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Education

| Degree | Graduated in | Major | University |
|--------|--------------|------------------|--------------------------------------|
| BSc | 2006 | Biology | University of Guilan, Iran |
| MSc | 2009 | Plant Physiology | Urmia University, Iran |
| Ph.D | 2015 | Plant Physiology | Ferdowsi University of Mashhad, Iran |

Employment Information

| position | Faculty/Department | University | City/Country |
|---------------------|--|-----------------------|---------------|
| Assistant Professor | Faculty of Science, Department of Biology | University of Birjand | Birjand, Iran |

Research interests

1. Phytoremediation of polluted soils and water using plants.
2. Interaction of plants with heavy metals and metal-based nanoparticles.
3. Effect of abiotic stresses, especially salinity, on plants.

Publications

I. Articles in Journals

4. Mousavi Kouhi SM, Khara J, Heydari R. (2009). Effects of salicylic acid on photosynthetic pigment content in *Ocimum basilicum* L. under UV-C radiation stress. *Fredowsi University International Journal of Biological Sciences*, 1(1): 57-60.
5. Mousavi Kouhi SM, Lahouti M, Ganjeali A, Entezari MH. (2014). Comparative phytotoxicity of ZnO nanoparticles, ZnO microparticles, and Zn²⁺ on rapeseed (*Brassica napus* L.): investigating a wide range of concentrations. *Toxicological and Environmental Chemistry*, 96 (6): 861-868.
6. Mousavi Kouhi SM, Lahouti M, Ganjeali A, Entezari MH. (2015). Long-term exposure of rapeseed (*Brassica napus* L.) to ZnO nanoparticles: anatomical and ultrastructural responses. *Environmental Science and Pollution Research*, 22(14): 10733-43.
7. Mousavi Kouhi SM, Lahouti M, Ganjeali A, Entezari MH. (2015). Comparative effects of ZnO nanoparticles, ZnO bulk particles, and Zn²⁺ on *Brassica napus* after long-term exposure: Changes in growth, biochemical compounds, antioxidant enzyme activities, and Zn bioaccumulation. *Water, Air, and Soil Pollution*, 15 (226): 364-375.
8. Mousavi Kouhi SM, Lahouti M, Ganjeali A, Entezari MH. (2015). Anatomical and ultrastructural responses of *Brassica napus* after long-term exposure to excess zinc. *Turkish Journal of Biology*, 40(3), 652-660.

9. Mousavi Kouhi, S. M., & Lahouti, M. (2018). Application of ZnO nanoparticles for inducing callus in tissue culture of rapeseed. *International Journal of Nanoscience and Nanotechnology*, 14(2), 133-141.
10. Rasti Sani, M., Ganjeali, A., Lahouti, M., & Mousavi Kouhi, S. M. (2018). Morphological and physiological responses of two common bean cultivars to drought stress. *Journal of Plant Process and Function*, 6(22), 37-46.
11. BeykKhormizi, A., Sarghein, S. H., Sarafraz Ardakani, M. R., Moshtaghioun, S. M., & Mousavi Kouhi, S. M. (2018). Alleviation of salinity stress by vermicompost extract: a comparative study on five fennel landraces. *Communications in soil science and plant analysis*, 49(17), 2123-2130.
12. KHOSRAVI, Mohammad Sadegh, Reza HEIDARI, Rashid JAMEI, Seyed Mousa MOUSAVI KOUHI, and Maryam MOUDI. (2018). Comparative growth and physiological responses of tetraploid and hexaploid species of wheat to flooding stress. *Acta agriculturae Slovenica* 111, no. 2: 285-292.
13. Mousavi Kouhi, S. M., Sarafraz Ardakani, M. R., & BeykKhormizi, A. (2019). Irrigation of *Helianthus annuus* with Pb-polluted water: Improvement of phytoremediation using vermicompost. *Journal of Plant Process and Function*, 8(31), 77-83.
14. BeykKhormizi, A., Hosseini Sarghein, S., Sarafraz Ardakani, M. R., Moshtaghioun, S. M., & Mousavi Kouhi, S. M. (2019). Interaction of Saline Water and Vermicompost on Growth and Absorption of Some Mineral Nutrients in Four Landraces of Fennel, *Foeniculum vulgare*. *Journal of Water Research in Agriculture*, 33(1), 39-52.
15. Mousavi Kouhi S M, Moudi M, Soltani Moghadam E, Sarchahi moghadam H. (2019). The investigating of sodium accumulation in some halophytic species of Zygophyllaceae, Polygonaceae, Asteraceae and Amaranthaceae, 6 (1): 96-105.
16. Ghorbani, M., Ramazani, S. H. R., Fallahi, H. R., & Mousavi Kouhi, S. M. (2019). Effect of Drought Stress and Bio-fertilizer on Yield and Yield Components of Guar *Cyamopsis tetragonoloba* (L.) Taub. *Journal of Medicinal plants and By-product*, 8(1), 13-19.

