

EUROPEAN RESUME FORMAT



PERSONAL INFORMATION

Name **CAZZOLA JESSICA**

WORK EXPERIENCE

- Date (from – to) **September 2020- September 2023**
- Name and address of employer Prof. Gerardo Biella – Dr. Francesca Talpo
- Type of business or industry University of Pavia - Department of Biology and Biotechnology "L. Spallanzani". Laboratory of biophysics and physiology of ion channels.
- Type of employment **Internal university internship**

- Date (from – to) **October 2023**
- Name and address of employer Prof. Gerardo Biella- Dr. Francesca Talpo- Dr. Paolo Spaiardi
- Type of business or industry University of Pavia- Department of Biology and Biotechnology “L.Spallanzani”. Laboratory of biophysics and physiology of ion channels.
- Type of employment **PhD**

RELEVANT SKILLS

- Patch clamp:
 - Patch clamp in culture cells
 - Optogenetics with transfected cells
 - Induction of chemical LTP
 - Isolation of current with specific protocols
 - Focal perfusion of drugs
 - Patch clamp in slices
 - Chemogenetics
- Culture cells:
 - Maintenance of cell lineage (SH-SY5Y)
 - Differentiation into cells with neuronal phenotype
 - Transfection with specific kits
 - Freezing and defrosting cells from nitrogen
- Animals:
 - Dissection of mouse with brain isolation and slice cutting
 - Good ability in animal manipulation

- Analysis
 - Analysis of synaptic event with LabVIEW and Origin
 - Analysis of cell capacitance and resistance with Clampfit
 - Analysis of different currents with Boltzman interpolation and calculation of kinetic parameters with Origin and Clampfit
- Good knowledge of statistical analysis

EDUCATION AND TRAINING

- Date From October 2021 to September 2023
- Name and address of employer Master's degree program in Neurobiology. University of Pavia.
- Qualification Achieved **Master's degree in Neurobiology. Grande: 110/110 with honors**

Electrophysiology dissertation 'Restoration of synaptic plasticity in primary cultures hippocampal cultures obtained from HD mice through inhibition of the ADAM10 metalloprotease'
- Date From October 2018 to July 2021
- Name and address of employer Bachelor's degree program in biological sciences. University of Pavia.
- Qualification Achieved **Bachelor's degree in biological sciences. Grade: 110/110 with honors**

Electrophysiology dissertation "Electrophysiological characterization of striatal medium spiny neurons obtained from human embryonic stem cells with a novel differentiation protocol"
- Date (From – to) 2013-2018
- Nome e tipo di istituto di istruzione o formazione Adelaide Cairoli High School (PV)
- Qualification Achieved **High school diploma in linguistics. Grade: 100/100 with honors**

LANGUAGE SKILLS

NATIVE LANGUAGE

ITALIAN

ENGLISH

- Reading skills EXCELLENT
- Writing skills EXCELLENT
- Oral expression skills EXCELLENT

SPANISH

- Reading skills GOOD
- Writing skills GOOD
- Oral expression skills GOOD

GERMAN

- Reading skills BASE
- Writing skills BASE
- Oral expression skills BASE

CERTIFICATIONS

- October 2024 Practical course on the manipulation of mice and rats
- October 2023 Certification for animal manipulation theory:
 - National legislation and ethics level 1, forms 1 and 2, dm 5 august 2021
 - Ethics and design of projects, forms 9, 10, 11, dm august 5, 2021
 - Laboratory animal biology and management, modules 3.1, 4, 5, 6.1, 7. dm 5 august 2021 rodents and lagomorphs
- June 2021 University ECDL course: eligible for the first 4 modules:
 - How a computer works
 - Principles of the Internet and e-mail
 - Excel
 - Power point
- July 2020 ESOL CERTIFICATE CEFR B2 Advanced Language Proficiency
- May 2017 DIPLOMA DE ESPAÑOL COMO LENGUA EXTRANJERA B1
- November 2016 PET certificate

AWARDS

- September 2022 Scholarship for Trieste Next- Festival of Scientific Research.
- 2018 Scholarship provided by the Lombardy region: Week at a research center in Philadelphia
 - Participation in the creation of a start-up in the medical field
 - Project presentation
 - Lectures on basic laboratory techniques and health care/research in the U.S.
- 2016 Scholarship for scholastic merit

