

Two years post-doc position in Institut Cochin, Paris, in the team « Neuromuscular Development, Genetics and Physiopathology »

Adult myofibers diversity, and more particularly their fast subtypes, is finely controlled by corresponding motoneuron (MN) diversity. Yet the determinants of this MN diversity and how their specific properties may finely tune the myofibers' phenotypes remain to be characterized. The overall goal of the project is to define the regulatory mechanisms determining the crosstalk between MN subtypes and myofiber subtypes that preside to the expression of a single myosin heavy chain (Myh) gene in the hundreds of nuclei present in a given fiber. The post-doc will also work on determining the mechanisms controlled by MN firing involved in the control of specific signaling cascades in the myofiber, and the mechanisms presiding to the differential vulnerability of MN subtypes observed in mouse models of human pathologies. Several complementary mouse mutant models will be studied allowing the characterization of the molecular mechanisms presiding the dialog between motoneuron and myofiber subtypes.

This study will allow us to identify the transcription factors and signaling pathways involved in those mechanisms, especially with the complementary snRNA-seq and snATAC-seq experiments that will be performed on the existing or newly generated CRISPR/Cas9 mouse models.

A curious and inventive post doc will be welcomed for a two years position. He/she must have good knowledge of the neuromuscular system and the big data analysis softwares. Please send a cover letter, a CV and two letters of recommendation to pascal.maire@inserm.fr.

