



## Thesis Project Form

**Title (tentative):** Recordings and characterization of the electrophysiological activity of cortical ALS neurons coupled to MEAs

**Thesis advisor(s):** Massobrio Paolo, Martina Brofiga

**E-mail:** Paolo.Massobrio@unige.it

**Address:** Via All'Opera Pia, 13 - 16145 Genova

**Phone:** (+39) 010 33 52761

### Description

#### Motivation and application domain

Understanding in a simplified in vitro models possible modifications induced by ALS

#### General objectives and main activities

Development of a new experimental protocol to cultivate complex central and peripheral neuronal networks affected by ALS to MEAs. Characterization of their electrophysiological activity

#### Training Objectives (technical/analytical tools, experimental methodologies)

Cell culture procedures; Microscopy techniques; MEA-based set-up; Data analysis (MATLAB-based) algorithms.

**Place(s) where the thesis work will be carried out:** DIBRIS

### Additional information

**Pre-requisite abilities/skills:** Computational Neuroscience, Matlab Programming, Lab

**Curriculum:** Neuroengineering

**Maximum number of students:** 1