17. Mousavi Kouhi, S. M., & Erfanian, M. (2020). Predicting the present and future distribution of medusahead and barbed goatgrass in Iran. *Ecopersia*, 8(1), 41-46.
18. Mousavi Kouhi, S. M., & Moudi, M. (2020). Assessment of phytoremediation potential of native plant species naturally growing in a heavy metal-polluted saline-sodic soil. *Environmental Science and Pollution Research*, 27(9), 10027-10038.
19. Sagharyan, M., Ganjeali, A., Cheniany, M., & Mousavi Kouhi, S. M. (2020). Optimization of callus induction with enhancing production of phenolic compounds production and antioxidants activity in callus cultures of *Nepeta binaloudensis* Jamzad (Lamiaceae). *Iranian Journal of Biotechnology*, 18(4), 47-55.
20. Taghavizadeh Yazdi ME, Darroudi M, Amiri MS, Hosseini HA, Nourbakhsh F, Mashreghi M, Farjadi M, Mousavi Kouhi SM, Mousavi SH. (2020). Anticancer, antimicrobial, and dye degradation activity of biosynthesised silver nanoparticle using *Artemisia kopetdaghensis*. *Micro & Nano Letters*, 15(14), 1046-1050.
21. Ganjeali, A., Mousavi Kouhi, S. M., Beyk Khormizi, A., & Hossaini, S. V. (2020). Effect of seed priming on germination and morphophysiological traits of Rice transplants (*Oryza sativa* L.cv. Hashemi) under different moisture regimes. *Iranian Journal of Seed Sciences and Research*, 7(4), 433-445.
22. Mousavi Kouhi, S. M., Lahouti, M., & Ganjeali, A. (2020). Effect of ZnO Nanoparticles application on mineral absorption in rapeseed. *Journal of Plant Research (Iranian Journal of Biology)*, 33(2), 485-495.
23. BeykKhormizi, A., Hosseini Sarghein, S., Sarafraz Ardakani, M. R., Moshtaghioun, S. M., & Mousavi Kouhi, S. M. (2020). Effect of Vermicompost on Membrane Lipid Peroxidation and some Morphophysiological Characteristics of Fennel (*Foeniculum vulgare* Mill.) Landraces under Salt Stress. , 12(2), 115-129.
24. Moudi, M., Mousavi kouhi, S. M., Ghollasi mood, S., & Ayoobi, A. (2021). DNA barcoding of *Ziziphus jujuba* Mill. in Iran using chloroplast genes (*rbcL* and *matK*). *Journal of Plant Production Research*, 28(2), 115-130.

25. Mousavi-Kouhi, S. M., Beyk-Khormizi, A., Amiri, M. S., Mashreghi, M., & Yazdi, M. E. T. (2021). Silver-zinc oxide nanocomposite: From synthesis to antimicrobial and anticancer properties. *Ceramics International*, 47(15), 21490-21497.
26. Mollaei, H., Karimi, F., Ghorbany, M., Hosseinzadeh, M. S., Moudi, M., & Mousavi-Kouhi, S. M. (2021). Investigating Cytotoxic Effect and Molecular Mechanisms of Quinoa Seed Extract Against Human Lung Cancer Cell Line. *Jentashapir Journal of Cellular and Molecular Biology*, 12(4).
27. Sagharyan, M., Ganjeali, A., Cheniany, M., & Mousavi-Kouhi, S. M. (2021). Studies on Seed Germination, Plant Regeneration, and Soil Acclimatization of *Nepeta binaloudensis* Jamzad (Lamiaceae). *Iranian Journal of Science and Technology, Transactions A: Science*, 45(6), 1915-1924.
28. Mollaei, H., Mousavi-Kouhi, S. M., Moudi, M., Hosseinzadeh, M. S., & Ghorbany, M. (2022). Evaluation of Anticancer Effects and Molecular Mechanisms of Pomegranate Peel Extract in the Mouse Cellular Model (4T1) of Breast Cancer. *Gene, Cell and Tissue*, 9(3): e117831.
29. Beyk-Khormizi, A., Hosseini Sarghein, S., Sarafraz-Ardakani, M. R., Moshtaghioun, S. M., Mousavi-Kouhi, S. M., & Ganjeali, A. (2022). Ameliorating effect of vermicompost on *Foeniculum vulgare* under saline condition. *Journal of Plant Nutrition*, 1-15.
30. Mollaei H, Moudi M, Ghorbany M, Mousavi-Kouhi S.M, Hosseinzadeh M.S. (2022). Anti-cancer effects and molecular mechanisms of sour tea (*Hibiscus sabdariffa*) in the human cellular model (A549) of lung cancer. *J Birjand Univ Med Sci.*; 29(1): 12-20.
31. Mousavi-Kouhi, S. M., Ghorbani, M., & Hammami, H. (2022). Up-Regulated Gene Sets of *Arabidopsis Thaliana* in Response to Nanoparticles: An In Silico Approach Based on the Microarray Data. *International Journal of Nanoscience and Nanotechnology*, 18(3), 209-217.
32. Mousavi-Kouhi, S. M., Beyk-Khormizi, A., Mohammadzadeh, V., Ashna, M., Es-haghi, A., Mashreghi, M., ... & Taghavizadeh Yazdi, M. E. (2022). Biological synthesis and

