



Thesis Project Form

Title (tentative): Stimulation of neuronal networks derived from human induced pluripotent stem cells coupled to MEAs: characterization of the electrophysiological response of stimuli evoked

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Description

Motivation and application domain

Neuronegineering and Neurotechnologies. Micro-Electrode-Arrays and induced pluripotent stem cells

General objectives and main activities

- Realization of experimental protocols for the electrical stimulation of neural networks derived from human induced pluripotent cells coupled to micro-electrode matrices.
- Realization of experimental protocols for the chemical stimulation of neural networks derived from human induced pluripotent cells coupled to micro-electrode matrices.
- Implementation of software tools for data analysis, in particular for the study of network dynamics.

Training Objectives (technical/analytical tools, experimental methodologies)

Instruments acquired at the end of the thesis:

- Use of data acquisition platforms (MCS)
- Cell culture methods
- Software tools for data analysis

Place(s) where the thesis work will be carried out: Neuroengineering and Neurotechnologies Lab (N2Lab)

Additional information

Maximum number of students: 1