GIORGIA ZANINI

Ph.D. Student

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RESEARCH ACTIVITY

I am a PhD student in Bioengineering. My research activity fits into the field of neuroengineering, concerning both experimental and data-analysis-related aspects. In this framework, my main research focus on the electrical stimulation of 2D *in vitro* engineered neuronal networks made up of neurons derived from human induced pluripotent stem cells coupled to electronic devices.

TRACK RECORD

- Co-author of 4 peer-reviewed abstracts
- Co-author of 2 journal articles under review

EDUCATION AND RESEARCH EXPERIENCE

PhD Student in Bioengineering and Robotics

DIBRIS - UniGe

Nov 2022 – Ongoing Genova, Italy

- Project title: Brain-on-a-chip: 3D neuronal networks from human induced Pluripotent Stem Cells coupled to innovative micro transducer arrays.
- Supervisor: Professor Sergio Martinoia and Michela Chiappalone
- Expected PhD defense: April 2026

Master's degree in Bioengineering, Curriculum Neuroengineering no

DIBRIS - UniGe

Sept 2020 – Oct 2022 Genova, Italy

- Thesis title: Stimulation of excitatory neuronal networks derived from human induced pluripotent stem cells coupled to MEAs: characterization of the electrophysiological response to electrical stimuli.
- Final degree mark: 110L/110

Bachelor's degree in Biomedical Engineering

DIBRIS - UniGe

Sept 2017 – Sept 2020 Genova, Italy

- Thesis title: Effects of 5G "wireless" communications on human health.
- Final degree mark: 103/110

PUBLICATIONS

Peer-reviewed Abstract

- **Zanini, G.,** Parodi, G., Chiappalone, M., & Martinoia, S. Investigating the effect of electrical stimulation on glutamatergic neuronal networks derived from h-iPSCs. In-Vitro 2D & 3D Neuronal Networks MxW Summit, 2023, Zurich, Switzerland.
- **Zanini, G.,** Parodi, G., Chiappalone, M., & Martinoia, S. Electrical stimulation of excitatory neuronal networks derived from human induced pluripotent stem cells JRC Summer School on Non-Animal Approaches in Science 2023, Ispra, Italy.
- **Zanini, G.,** Parodi, G., Chiappalone, M., & Martinoia, S. Exploring the impact of electrical stimulation on glutamatergic neuronal networks derived from h-IPSCs. SFN Neuroscience Annual Meeting, 2023, Washington, USA.
- Parodi, G., **Zanini, G.**, Chiappalone, M., and Martinoia, S., Investigating the impact of excitation/inhibition balance in human iPSCs-derived neuronal networks during long-term development on MEAs, SFN Neuroscience Annual Meeting, 2023, Washington, USA.

Journal Articles Under review

- **Zanini, G.,** Parodi, G., Chiappalone, M., and Martinoia, S., Investigating the reliability of the evoked response in human iPSCs-derived neuronal networks coupled to Micro-Electrode Arrays. APL Bioengineering. IF: 6.586, Q1
- Parodi, G., **Zanini, G.**, Chiappalone, M., and Martinoia, S., Electrical and chemical modulation of homogeneous and heterogeneous human-iPSCs-derived neuronal networks on high density arrays. Frontiers in Molecular Neuroscience. IF: 6.261, Q1