

Mariam Zareyan

CONTACT INFORMATION

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EDUCATION AND ACADEMIC DEGREE

2022– present Doctoral degree in the area of Biology, field of Plant Physiology, branch of Plant Drought Stress.
Research: Physiological and genetic reactions of plants to drought under the influence of probiotic microorganisms and calcium.

2020 – 2022 Master’s degree: Life Sciences. Study field: Molecular Biology.
University: Vilnius University, Vilnius, Lithuania
Graduation thesis: “Molecular and biochemical responses of wheat to drought by application of probiotics, proline, and calcium”

2014 – 2018 Bachelor of Science: Biochemistry & Qualification of a Teacher
“Biochemistry.”
University: Yerevan State University, Yerevan, Armenia
Graduation thesis: “The peculiarities of antioxidant activity of *Alkana Orientalis* (L.) Boiss. isolated culture extract”

PROFESSIONAL EXPERIENCE

2018-2020 Teacher-Leader
Organization: Teach for Armenia 2-year Leadership Development Program-
“Leadership Through Teaching and Community Impact”
Placement Community: Geghamasar
School: Geghamasar village secondary school
Teaching subjects: Science, Biology
Community impact project: Waste disposal, collection, and recycling

2023-2025 Senior Laboratory Assistant in the Laboratory of Plant Physiology at the Nature Research Centre, Vilnius.

2025-present Biologist in the Laboratory of Plant Physiology at the Nature Research Centre, Vilnius.

RESEARCH INTERESTS

Research area: plant physiology, research of plant resistance to unfavorable abiotic conditions, influence of microorganisms and calcium to the resistance of plants to drought.
Methods used: plant morphological analysis, analysis of biochemical processes in plants, and research of changes in gene expression under drought conditions.

PUBLICATIONS

Liudmyla Kozeko, Sigita Jurkonienė, Rima Mockevičiūtė, Vaidevutis Šveikauskas, Mariam Zareyan, Elżbieta Jankovska-Bortkevič. Foliar application of proline and GABA modulates the chaperone system response to drought in *Arabidopsis thaliana*. *Physiologia Plantarum* 2025, 177(6):e70629.

Zareyan, M.; Mockevičiūtė, R.; Jurkonienė, S.; Gavelienė, V.; Paškevičius, A.; Šveikauskas, V. Physiological, Biochemical, and Genetic Reactions of Winter Wheat to Drought Under the Influence of Plant Growth Promoting Microorganisms and Calcium. *Microorganisms* 2025, 13, 1042.

Gavelienė, V.; Mockevičiūtė, R.; Jankovska-Bortkevič, E.; Šveikauskas, V.; Zareyan, M.; Žalnierius, T.; Jankauskienė, J.; Jurkonienė, S. Synergistic Effects of Microbial Biostimulants and Calcium in Alleviating Drought Stress in Oilseed Rape. *Microorganisms* 2025, 13, 530.

Jurkonienė, S.; Mockevičiūtė, R.; Gavelienė, V.; Šveikauskas, V.; Zareyan, M.; Jankovska Bortkevič, E.; Jankauskienė, J.; Žalnierius, T.; Kozeko, L. Proline Enhances Resistance and Recovery of Oilseed Rape after a Simulated Prolonged Drought. *Plants* 2023, 12, 2718.

Mockevičiūtė, R.; Jurkonienė, S.; Šveikauskas, V.; Zareyan, M.; Jankovska- Bortkevič, E.; Jankauskienė, J.; Kozeko, L.; Gavelienė, V. Probiotics, Proline and Calcium Induced Protective Responses of *Triticum aestivum* under Drought Stress. *Plants* 2023, 12, 1301.

Zareyan M., Sahakyan N., Petrosyan M., Trchounian A. ANTIOXIDANT ACTIVITY OF *STIZOLOPHUS BALSAMITA* LAM. IN VITRO CULTURE, 2017 <http://www.yzu.am/files/7-1543221225-.PDF>

“In vitro antioxidant potential of ethanol extracts of different plants from Armenian flora”
WGs Meeting of the NutRedOx COST Action CA16112 «Towards a Redox Healthy Aging» 2018

PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS

2025- present

COMPETITION IV. Projects led and implemented by early-staged scientists in areas of natural sciences, technology, medical and health sciences and agricultural sciences “Disruption of *Heracleum sosnowskyi* fruit and seedling development via RNAi-based silencing of gibberellin biosynthesis and signaling genes”

2025 - present Lithuanian-Bulgarian project “Response of crop plants to microbial biostimulant under herbicide treatment”

2024 – present Lithuanian-Ukrainian project with the Laboratory of Ecotoxicology, Nature Research Centre

INTERNSHIP AND TRAINING

2021 Erasmus+ traineeship: Plant & Environmental Biotechnology Laboratory at the University of Thessaly, Larissa, Greece

2023-2024 Erasmus+ traineeship: Integrative Crop Ecophysiology Group

at the University of Barcelona, Barcelona, Spain
 Research project: “Physiological and genetic reactions of winter wheat to drought under the influence of probiotic microorganisms and calcium”

PARTICIPATION IN SCIENTIFIC CONFERENCES

International scientific conferences:

- 2025 1st International Conference on Functional Biology, 2025-09, Varna, Bulgaria
- 2025 Plants 2025: From Seeds to Food Security conference in Barcelona, Spain
- 2024 1st Nordic-Baltic REACH conference organized by NJF Resolving Environmental and Climate Change issues in agriculture “Physiological and genetic reactions of winter wheat to drought under the influence of probiotic microorganisms and calcium”
- 2017 The 6-th international conference on “Modern problems of plants soilless (hydroponics) and tissue in vitro cultures”

Local conferences:

- 2025 KONFERENCIJA „GAMTOS MOKSLŲ PAŽANGA: KRYPTYS, METODAI IR SPRENDIMAI“, Vilnius, Lithuania

OTHERS

- 2025 Encouragement for significant academic achievements by the Nature Research Centre, by the receipt of an incentive

Volunteering

- 2024 Preparatory courses for exams for children of refugees from Nagorno-Karabakh.
- 2016-2017 Organizer and moderator of the training “Bone marrow transplantation & blood stem cells” and volunteer action of “Be a stem cell donor”.