SCIENTIFIC PUBLICATIONS IN EXTENSO

G. Biella, F. Callegari, A.N. Castagno, P.W. Cattaneo, **J. Cazzola**, I. Cristiani, M. Grassi, P. Malcovati, P. Massobrio, P. Minzioni, M.C. Prata, S. Ramat, A. Rappoldi, M. Rossella, P. Spaiardi, F. Talpo, *Visual prostheses based on Silicon PhotoMultiplier: The SPEye project*. Nuclear Instruments and Methods in Physics Research. Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Volume 1048, 2023.

Castagno, A.N.; Spaiardi, P.; Trucco, A.; Maniezzi, C.; Raffin, F.; Mancini, M.; Nicois, A.; **Cazzola, J.**; Pedrinazzi, M.; Del Papa, P.; et al. Oxytocin Modifies the Excitability and the Action Potential Shape of the Hippocampal CA1 GABAergic Interneurons. *Int. J. Mol. Sci.* **2024**, *25*, 2613. <https://doi.org/10.3390/ijms25052613>

Scolz A, Vezzoli E, Villa M, Talpo F, **Cazzola J**, Raffin F, Cordiglieri C, Falqui A, Pepe G, Maglione V, Besusso D, Biella G, Zuccato C. Neuroprotection by ADAM10 inhibition requires TrkB signaling in the Huntington's disease hippocampus. *Cell Mol Life Sci.* 2024 Aug 7;81(1):333. doi: 10.1007/s00018-024-05382-1. PMID: 39112663; PMCID: PMC11335257.

Maramai S, Saletti M, Paolino M, Giuliani G, **Cazzola J**, Spaiardi P, Talpo F, Frosini M, Pifferi A, Ballarotto M, Carotti A, Poggialini F, Vagaggini C, Dreassi E, Giorgi G, Dondio G, Cappelli A, Rosario Biella G, Anzini M. Novel multitarget directed ligands inspired by riluzole: A serendipitous synthesis of substituted benzo[b][1,4]thiazepines potentially useful as neuroprotective agents. *Bioorg Med Chem.* 2024 Aug 13;112:117872. doi: 10.1016/j.bmc.2024.117872. Epub ahead of print. PMID: 39153378.

Cazzola J, Talpo F, Faravelli G, Donati C, Maramai S, Saletti M, Giuliani G, Paolino M, Cappelli A, Anzini M, Sommi P, Vitali A, Sala A, Trucco A, Biella GR, Spaiardi P. Evaluation of a New Riluzole-Based Compound VA945 on Sodium and Potassium Conductances Expressed by SH-SY5Y- Derived Neurons. *J Neurochem.* 2025 Nov;169(11):e70280. doi: 10.1111/jnc.70280. PMID: 41171075; PMCID: PMC12577522.

POSTER

J. Cazzola, P. Spaiardi, F. Talpo, A. Trucco, F. Raffin, G. Faravelli, A. Scolz, S. Maramai, M. Saletti, M. Anzini, C. Zuccato, G. Biella. *Exploring Synaptic and Biophysical Mechanisms to Defeat Neurodegenerative Diseases*. It was presented during the SINS National Congress (Pisa, September 2025)

J. Cazzola, P. Spaiardi, S. Iannantuoni, C. Donati, S. Maramai, M. Saletti, A.N. Castagno, G. Faravelli, F. Raffin, A. Trucco, F. Talpo, M. Anzini, G.R. Biella. *Physiological evaluation of a new riluzole-based compound as neuroprotective agent*. It was presented during the FENS forum (Wien, June 2024)

Trucco A., Spaiardi P., Castagno A.N., Raffin F., Mancini M., **Cazzola J.**, Faravelli G., Talpo F., and Biella G. *Functional impairments of striatal neurons in Huntington's disease: fast-spiking interneurons and their key role during the early stages of the pathology*. It was presented during the FENS forum (Wien, June 2024)

