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Associate Professor of Plant Molecular Biology, Golestan University

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Education

PhD in Plant Molecular Biology (2004, The Netherlands)

Laboratory of plant Molecular Biology, Groningen Biomolecular Sciences and Biotechnology Institute (GBB), University of Groningen, The Netherlands, 1999-2004.

Thesis Title: DNA Recombination in Plants: Molecular and functional analysis of Arabidopsis RecQ genes

Supervisors: Dr. P. P. Dijkwel and Prof. Dr. J. Hille

MSc. in Plant Biology (major: Plant Physiology, 1994, Iran))

Tarbiat Modares University, Tehran, Iran, 1990-1994.

Thesis Title: Effects of CCC on phosphate accumulation in rice under saline conditions.

Supervisor: professor Farrahi Ashtiani

BSc. In Plant Biology (1987, Iran)

Ferdousi Mashhad University, Mashhad, Iran, 1983-1987.

Selected publications in peer reviewed journals:

Ghazagh, Fatemeh; Bagherieh-Najjar, Mohammad B; Nezamdoost, Tahereh (2023) Unraveling the interaction of copper, cadmium, calcium, and nitrate on phenolics, flavonoids, and shikonin contents of *Onosma dichroantha* calli by statistical modeling. *Environmental Science and Pollution Research*. 30 15: 43804-43816. Springer Berlin Heidelberg Berlin/Heidelberg

Royan, Sara; Shirzadian-Khorramabad, Reza; Zibae, Arash; Bagherieh-Najjar, Mohammad B; Firouzabadi, Farhad Nazarian (2023) Tobacco plants expressing the defensin NaD1 enhances drought tolerance characteristics in transgenic lines. *Plant growth Regulations*

Kohan-Baghkheirati, Eisa; Bagherieh-Najjar, Mohammad; Abdolzadeh, Ahmad; Geisler-Lee, Jane; (2022) Precise Expression of DREB1A Gene Is Required for Proper Seed Germination,

Vegetative and Reproductive Development, and Seed Grain Yield in *Arabidopsis thaliana*
Journal of Genetic Resources 8: 99-110, University of Mazandaran.

- Azarakhsh, Mahmood Reza; Bagherieh-Najjar, Mohammad B; Sadeghipour, Hamid Reza; Raeisi, Samiyeh (2022) Improved Grain Yield by Phytohormones-Driven Suppression of Pod Abscission and Revitalization of Source-Sink Relationships in Soybean International Journal of Plant Production 3: 467-481. Springer International Publishing
- Esmaeildoost, Fatemeh; Shahrousvand, Mohsen; Goudarzi, Alireza; Bagherieh-Najjar, Mohammad B (2022) Optimization of xanthan gum/poly (acrylic acid)/cloisite 15A semi-IPN hydrogels for heavy metals removal Journal of Polymers and the Environment 10: 4271-4286. Springer US New York
- Sohraby F., Hadi-Soltanabad, M., Bagheri, M., Bezi-Javan, M., Javaheri-Moghadam, M., Kohan-Baghkheirati, E., Bagherieh Najjar M.B. (2020) Application of molecular dynamics in coating Ag-conjugated nanoparticles with potential therapeutic applications, *Nano Biomed Eng.* 12: 90-98. doi: 10.5101/nbe.v12i1.p90-98.
- Koohsari, S.; Bagherieh-Najjar, M.B.; Sadeghipour, H.R.; Kohan-Baghkheirati E. (2020) Morphological and biochemical characteristics of *dreb2a* mutant plant grown under normal conditions, *Plant process and Function* 35: 23-38.
- Mehraban-joubani, P., Abdolzadeh, A., Sadeghipour, HR., Aghdasi, M., Bagherieh-Najjar, MB., Barzegargolchini, B. (2019) Silicon increases cell wall thickening and lignification in rice (*Oryza sativa*) root tip under excess Fe nutrition. *Plant Physiology and Biochemistry*, 144: 264-273. doi:10.1016/j.plaphy.2019.09.047
- Zarandi-Miandoab, L., Hejazi, MA., Bagherieh-Najjar, MB., Chaparzadeh, N. (2019) Statistical Optimization of The Four Key Factors on β -Carotene Production by *Dunaliella salina* Under Laboratory Conditions Using Response Surface Methodology. *Iranian J. Pharmaceutical Research* 18: 1566-1579. doi: 10.22037/ijpr.2019.1100752
- Hadi-Soltanabad, M., Bagherieh-Najjar, MB., Mianabadi M., (2019) Carnosic acid content increased by silver nanoparticle treatment in Rosemary (*Rosmarinus officinalis* L.), *Applied Biochemistry and Biotechnology*, doi: 10.1007/s12010-019-03193-w
- Hadi-Soltanabad, M., Bagherieh-Najjar, MB., Mianabadi, M., (2018) Seasonal Variations in Carnosic Acid Content of Rosemary Correlates with Anthocyanins and Soluble Sugars. *Journal of medicinal Plants and By-products.* 7: 163-171. 10.22092/jmpb.2018.118144
- Shams, Hadi; Abdolzadeh, Ahmad; Sadeghipour, Hamid Reza; MehrabanJoubani, Pooyan; Bagherieh-Najjar, Mohammad Bagher Effects of Silicon Nutrition on the Alleviation of Salinity Induced Oxidative Stress in *Arabidopsis thaliana* *Journal of Plant Research (Iranian Journal of Biology)* 32:111-124 . Iranian Biology Society

