Viola Prestini

EDUCATION AND TRAINING

National Research Council (CNR), Institute of Neuroscience (Milan) - IUSS, Pavia
15/11/2025 – CURRENT
PH.D. STUDENT - PhD Program in Science and Technology for Advanced Therapies (STAT) - University of Pavia (IUSS)

PhD supervisor: Alessandra Folci, CNR Institute of Neuroscience; prof. Federico Forneris, University of Pavia IUSS.

University of Milan | 10/2021 – 07/2024
Master's Degree in Molecular Biotechnology and Bioinformatics

Master's thesis Internship:
University of Milan | April 2023 – June 2024 | **Professors: Dr. Thomas Vaccari and Dr. Erika Donà**
Thesis title: "Cellular homeostasis genes regulating autophagy in developing Drosophila motor neurons: a focus on V-ATPases".
During my master's thesis, I acquired extensive experience in handling and genetic manipulation of *Drosophila melanogaster*, including strain generation, crosses, and behavioural assays. I performed immunofluorescence and confocal microscopy to analyse neuronal morphology and autophagic activity, followed by quantitative image analysis using ImageJ/Fiji and Ilastik. Additionally, I developed strong data analysis and bioinformatics skills with R, performing transcriptome analysis of scRNA-seq datasets, differential genes expression analysis, pathway enrichment and Gene Ontology analysis.
Final grade: 110/110 cum laude

08/2021
ENGLISH B2 CERTIFICATION | IELTS

University of Parma | 10/2017 – 04/2021
Bachelor's Degree in Biology

Bachelor's thesis internship:
University of Parma | October 2020 – March 2021 | **Professor: Dr. Anna Torelli**

Thesis title: "Involvement of Glutathione in Hexavalent Chromium Tolerance in the Unicellular Green Alga Scenedesmus acutus (Sphaeropleales): Study of the γ-Glutamylcysteine Synthetase (GSH1) Enzyme".

The project investigated, through bioinformatic approaches and phylogenetic analysis the evolution and redox regulation of the γ-Glutamylcysteine Synthetase (GSH1) enzyme, a key catalyst in glutathione biosynthesis that plays a central role in chromium detoxification in the green alga Scenedesmus acutus.

Final grade:107/110

Liceo Classico Arnaldo, Brescia | 2016
Classical High School Diploma

WORK EXPERIENCE

National Research Council (CNR), Institute of Neuroscience (Milan) - IUSS, Pavia
15/11/2025 – CURRENT
PH.D. STUDENT - PhD Program in Science and Technology for Advanced Therapies (STAT) - University of Pavia (IUSS)

From – to	Description
10/2024 - 10/2025	**Winner of the public call for Research Fellow:** *"New insights into physiology of aged-related cognitive disorders: unexpected role of DNA repair proteins ATM and ATR".* **National Research Council (CNR), Institute of Neuroscience (Milan)** **PI Dr. Alessandra Folci**

Master's thesis Internship:
University of Milan | April 2023 – June 2024 | **Professors: Dr. Thomas Vaccari and Dr. Erika Donà**
Thesis title: "Cellular homeostasis genes regulating autophagy in developing Drosophila motor neurons: a focus on V-ATPases".

Bachelor's thesis internship:
University of Parma | October 2020 – March 2021 | **Professor: Dr. Anna Torelli**
Thesis title: "Involvement of Glutathione in Hexavalent Chromium Tolerance in the Unicellular Green Alga Scenedesmus acutus (Sphaeropleales): Study of the γ-Glutamylcysteine Synthetase (GSH1) Enzyme".

SKILLS AND EXPERTISE

1. Laboratory and Experimental Techniques
• **Molecular biology:** DNA manipulation: extraction, purification, digestion; Cloning; Mutagenesis; Ligases; Bacterial transformation; qPCR
• **Biochemistry:** Protein purification; SDS-page; Western-blotting; Protein chemical crosslinking (e.g. BS3); Mitochondrial protein immunoprecipitation (IP)
• **Microscopy and Immunostaining:** Immunofluorescence; Confocal microscopy
• **Cell Culture:** Primary neuronal cultures and immortalized cell lines; Maintenance; Transfection; Treatments; Cryopreservation
• **Experience with Drosophila melanogaster:** Handling and genetic manipulation of
D. melanogaster: maintenance, strain generation through balancing, crosses, and recombination; Climbing assay; Dissections of ventral nerve cord (VNC) and central brain

2. Software and IT Tools
• **Office Suite:** Word, Excel, PowerPoint
• **Image analysis**: ImageJ/Fiji; Ilastik
• **Data analysis and bioinformatics - R language:** statistical analysis; Transcriptome analysis using scRNA-seq datasets; differential expression analysis, pathway enrichment; Gene Ontology analysis; GeneDoc, Clustal X, FigTree

3. Languages
Italian: Native
English: intermediate level (B2)

DRIVING LICENCE

Driving licence: B