characterization of gold nanoparticles using *Verbascum speciosum* Schrad. and cytotoxicity properties toward HepG2 cancer cell line. *Research on Chemical Intermediates*, 48(1), 167-178.

33. Mousavi-Kouhi, S. M., Beyk-Khormizi, A., Amiri, M. S., Mashreghi, M., Hashemzadeh, A., Mohammadzadeh, V., ... & Taghavizadeh Yazdi, M. E. (2023). Plant gel-mediated synthesis of gold-coated nanoceria using ferula gummosa: Characterization and estimation of its cellular toxicity toward breast cancer cell lines. *Journal of Functional Biomaterials*, 14(7), 332.
34. Beyk-Khormizi, A., Sarafraz-Ardakani, M. R., Hosseini Sarghein, S., Moshtaghioun, S. M., Mousavi-Kouhi, S. M., & Taghavizadeh Yazdi, M. E. (2023). Effect of Organic Fertilizer on the Growth and Physiological Parameters of a Traditional Medicinal Plant under Salinity Stress Conditions. *Horticulturae*, 9(6), 701.
35. Ashna, N., Ganjeali, A., & Mousavi-Kouhi, S. M. (2023). Allelopathic effects of apricot (*Prunus armeniaca* L.) root on some crops and weeds. *Plant Process and Function* 2023; 11 (52) : 5

II. Full text Articles in Conferences

1. Mousavi Kouhi S. M. Benefits and Biological hazards of genetically modified plants. 1st International Joint Conference on New Trends In Biotechnology. University of Sistan and Baluchesahedan, Zahedan, Iran, April 18-19, 2017. (In Persian).
2. Mousavi Kouhi, S. M., Lahouti, M., Ganjeali, A., & Entezari, M. H. Comparative Effects of Zinc oxide (ZnO) Nanoparticles and Microparticles on Some Vegetative Traits of Rapeseed. The fourth national conference on nanotechnology in agriculture. Karaj, Iran, July 4, 2017. (In Persian).
3. Beyk-Khormizi, A., Hosseini Sarghein, S., Sarafraz-Ardakani, M. R., Moshtaghioun, S. M., Mousavi-Kouhi, S. M. The effect of vermicompost organic fertilizer on the initial

growth of fennel medicinal plant populations (*Foeniculum vulgare* Mill). The third national Conference of Organic Cultivation and Propagation of Medicinal Plants. Urmia University, Iran, July 10, 2018. (In Persian).

