PERSONAL PROFILE

Name	**OTTAVIANI ALESSANDRA**
Adress	
Phone	
E-mail	
Nationality	
Date of Bird	

ACADEMIC EXPERIENCE

2019 – Present

Ph.D. Candidate of Biomedical Science
Department of Brain and Behavioural Science - Egidio D'Angelo Lab
University of Pavia

Extracellular recordings of neuronal activity in cerebellar acute slices using the high-density multi-electrode array (HD-MEA). Laboratory experience with mice and *ex vivo* procedures. Data analysis using Brainwave and ad hoc routine in Python.

Investigation of dendritic processing and synaptic integration of Cerebellar Golgi Cell and validation with single-cell model using NEURON+Python environment and Bluepyopt Algorithm.

April 2019 – September 2019

Research Assistant
Department of Brain and Behavioural Science - Egidio D'Angelo Lab
University of Pavia

The study focused on cerebellar Golgi Cells using the NEURON+Python environment and Bluepyopt Algorithm for data-driven model parameter optimization in the multicompartmental single neuron model.

EDUCATION AND TRAINING

2019 - Present

Ph.D. Course in Biomedical Sciences - Neurophysiology
Department of Brain and Behavioural Science - Egidio D'Angelo Lab

- Electrophysiology - extracellular recordings in cerebellar acute slices.
- Multi-electrode array (MEA) recordings (local field potentials) in slice and CNS organoids.
- Single neuron modeling with NEURON+Python.
- Data analysis using Python and Brainwave (3Brain AG).
- Experience with Linux Os and Windows. Microsoft Office package, Adobe Suite, Corel Draw.

2021 - 2022

Certificazione 24 cfu – Università di Pavia

2019

Abilitazione alla professione di Biologo
Esame di Stato sez.A – Sessione 2019
Università degli studi di Parma

2016 - 2018	**University of Pavia (UNIPV) – CdLM Neurobiology** Master's Degree in Neurobiology Dissertation in Computational Neurophysiology: "Realistic model of cerebellar Basket Cell". biophysically analysis of cerebellar Basket cell activity" Internship in computational neurophysiology • Multi-compartmental neuron modeling using NEURON+Python environment • Data analysis with Python and MATLAB script languages Master's Degree (LM – 06), 110/110 *cum laude*
2010 - 2015	**Università Politecnica delle Marche (UNIVPM) – CdL Biological Science** Bachelor's Degree in Biological Science Dissertation in Molecular Biology: "Targeting the eIF4F translation initiation complex: a critical nexus for cancer development" Internship in biological sciences laboratory - Area Vasta 2 (AN) - 2013 • Tissue processing, cell cultures, molecular biology techniques • Prepare stocks and culture media, maintain appropriate levels of all laboratory supplies, control the ordering process • Process human samples for long-term storage and biobanking Bachelor's Degree

PERSONAL SKILLS
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MOTHER TONGUE	**ITALIANO**
OTHER LANGUAGE	**ENGLISH**
• Reading	EXCELLENT
• Writing	EXCELLENT
• Speaking	GOOD

COMMUNICATION SKILLS
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I'm a proactive and team-oriented person. During my Ph.D. experience, I collaborated with Italian, foreign Europeans, and Chinese, characterized by a high degree of multi-disciplinarily: physicists, engineers, physicians, biologists, and neurobiologists, keeping stable and excellent relationships. The knowledge of different cultural environments helped me to develop sensibility and empathy. Collaboration is the key element of a successful team, especially in the research field, in order to achieve results.

MANAGERIAL SKILLS

Ability to work independently and in a team, with a driven approach to achieve the goal. The Ph.D. experience makes me able to resolve problems with quick thinking. The management of master's students and bachelor's students was an opportunity to develop the ability to coordinate every step of my research project and was a challenge in learning how to manage time.

TECHNICAL AND COMPUTER SKILLS	• Electrophysiology - extracellular recordings in cerebellar acute slices. • Multi-electrode array (high-density multielectrode array 3Brain AG) recordings (local field potentials) in slice and CNS organoids. • Single neuron modeling with NEURON+Python. • Data analysis using Python language and library, BrainWave. • Experience with Linux Os and Windows. • Microsoft Office package, Adobe Suite, Corel Draw.

