

**EUROPEA  
NCURRICULUM VIT  
AE  
FORMAT**



**EDUCATION**

Master's degree in Neurobiology, January 2020, University of Rome La Sapienza.  
Thesis: Study About the Effect of Psychological stress on CPEB1 Protein in Mouse Brain  
Model. Advisor: Prof. Rinaldi Arianna  
Vote: 110/110 *cum Laude*

Bachelor's degree in Biology, University of Rome La Sapienza,  
2017. Thesis: The Effect of Stress on Adult Hippocampal  
Neurogenesis Advisor: Prof. Emanuele Cacci  
Vote: 97/110

High school leaving qualification in scientific studies, *Liceo classico e scientifico "L. Rocci"*,  
Passo Corese, Rieti. 2011.

**WORK EXPERIENCE**

**Laboratory of Psychobiology, La Sapienza, University of Rome – Consiglio Nazionale delle Ricerche (CNR), Roma (2020).**

Advisors: Prof. Arianna Rinaldi; Prof. Andrea Mele; Prof. Cecilia Mannironi

Project1: The Role of RBPs in stress response.

My thesis project was focused on how the response to psychological stressor affects Cytoplasmic Polyadenylation Element Binding Protein (CPEB)-dependent cytoplasmic polyadenylation in different mouse brain regions. I used a chronic and acute psychological stress paradigm, known as restraint, to stress mice. I studied CPEB1 expression through its RNA and protein levels in hippocampus and prefrontal cortex following stress experience. To study CPEB1 activity I analyzed PolyA tail length of CPEB1 target too. Interestingly, we found a decrease in hippocampal cpeb1 rna expression in mouse exposed to acute stress compare to chronic group but no significant difference was found in protein expression.

Project2: Brain mapping circuits in spatial navigation. *Collaboration with Prof. Michele Migliore, Istituto*

*di Biofisica (IBF), Consiglio Nazionale delle Ricerche (CNR), Palermo.*

During my thesis period I was involved in another project that aimed to map hippocampal cells activation in mice during spatial learning. I have trained mice in a spatial task called Morris Water Maze and sacrificed them 60 minutes after the end of training session to study the expression of the immediate early gene. In particular, I performed immunofluorescence and immunohistochemistry on hippocampal brain slices and captured images by fluorescent microscope using Nis-Element Imaging Software. The different images were stitched to obtain a single image of hippocampal brain region and I made a new counting protocol using ImageJ software to analyze immediate early genes positive cells in the hippocampus. My counting protocol allowed us to analyze positive cells along mediolateral and anteroposterior axis and the data generated were shown at Human Brain Project Summit in Athens (2020).

## **TECHNICAL SKILLS**

### **MOLECULAR BIOLOGY SKILLS**

Cell Cultures (Human and Murine Neuroblastoma)  
Western Blotting  
RNA extraction  
DNA extraction  
qPCR  
Real-Time qPCR  
ePAT assay to analyze poly(A) tail length of RNA

### **MICROSCOPY**

Fluorescence Microscope

### **IN VIVO TECHNIQUES**

Handling of adult mice  
Stereotaxic surgery to inject Viral vector (AAV) in mice brain.  
Transcardiac Perfusions of adult mice  
Intraperitoneal Injection  
Microsectioning of mice brain using microtome  
Punching technique to Extract target brain regions  
Extraction of cortical neurons from E18, P10 and P30 pups for primary neuron cultures.  
Immunohistochemistry of brain slices

### **BEHAVIORAL TASKS**

Elevated Plus Maze and Open Field to analyze anxiety-like behavior  
Morris Water Maze and Object recognition task to analyze learning and memory performance

## SOFTWARE

ImageJ  
Nis-Element Imaging Software  
ImageLab  
GraphPad  
Microsoft Office

## PERSONAL SKILLS

MOTHER TONGUE

**ITALIAN**

OTHER LANGUAGES

**ENGLISH**

- Reading skills B1, INTERMEDIATE
- Writing skills B1, INTERMEDIATE
- Verbal skills B1, INTERMEDIATE

DRIVING LICENSE

**European License B**

## AWARD

Awarded for “*Torno Subito 2019*”, Training and Education program from Regione Lazio. European Funded.

## POSTER

References/Symposia, 2020, Human Brain Project, Summit and Open Day, Athens, Greece.  
*Mapping Brain Circuits in Spatial Navigation (MAPS): The Spacing Effect*. E. Centofante, **L. Fralleoni**, V. Mastrorilli, A. Rinaldi, A. Mele

## REFERENCES

Prof. **Mannironi Cecilia**, Consiglio Nazionale delle Ricerche (CNR). Professor of Molecular Neurobiology, University of Rome La Sapienza. [cecilia.mannironi@uniroma1.it](mailto:cecilia.mannironi@uniroma1.it)

Prof. **Mele Andrea**, Department of Biology and Biotechnology “Charles Darwin”. Professor of Psychopharmacology and Psychobiology, University of Rome La Sapienza. [andrea.mele@uniroma1.it](mailto:andrea.mele@uniroma1.it)

Prof. **Rinaldi Arianna**, Department of Biology and Biotechnology "Charles Darwin". Professor of Behavioral study methods. [arianna.rinaldi@uniroma1.it](mailto:arianna.rinaldi@uniroma1.it)