- Kohan-Baghkheirati, E., Bagherieh-Najjar, MB., Abdolzadeh, A. and Geisler-Lee, J. (2018) Altered *DREB1A* gene expression in *Arabidopsis thaliana* affects root growth, antioxidant enzymes activity, and response to salinity but not to cold, *J Genet Resour* 4: 90-104. doi: 10.22080/jgr.2019.15528.1117
- Abbasi, Z., Hooshyar, S., Bagherieh-Najjar, MB (2016). Improvement of callus production and shoot regeneration using various organs of soybean (*Glycine max* L. Merr) by response surface methodology, *In vitro cellular and Developmental Biology-Plant*. 52: 537. doi:10.1007/s11627-016-9778-1.
- Bagherieh-Najjar MB, Nezamdoost T, (2016). Optimization of shikonin production in *Onosma dichroantha* callus using response surface methodology, *Plant Cell, Tissue and Organ Culture*, doi: 10.1007/s11240-016-1009-2.
- Kohan, E., Bagherieh-Najjar MB (2016). Modelling and optimization of Ag-nanoparticle biosynthesis mediated by walnut green husk extract using response surface methodology *Materials Letters* 171: 166-170.
- Kohan, E., Bagherieh-Najjar MB, Khandan, H, Abdolzadeh A (2016). Synthesis and antibacterial activity of stable bio-conjugated nanoparticles mediated by walnut (*Juglans regia*) green husk extract. *Journal of Experimental Nanoscience*. 11: 512-517.
- Zarandi-Miandoab, L, Hejazi, MA, Bagherieh-Najjar, MB, Chaparzadeh, N (2015). Light intensity effects on some molecular and biochemical characteristics of *Dunaliella salina*. *Int. J. Plant Physiol*. 5: 1311-1321.
- Zarandi-Miandoab, L., Bagherieh-Najjar, MB, Hejazi, MA, Chaparzadeh, N (2015). Expression analysis of *Dunaliella salina* key genes involved in β -carotene biosynthesis under various salinity and light conditions (in Persian). *Journal of Plant Process and Function*. 4: 85-93.
- Nezamdoost, T. and Bagherieh-Najjar MB, Aghdasi, M (2014). Biogenic synthesis of stable bioactive silver chloride nanoparticles using *Onosma dichroantha* Boiss. root extract. *Materials Letters*. 137: 225-228.
- Kohan Baghkheirati E, Bagherieh-Najjar MB, Aghdasi M. (2013). Designing of a 35S::DREB1A molecular construct to produce environmental stress tolerant plants. *Journal of Cell and Molecular Research*. 4: 76-80.
- Pesaraklou A, Bagherieh-Najjar MB, Mianabadi M, Sattarian A, Baghizadeh A. (2013). Genetic diversity of different populations of Iranian *Teucrium polium* L. using RAPD markers (in Persian). Iranian Journal of Rangelands and Forests (in Persian). *Plant Breeding and Genetic Research*. 21: 24-32.
- Aghdasi M, Fazli F, Bagherieh-Najjar MB (2012). Analyses of *Arabidopsis trr14* t-DNA insertion mutants reveal an essential role in seed germination. *Plant Mol. Biol. Rep.* 30: 319-329.
- Kohan E, Bagherieh-Najjar MB. (2011). DRE-binding Transcription factor (DREB1A) as a master regulator induced a broad range of abiotic stress tolerance in plant. *African Journal of Biotechnology* 10: 15100-15108.
- Akhondnezhad S, Nejdattari T, Sattarian A, Y. A, Bagherieh-Najjar MB (2011). Pollen morphology of the genus *carpinus* l. (corylaceae) in Iran. *Iran. J. Bot.* 17: 233-238.

