Project Title: *"Investigating the link between DDR and phytohormones in Arabidopsis mutants"*

Supervisor: Prof. Balestrazzi Alma

Reviewer: Prof. Macovei Anca

Nino Abashidze

E-mail: Nino.Abashidze01@universitadipavia.it

Education

October 2026 – Present PhD student in Genetics, Molecular and Cellular Biology, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, XLII Cycle.

September 2024 – October 2026 Master's Degree in Molecular Biology and Genetics (LM-6), University of Pavia. Thesis: "Molecular Profiling of *Cannabis sativa* varieties to identify candidate markers for seed quality assessment". Supervisor: Prof. Macovei Anca, co-supervisor: Dott. Bosco Nicola.

September 2020 – July 2022 Master's Degree in Molecular Biosciences, Ilia State University. Thesis: "Molecular-genetic description and barcoding of hard ticks *(Ixodidae)* distributed in Georgia".

September 2016 – July 2020 Bachelor's Degree in Ecology, Ilia State University.

Work Experience

April 2021 – September 2024 Research assistant at the biotechnology company OxGEn Solutions LLC.

Technical Skills

DNA/RNA extraction through magnetic nanoparticles, spin column and phenol/chloroform methods, Nanodrop, Qubit, standard PCR, RT-qPCR, library preparation and running samples for Nanopore sequencing, preparation of samples for Sanger sequencing and downstream bioinformatic analysis in Geneious Prime, gel-electrophoresis, alkaline comet assay, measuring ROS levels in seeds by FOX-1 assay, seed quality analysis.

Publications

Bosco, N., Lojen, D., Kovač, J., Zaplotnik, R., **Abashidze, N**., Bassolino, L., Paris, R., Montanari, M., Balestrazzi, A., Mozetič, M., & Macovei, A. (2026). Plasma-based treatments regulate seed germination in *Cannabis sativa* via oxidative status modulation and transcriptional changes. *Plant Physiology and Biochemistry, 233*, Article 111268. https://doi.org/10.1016/j.plaphy.2026.111268

Baramidze, V., Sella, L., Japaridze, T., Dzotsenidze, N., Lamazoshvili, D., **Abashidze, N.**, Basilidze, M., & Tomashvili, G. (2025). A barcoded ITS primer-based Nanopore sequencing protocol for detection of Alternaria species and other fungal pathogens in diverse plant hosts. *Journal of Fungi, 11*(4), Article 249. https://doi.org/10.3390/jof11040249

Zakalashvili, M., **Abashidze, N**., Chanturia, G., Chakhunashvili, G., Manveliani, J., Tomashvili, G., et al. (2025). First report of molecular-genetic description and barcoding of hard ticks (Metastigmata: Ixodidae) distributed in Georgia. *Animal Husbandry Archives, 1*(1), 5–13. https://doi.org/10.17352/aha.000002

Baramidze, V., Sella, L., Japaridze, T., **Abashidze, N**., Lamazoshvili, D., Dzotsenidze, N., & Tomashvili, G. (2024). Long amplicon Nanopore sequencing of *Botrytis cinerea* and other fungal species present in infected grapevine leaf samples. *Biology Methods and Protocols, 9*(1), Article bpad042. https://doi.org/10.1093/biomethods/bpad042

Conference Presentations

Bosco, N., Abashidze, N., Allevi, J., Pagano, A., Dueñas, C. J., Bassolino, L., Ugolini, L., Montanari, M., Paris, R., D'Esposito, D., Ruocco, M., Monti, M. M., Loreto, F., Moeinzadeh, A., Hay, F., Balestrazzi, A., Macovei, A. *Integrative high-throughput phenotyping and molecular analyses reveal novel insights into hemp seed quality.* Poster presentation at the 69th Annual Congress of the Italian Society of Agricultural Genetics, Rome, Italy, 8–11 September 2026.

Identification of candidate molecular seed quality markers in Cannabis sativa varieties. Oral presentation at the Mini-Symposium "Learning with Seeds – Basic, Translational & Applied Science," Department of Biology and Biotechnology "L. Spallanzani," University of Pavia, Pavia, Italy, 6 June 2025.

ZuVillage Georgia 2024. Panel "Synthetic Biology & Biotechnology." Oral presentation on OxGEn Solutions products and research projects, followed by a practical session on Nanopore sequencing, including a hands-on demonstration and Q&A, 21 August 2024.

Molecular-genetic description and barcoding of hard ticks (Ixodidae) distributed in Georgia. Oral presentation at HUMBOLDT-KOLLEG Tbilisi, Alexander von Humboldt Foundation, Tbilisi, Georgia, 1 December 2022.

Presenting OxGEn Solutions at the iGEM Grand Jamboree. Paris, France, 26–28 October 2022.