG](#)) in Lyon, France, to identify genetic variants associated with the development of hereditary cardiac disease common to humans and cats (HCM: hypertrophic cardiomyopathy) and to characterize *in vitro* the pathophysiological impact of these variants using Cardiomyocytes culture derived from hiPSC.

The INMG Institute is dedicated to study the interplay between nervous and muscular systems from development to aging, under normal and pathological conditions. It benefits from the integration of cutting-edge fundamental research teams and renowned clinicians.

Our group, directed by Vincent Gache, has a long-standing interest in skeletal and cardiac muscle formation/maintenance with a particular interest in myonuclei architecture and its relation to diseases.

We are looking for a highly motivated candidate with a Master degree to (1) analyze feline DNA samples from the Feli-DNA biobank (association studies, linkage analysis, search for variants in whole genomes (use of VCF files). (2) Analyze *in vitro* the impact of identified variants on cellular models of cardiomyocytes derived from hiPSC (human induced pluripotent stem cells) edited using the CRISPR / CAS9 system. Phenotypes will be analyzed exhaustively (localization of target proteins by immunofluorescence, contractility test via video-microscopy techniques, histology, ultrastructure (STED / electron microscopy).

Prior experience in hiPSC culture, CRISPR / CAS9 system, imaging, is preferred but not mandatory. Necessary skills include organization, motivation, creativity and knowledge in bioinformatics (Analysis of whole genome sequencing data, Linux, R, Plink). Scientific English, good writing and oral presentation skills are required. The salary for this position will be offered following the UCBL1 guideline.

Please submit from now to September 15th, curriculum vitae, Bachelor and Master's marks and ranks, statement of research interest and 1 or 2 reference letters to Pr. Marie Abitbol (marie.abitbol@vetagro-sup.fr) and Dr. Vincent Gache (vincent.gache@univ-lyon1.fr). Please, indicate «PhD-Cardio application» in the subject item of your mail.

References:

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