PERSONAL PROFILE

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

ACADEMIC EXPERIENCE

2023 - Present

Post-Doctoral Researcher
Department of Bioscience – Brain Sleep Research Lab
University of Camerino

Chronic sleep restriction and drug addiction during adolescence: effects on synapses, neurocircuitry, and behaviors, with a focus on measurement of brain circuit function by electrophysiology and miniscope *in vivo* calcium imaging in prefrontal cortex, nucleus cccumbens, and basolateral amygdala.

2019 – 2023

Ph.D. in 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 a 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 parameter optimization in the multicompartmental single neuron model.

EDUCATION AND TRAINING

2019 - 2022

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.

Dissertation: "Investigating the complex integration processing of input patterns in the cerebellar cortex using HDMEA and computational tools"

Membership and Ambassador
- Student Ambassador in the Ph.D. course of Biomedical Sciences

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 (LM – 06)
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	
MOTHER TONGUE	ITALIANO
OTHER LANGUAGE	
	ENGLISH
• Reading	EXCELLENT
• Writing	EXCELLENT
• Speaking	GOOD

COMMUNICATION SKILLS

I'm a proactive and team-oriented person. During my Ph.D. experience, I collaborated with Italians, 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, 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

- Miniscope *in vivo* Calcium imaging technique
- Stereotaxic surgery
- Animal handling and behavioral test
- Development board programming with Arduino and Raspberry system
- 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 libraries, 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 20, 21, 22, Anestesia per procedure minori e procedure avanzate specie topo e ratto.

Biologia e gestione degli animali da laboratorio, - MODULI 3.2, 6.2, 8, Procedure minimamente invasive senza anestesia, specie topo e ratto.

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

Camerino, 16/12/2023

Firma

OMISSIS