A.N. Castagno, P. Spaiardi, A. Trucco, **J. Cazzola**, F. Raffin, M. Pedrinazzi, G. Faravelli, M. Mancini, A. Pisani, F. Talpo, G.R. Biella. *Fast and (sometimes) furious: oxytocinergic modulation of fast-spiking interneurons in hippocampal CA1 region and caudoputamen of mice.*). It was presented during the FENS forum (Wien, June 2024)

A.N. Castagno, P. Spaiardi, A. Trucco, C. Maniezzi, F. Raffin, M. Mancini, A. Nicois, **J. Cazzola**, P. Del Papa, M. Pedrinazzi, A. Pisani, F. Talpo, G.R. Biella. *Shaping the spikes: oxytocinergic modulation of action potentials in the CA1 hippocampal region of mice*. It was presented during SINS 2023 (Turin, September 2023)

P. Spaiardi, **J. Cazzola**, A.N. Castagno, G. Albieri, F.P. Ercolino, G. Faravelli, N. Mattiello, A. Sala, F. Callegari, I. Cristiani, M. Grassi, P. Malcovati, P. Massobrio, P. Minzioni, S. Ramat, M.C. Prata, A. Rappoldi, M. Rossella, F. Talpo, P.W. Cattaneo, G.R. Biella. *Cells survival and functional characterization of differentiated SHSY-5Y cells on Silicon PhotoMultipliers (SiPM)*. It was presented during the Neurobiology Congress (Pavia, September 2022)

PARTICIPATION IN SCIENTIFIC SEMINARS AND CONGRESSES

Nobel laureate Edward Moser's seminar "Neural computation of space and time" (Pavia, March 1, 2023) and subsequent panel discussion (Pavia, March 2, 2023)

Trieste Next- Festival of Scientific Research (Trieste, September 2022)

Symposium in memory of Prof. Jacopo Magistretti (November 2021)

FENS forum (Wien, June 2024)

SINS National Congress (Pisa, September 2025)

COMMUNICATION ACTIVITIES

SHARPER Night - European Researchers' Night. "MagicaMENTE!" booth: popularizing event with explanation to the public of optical illusions, puzzles and interactive tests aimed at revealing the mechanisms of brain functioning (Pavia, September 2021-2022-2023)

SHARPER night- European Researchers' Night. Referee for "NEUROpolis" booth (Pavia, September 2024)

TEACHING ACTIVITIES

Correlator Bachelor Degree; “Evaluation of sodium current modulation by the VA-945 molecule in neurally differentiated SH-SY5Y cells.” Candidate: Greta Bonetti. Supervisor: Paolo Spaiardi

Correlator Bachelor Degree; ‘Evaluation of the effect of VA945 (100µm) on sodium current of SH-SY5Y differentiated cells’ Candidate: Mihai Alexandru Nita. Supervisor: Paolo Spaiardi

May 2024

‘The analysis of synaptic events’ Master degree course in Neurobiology, together with Dr. Arianna Trucco

December 2024

‘Physiology of Renal and Respiratory system. Mathematical application’ Bachelor Degree in Biological Sciences

‘Membrane resting potential, Ohm’s Law, Space and time constant. Mathematical application’ Biophysics of Neuronal cells for the Master's degree course in Neurobiology

January 2025

Nominated expert of the subject (physiology) by members of the department of Biology of the University of Pavia

INTERPERSONAL AND ORGANIZATIONAL SKILLS AND ABILITIES

Collaboration in group work, learned through activities during high school and during college where collaboration with colleagues and presentation of work done was required

Ability to organize experimental and problem-solving activities, derived from Triennial and Master's internship at the Laboratory of Physiology and Biophysics of Ion Channels in which it was required to organize experimental activities and solve different types of problems that arose during and after the conduct of the experiment itself

Ability to speak in public and present scientific articles or results of experimental activity

COMPUTER SKILLS

Use of the computer in its basic applications

Use of specific programs for electrophysiological recordings such as Clampex

Use of specific programs for trace analysis (Clampfit) and statistical analysis (Origin, Prism)

Use of Wordpress to create websites

- You authorize the processing of your personal data in accordance with D.Lgs.n. 196 of 30/06/2003.
- This CV serves as self-certification in accordance with Presidential Decree No. 445 of 12/28/2000.

Jemica Caszore