ORAL COMMUNICATION AND POSTER PRESENTATION	**Oral communication at the 72nd SIF National Congress held in Bari in September 2022.** Title: "High-density multi-electrode array recordings reveal computational complexity in cerebellar cortical processing" **Flash talk at the School of Brain Cells & Circuits "Camillo Golgi" held in Erice in November 2021** Title: "High-density multi-electrode array recordings reveal computational complexity in cerebellar cortical processing" **Flash talk at the School of Brain Cells & Circuits "Camillo Golgi" held in Erice in August 2019** Oral communication title: "*Synaptic integration in multicompartmental Golgi cell models with active dendrites*" **Ottaviani A**, Nieus T, Monteverdi A, Li Y, Massimini M, Mapelli L, D'Angelo E., "*High-density multi-electrode array recordings reveal computational complexity in cerebellar cortical processing*"; FENS Forum 2022, Paris, July 2022. **Ottaviani A**, Nieus T, Monteverdi A, Li Y, Massimini M, Mapelli L, D'Angelo E., "*High-density multi-electrode array recordings reveal computational complexity in cerebellar cortical processing*"; ENCODS 2022, Paris, July 2022. – *Selected poster presenter*. **Ottaviani A**, Nieus T, Monteverdi A, Li Y, Massimini M, Mapelli L, D'Angelo E., "*High-density multielectrode array recordings reveal computational complexity in cerebellar cortical processing*"; Symposium: From Cortical Microcircuits to Consciousness Paris, April 2022. **Ottaviani A**, Nieus T, Monteverdi A, Massimini M, Mapelli L, D'Angelo E., "*High-density multielectrode array recordings reveal computational complexity in cerebellar cortical processing*"; School of Brain Cells & Circuits "Camillo Golgi", Erice, November 2021. Masoli S., **Ottaviani A**., D'Angelo E. "*Synaptic integration in multicompartmental Golgi cell models with active dendrites*"; School of Brain Cells & Circuits "Camillo Golgi", Erice, August 2019.

CONFERENCES	**72nd SIF National Congress** – Bari, September 2022. **FENS Forum 2022** - Paris, July 2022 **ENCODS 2022** - Paris, July 2022 - *Selected based on CV* **Symposium: From Cortical Microcircuits to Consciousness** - Paris, April 2022 **71st SIF National Congress** - Online, September 2021 **Cerebellum Hackathon - Human Brain Project** - Pavia, February 2020

COURSES	**Biologia e gestione degli animali da laboratorio, -** MODULI 3.1, 4, 5, 6.1, 7. DM 5 AGOSTO 2021 RODITORI E LAGOMORFI - Edizione Unica
	Legislazione nazionale ed etica livello 1 - MODULI 1 E 2, DM 5 AGOSTO 2021
	Comunicare la scienza - 25th School of Physiology and Biophysics (SIF) - Anacapri 2022
	School of brain cells & circuits "Camillo Golgi" - "Modelling the brain: Elementary components to explain ensemble functions" - Erice, December 2021
	Lake Como School of Advanced Studies - "Neural Circuit Complexity: Neuroscience, Models and Robotics" - Como, September 2021
	Neuronal Biophysics: From experiments to models - 24th School of Physiology and Biophysics (SIF) Pavia, July 2021

PUBLICATIONS

Mapelli L, Dubochet O, Tedesco MT, Sciacca G, **Ottaviani A**, Monteverdi A, Battaglia C, Tritto S, Cardot F, Surbled P, Schildknecht J, Gandolfo M, Imfeld K, Cervetto C, Marcoli M, D'Angelo E, Maccione A. (2022) *Design, implementation, and functional validation of a new generation of microneedle 3D high-density CMOS multi-electrode array for brain tissue and spheroids*. Preprints BioarXiv. https://doi.org/10.1101/2022.08.11.503595

Masoli S, **Ottaviani A**, Casali S, D'Angelo E (2020) *Cerebellar Golgi cell models predict dendritic processing and mechanisms of synaptic plasticity*. PLoS Comput Biol 16(12): e1007937. https://doi.org/10.1371/journal.pcbi.1007937

Frontiers Abstract Book (2019) - SCHOOL OF BRAIN CELLS & CIRCUITS "CAMILLO GOLGI": *The neural bases of action – from cellular microcircuits to large-scale networks and modeling.* DOI: 10.3389/978-2-88963-087-5

REFEREES

Prof. Egidio D'Angelo, MD
PI at Dept of Brain and Behavioural Sciences
egidiougo.dangelo@unipv.it

Prof Lisa Mapelli, PhD
Associate Professor at Dept of Brain and Behavioural Sciences
lisa.mapelli@unipv.it

Dott. Stefano Masoli, PhD
Researcher at Dept of Brain and Behavioural Sciences
stafano.masoli@unipv.it