4. Mousavi Kouhi S. M., Ghorbani M., Kaveh F., Ftahi Z. Comparative investigation of germination and early growth of 16 plant species under salinity of Persian Gulf water. The 6th Iranian Conference of Plant Physiology. Yazd University, Iran, October 23-24, 2019. (In Persian).
5. Mousavi Kouhi S. M., Moudi M., Soltani Moghadam E. Effects of industrial cleaning wastewater on seed germination and early growth of 15 plant species. The 6th Iranian Conference of Plant Physiology. Yazd University, Iran, October 23-24, 2019. (In Persian).
6. Beyk-Khormizi, A., Hosseini Sarghein, S., Sarafraz-Ardakani, M. R., Moshtaghioun, S. M., Mousavi-Kouhi, S. M. Interaction of worm-produced fertilizer and osmotic stress on the plant growth, membrane stability and antioxidant compounds of fennel (*Foeniculum vulgare* Mill). The 6th Iranian Conference of Plant Physiology. Yazd University, Iran, October 23-24, 2019. (In Persian).
7. Hosseinzadeh F., Fallah R., Mousavi Kouhi S. M., Khorashadizadeh S. M. Effect of air and nitrogen plasma on the germination of *Portulaca oleracea* and *Ocimum bacilicum* seeds. 8th Conference on Plasma Engineering and Plasma Physics. University of Mazandaran, Iran, July 14, 2021. (In Persian).
8. Mousavi Kouhi S. M. Investigating the use of aquatic plants in the phytoremediation of water contaminated with heavy metals. 2nd National and 1st International Conference on Modeling and New Technologies in Water Management. University of Birjand, Iran, February 21-22, 2023. (In Persian).
9. Khodadadi Z., Moudi M., Mousavi Kouhi S.M., Hosseinzadeh M.S. Phytoremediation: A cost effective and environmentally friendly technique for removing heavy metals. 3rd National Conference on New Biological Findings. University of Sistan and Baluchesahedan, Zahedan, Iran, May 24-26, 2023. (In Persian).

10. Khodadadi Z., Moudi M., Mousavi Kouhi S.M., Hosseinzadeh M.S. The role of tree plants on Phytoremediation of heavy metals in soil. 3rd National Conference on New Biological Findings. University of Sistan and Baluchesahedan, Zahedan, Iran, May 24-26, 2023. (In Persian).
11. Hosseinzadeh F., Fallah R., Khorashadizadeh S. M., Mousavi Kouhi S. M. Effect of cold plasma-activated water treatment on the seed germination indices of Fennel and Thyme seeds. The 10th Iranian Plasma Engineering and Plasma Physics Conference. Science and Research Branch of Islamic Azad University, Iran, July 12-13, 2023. (In Persian).

III. Books

12. Mousavi kouhi, S. M., Gholamian A. (2012). Textbook of Plant metabolism (compilation, doctoral exam). Modarresan Sharif Publication, Tehran. (In Persian).
13. Mousavi kouhi, S. M., Ghaempanah S. (2012). Textbook of Plant anatomy (compilation, doctoral exam). Modarresan Sharif Publication, Tehran. (In Persian).
14. Taiz L, Zeiger E. (2013). Plant Physiology. (Lahouti M, Bishehkalai R, Mousavi Kouhi SM, Ghaempanah S, Trans.). Vazhegan Kherad, Mahshad. (In Persian).
15. Mousavi kouhi, S. M., (2020). Robaeiat (Poem). Fasle Panjom Publication Tehran. (In Persian).
16. Mousavi kouhi, S. M. (2022). Unighersity (Novel). Name Mehr, Tehran. (In Persian).

IV. Research Project

1. Mousavi Kouhi, S. M., Moudi, M. (2017). Investigation of heavy metals accumulation in plants grown in the region of the effluent entry of Qaleh-Zari mine in South Khorasan. University of Birjand.
2. Mousavi Kouhi, S. M., Sarafraz Ardakani, M. R., BeykKhormizi, A. (2018). Effect of vermicompost on improving phytoremediation of lead contaminated soil by sunflower. University of Birjand.

3. Ghorbany, M., Ramazani, S. H. R., Fallahi, H. R., Mousavi Kouhi, S. M. (2018). Effect of drought stress, mycorrhizal and rhizobium bio-fertilizers on yield and yield components of guar. University of Birjand.
4. Mollaei, H., Moudi, M., Ghorbany, M., Mousavi Kouhi, S. M., Hosseinzadeh, M. S. (2020). Evaluation of anti-cancer effects and molecular mechanisms of pomegranate peel extract in mouse cellular model (4T1) of breast cancer. University of Birjand.
5. Moudi, M., Mousavi Kouhi, S. M., Ghollasi, Sh., Ayubi A. (2021). DNA Barcoding among different ecotypes of genus *Ziziphus jujuba* Mill. in South Khorasan based on chloroplast DNA(matK, rbcL). University of Birjand.
6. Mollaei, H., Moudi, M., Ghorbany, M., Mousavi Kouhi, S. M., Hosseinzadeh, M. S. (2021). Evaluation of anti-cancer effects and molecular mechanisms of sour tea (*Sabdariffa Hibiscus*) in human cellular model (A549) of lung cancer. University of Birjand.