

PERSONAL INFORMATION **Noemi D'Abbondanza**

## EDUCATION

December 2022 – Ongoing **National PhD in Theoretical and Applied Neuroscience** **Rome, Italy**  
University of Camerino, in collaboration with the Center for Life Nanoscience & Neuro-Science, Fondazione Istituto Italiano di Tecnologia  
– Development of a heterodyne Brillouin microscope for biomedical applications

September 2024 – March 2025 **Visiting Researcher** **Geneve, Switzerland**  
CERN - European Organization for Nuclear Research  
– Edge SpAlce: Novel Edge-AI system for accurate and near real-time plastic detection and monitoring in marine environment

April – November 2022 **Research Fellowship** **Rome, Italy**  
Center for Life Nanoscience & Neuro-Science, Fondazione Istituto Italiano di Tecnologia

July 2022 **Engineering License** **Rome, Italy**  
La Sapienza University of Rome  
– Professional Engineer's license: section A - Industrial sector

October 2021 **Master's Degree in Biomedical Engineering** **Rome, Italy**  
La Sapienza University of Rome  
– Thesis topic: Sensorized T-shirt for cardiological patients in telemonitoring

March – October 2021 **Master's Thesis Internship** **Rome, Italy**  
TECHNOSCIENCE - Parco Scientifico e Tecnologico

October 2019 **Bachelor's Degree in Clinical Engineering**  
La Sapienza University of Rome, Rome, Italy  
– Thesis topic: Spectral response of hydrogenated amorphous silicon photosensors for Lab-on-chip systems

## CONFERENCE ORGANIZATION

July 2025 **Organizing staff of the 15th European Biophysics Congress** **Rome, Italy**  
European Biophysical Societies' Association

## PUBLICATIONS

M. Ghoreishi et al., "A compact electromagnetic syringe stirrer and temperature controller for the reliable dispensing of living cells and microparticles," *HardwareX*, vol. 22, e00638, 2025, ISSN: 2468-0672. DOI:<https://doi.org/10.1016/j.ohx.2025.e00638>.

N. D'Abbondanza et al., "Edge SpAlce: Deep learning deployment pipeline for on-board data reduction on satellite FPGAs," in *2025 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, 2025, pp. 1243–1249. DOI: 10.1109/IPDPSW66978.2025.00202

L. Lucangeli et al., "Sensorized shirt, belt and socks for telemonitoring and long-term care," in *Social Innovation in Long-Term Care Through Digitalization*, M. Conti et al., Eds., Cham: Springer International Publishing, 2022, pp. 80–86, ISBN: 978-3-031-16855-0.

N. D'Abbondanza et al., "Sensorized t-shirt for cardiological patients in telemonitoring," Engineering Proceedings, vol. 11, no. 1, 2021, ISSN: 2673-4591. DOI: 10.3390/ASEC2021-11130.

M. Ferrazza et al., "Statistical classification for the screening of cardiological patients by means of a sensorized t-shirt," in Proceedings of the 2nd International Electronic Conference on Applied Sciences, 15–31 October 2021, Basel, Switzerland: MDPI, Oct. 2021. DOI: 10.3390/ASEC2021-11129.

C. Testi et al. "Stabilized real-time Brillouin microscopy reveals fractal organization of protein condensates in living cells." PREPRINT (Version 1) available at Research Square. [Online]. Available: <https://doi.org/10.21203/rs.3.rs-7128145/v1>.

INVITED TALKS

June 2025 **Edge SpAlce: Deep Learning Deployment Pipeline for Onboard Data Reduction on Satellite FPGAs** Milan, Italy  
32nd Reconfigurable Architectures Workshop

TALKS

September 2025 **Brillouin microscopy: a new tool for mechanobiology** Sinaia, Romania  
1st Carpathian Biophotonics Meeting

February 2025 **Edge SpAlce** Lausanne, Switzerland  
Applied Machine Learning Days EPFL

POSTERS

May 2024 **Development of a Heterodyne Brillouin Microscope** San Francisco, USA  
38th IEEE International Parallel & Distributed Processing Symposium - PhD Forum

OUTREACH

September 2025 **CampBus - Corriere della Sera** Rome, Italy  
ITIS Galileo Galilei

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user  
[Common European Framework of Reference for Languages](#)

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".