- Alishah O, Bagherieh-Najjar MB, Bihamta MR (2010). Identification of the best ovule maturity stage for interspecific hybridization in cotton (in Persian). *J. of Plant Production* 17: 60-76.
- Alimohammadi M, Bagherieh-Najjar MB (2009). Agrobacterium-mediated transformation of plants: Basic principles and influencing factors. *African Journal of Biotechnology* 8: 5142-5148.
- Saffar A, Bagherieh-Najjar MB, Mianabadi M (2009). Activity of antioxidant enzymes in response to cadmium in *Arabidopsis thaliana*. *J. biol. Sci.* 9: 44-50.
- Kiamoghadam MR, Bagherieh-Najjar MB. (2009). Analysis of some physiological and biochemical parameters in *AtrecQ14A* mutant plants under salinity stress (In Persian). *Iranian Journal of Biology*, 16: 115-132.
- Bagherieh-Najjar MB, Dijkwel PP (2008). Role of the *Arabidopsis RecQ14A* gene in the repair of UV-induced DNA damage (in Persian). *J. Agric. Sci. Nat. Res.* 14: 83-90.
- Bagherieh-Najjar MB, Navabpour S (2008). Roles of the *RecQ14A* gene in the repair of DNA damages caused by methyl methane sulfonate in *Arabidopsis* seeds and seedlings (in Persian). *Iranian Plant Biology Journal* 21: 175-183.
- Navabpour S, Bagherieh-Najjar MB, Soltanloo H (2007). Identification of novel genes expressed in *Brassica napus* during leaf senescence and in response to oxidative stress. *International Journal of Plant Production* 1: 35-44.
- Bagherieh-Najjar MB, de Vries OM, Hille J, Dijkwel PP (2005). *Arabidopsis RecQ14A* suppresses homologous recombination and modulates DNA damage responses. *Plant J.* 43: 789-798.
- Bagherieh-Najjar MB, de Vries OM, Kroon JT, Wright EL, Elborough KM, Hille J, Dijkwel PP. (2003). *Arabidopsis RecQsim*, a plant-specific member of the *RecQ* helicase family, can suppress the MMS hypersensitivity of the yeast *sgs1* mutant. *Plant Mol. Biol.* 52: 273-284.

Patents:

- Green synthesis of AgCl nanoparticles mediated by methanolic extract of *Halostachys caspica* (Iran, 2017)
- Green synthesis of AgCl-nanoparticles with antibacterial activity mediated by *Onosma dichroantha*. *Iran patents agency* (Iran, 2013).
- Green synthesis of Ag-nanoparticles with antibacterial activity mediated by walnut green husk extract. *Iran patents agency* (Iran, 2013).

Books:

- Sadeghipour, H.R., Bagherieh-Najjar M.B. (2022) Introduction to Bryophytes. (Translation from English to Persian) Golestan University Press.
- Bagherieh-Najjar, M.B, Kohan, E. (2015) DNA Fingerprinting in Plants. (Translation from English to Persian) Golestan University Press.
- Bagherieh-Najjar, M.B., Kohan, E. (2011) Principles of Genetic Analysis (Translation from English to Persian) Golestan University Press.

Bagherieh-Najjar, M.B. (1998) Introduction to Ecology (Translation from English to Persian). Golestan University Press.

Abdolzadeh, A., Bagherieh-Najjar, M.B. (2008) Practical Ecology. Golestan University Press.

Presentations in national/ international Conferences

More than 35 oral or poster presentations in international/national conferences.

Teaching and mentoring activities:

Various courses including, Genetics, Plant Growth and Development, Plant Molecular Biology, Introduction to Biotechnology, Plant Stress Responses courses at BSc, MSc and PhD levels.

Supervision of 7 PhD and more than 35 MSc successful students.

Work and Administrative experience:

Academic member, (Gorgan University of Agricultural Sciences and Natural Resources (GUASNR), Iran, 1994-1999)

PhD candidate (Groningen University, The Netherlands)

Assistant Prof. of Plant Molecular Biology (GUASNR, 2004-2007) (The Biology Department was detached from the rest of GUASNR and developed Golestan University in 2007).

Assistant Prof. of Plant Molecular Biology (Golestan University, 2007-2014)

Associate Prof. of Plant Molecular Biology (Golestan University, 2014 -ongoing)

Vice president of Education (Golestan University, 2012-2014)

Vice president of Research and Technology (Golestan University, 2009-2011)

Executive Manager for Planning and Development, (Gorgan University of Agricultural Sciences and Natural Resources, 2007-2008)

Executive Manager for Library and University Press Center (Gorgan University of Agricultural Sciences and Natural Resources, 2004-2006).

Executive Manager for Education (Gorgan University of Agricultural Sciences and Natural Resources, 1996-1999).

Editor in Chief / Associate Editor of International Journal of Plant Production (ISI, IF= 1.06).

Published by Gorgan University of Agricultural Sciences and Natural Resources, 2007-until now

Selected Awards and Honors:

University Excellence award for a funded international sabbatical leave. 2017

Best book translation of the year, Golestan University, 2015

University Excellence in Research Award, Golestan University, 2009, 2010

Distinguished Journal-Editor Award, Ministry of Science and Technology, 2010.

Distinguished research manager award, Ministry of Science and Technology, Iran, 2011.

Distinguished Iranian Ministry of Science and Technology award for pursuing PhD overseas, 1999.

Distinguished Ministry of Science and Technology award for pursuing Msc 1999.

First ranking graduate student in BSc., Ferdousi Mashhad University, Iran, 1987.