Ph.D position

In the frame of a European research project we are looking for a Ph.D candidate to work at the development of a multiwell MEA microfluidic platform that will be used to study reconstructed neuromuscular junctions under pathologic situations (SMA/ALS).

The candidate will participate in the development of an integrated and parallel system for high-throughput screening of drugs on reconstructed neuronal-muscle junctions. The system will include a set of compartmentalized microfluidic circuits. This will allow the reconstruction of the motor neuron–myofibers junction equipped with extracellular micro electrodes for stimulating and monitoring the cellular electrical activity, and also with all the electronics required to drive the parallel screening system. These reconstructed neuronal junctions will include human iPSC-derived oriented motor neurons and muscles from both healthy and ALS/SMA patients.

The candidate will work in cleanroom to establish the microfabrication protocols including metal deposition, photolithography, SU8 photolithography, PDMS casting and bonding, Reactive ion etching and PECVD deposition. He/She will also develop electrical stimulation and recording experiments with the help of a parallel electrical amplification equipment.

The candidate will work with project partners to the establishment of cell culture protocols and develop a set of electrical stimulation/recording with cultured wild type and mutant neurons.

The Ph.D will take place in Institut d’Electronique et des Systèmes, a joint laboratory of CNRS and the University of Montpellier, under the supervision of Benoît CHARLOT and in close partnership with all project partner and especially Florence RAGE from the Institute of molecular genetics in Montpellier.

The candidate must have a master in bioengineering or equivalent.

Send application with CV to benoit.charlot@umontpellier.fr

Benoît CHARLOT, Ph.D

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