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

Thesis Project Form

Title (tentative): Analysis of synaptic signaling in human iPSC derived neuronal cultures on MEA

Thesis advisor(s): Martinoia Sergio, Dirk Schubert (Radbaoud University, NL)

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Description

Motivation and application domain

Neuroengineering. Network electrophysiology. Neural signal analysis.

General objectives and main activities

Main objective is to study on a new experimental model, namely, human IPSC derived neurons coupled to Micro Electrode Arrays network functional organization and development. The electrophysiological characterization will be carried out by coupling iPSC derived neurons onto MEA. Specific protocols will be developed and custom data analysis implemented.

Training Objectives (technical/analytical tools, experimental methodologies)

network electrophysiology. Phenotype charcterization in terms of action potentials and LFP.

Place(s) where the thesis work will be carried out: Radboud University (Nijmegen, NL)

Additional information

Pre-requisite abilities/skills: neurobiology and neuronal signaling. Extracellular electrophysiology

Maximum number of students: 1

Financial support/scholarship: Erasmus+