UNIVERSITY OF GENOA
DEPARTMENT OF INFORMATICS, BIOENGINEERING, ROBOTICS AND SYSTEMS ENGINEERING
MASTER'S PROGRAM IN BIOENGINEERING

Thesis Project Form

Title (tentative): Development of a MATLAB algorithm for tracking the action potential of neurons on MEA HD

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Description

Motivation and application domain

Data acquisition using 3Brain Duplex systems and Accura HD-MEA
Data processing and analysis using MATLAB

General objectives and main activities

The aim of this thesis is to adapt an algorithm that allows us to trace the action potential of neurons on HD-MEA in an automated way and that allows us to extract parameters to characterize its propagation. This will be used to evaluate the propagation properties of neuronal cultures derived from different patients. The student will have available electrophysiological data deriving from neuronal cultures derived from patients recorded on MEA-HD.

Training Objectives (technical/analytical tools, experimental methodologies)

Data acquisition using 3Brain Duplex systems and Accura HD-MEA
Data processing and analysis using MATLAB

Place(s) where the thesis work will be carried out: Gaslini Hospital

Additional information

Maximum number of students: 1