



**Iranian Research Organization for  
Science and Technology  
Tehran, Islamic republic of Iran**  
<https://irost.ir/>



### About me

I am an Assistant Research Professor at the Iranian Research Organization for Science and Technology (IROST), specializing in sustainable agriculture and plant production. I lead the Specialized Laboratory for Soil Fertility, Pollution, and Plant Nutrition, where I focus on advancing knowledge in soil health, contamination assessment, and plant nutrition. My work emphasizes the development of innovative and sustainable solutions to enhance agricultural productivity while addressing environmental issues. Also I work on tailings, waste materials and heavy metals in soils.

### Education

2003-2005 >> High School Diploma: Experimental Sciences,  
Alavian High School, Hamedan

2005-2006>> Pre-University: Experimental Sciences, Shaheed  
Hajibabaei Educational Center

2007-2010>> Bachelor's Degree: Bu-Ali Sina University,  
Hamedan

2010-2013>> Master's Degree: Bu-Ali Sina University, Hamedan

2015-2020>> PhD: University of Zanzan, Zanzan

### Experimental Skills

Fractionation of heavy elements, speciation of heavy elements in soils, determination of soil texture, column and closed leaching, digestion of plant samples, preparation of adsorbents for removing heavy metals from aqueous and solution, waste water treatment, tailing management.

### Computer Skills:

Microsoft office, SAS, 9.1,  
SPSS, MINTEQ modeling,  
FREQUCE modeling,  
Endnote

### Professional Profiles

Scopus Author ID: [57222136041](#)

ORCID: [0000-0003-2260-2363](#)

ResearcherID: [LBH-7577-2024](#)

Google Scholar: [Google Scholar Profile](#)

ResearchGate: [ResearchGate Profile](#)

LinkedIn: [LinkedIn Profile](#)

### Ahmad Akhavan

Assistant professor  
Department of Plant  
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and Plant Medicine  
2023- present



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### Skills and expertise

Plant nutrition  
Fertility of soils  
Soil pollution  
Fertility ,Fertilizers  
Soil remediation  
Tailings and waste  
Water quality  
Heavy metals analyst  
Risk assessment  
Waste management





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**Full papers**

Estimation of arsenic leaching from Zn-Pb mine tailings under environmental conditions. (2021). A Akhavan, A Golchin, Journal of Cleaner Production 295, 126477.

Environmental risk assessment of arsenic in Zn-Pb mine tailings. (2021). A Akhavan, A Golchin, Journal of Water and Soil Conservation 27 (6), 1-26.

Health risk assessment of lead-zinc mine tailing in Angoran, Zanjan, Iran. (2024). A Akhavan, A Golchin, Environmental Quality Management 33 (3), 141-155.

Epidemiological study of cutaneous leishmaniasis in some Iraqi provinces. (2018). MA Ali, A Khamesipour, AA Rahi, M Mohebbali, A Akhavan, A Firooz, ...

Acid production potential of Zn-Pb mine tailings and its effect on heavy metal concentration. (2023). A Akhavan, A Golchin. Human & Environment.

Experimental Investigation of Pb Release Characteristics in Zn-Pb Mine Tailings under Simulated Leaching Conditions, Anguran, Iran. (2023). A Akhavan, A Golchin. Pollution 9 (3), 870-889.

Leaching properties of zinc from hazardous zinc leach residues under simulated environmental conditions. (2024). A Akhavan, A Golchin, Arabian Journal of Geosciences 17 (6), 199.

New Advancements in the Field of Pollution Treatment, Including Contamination of the Soil and Water. (2023). A Akhavan, Heavy Metals-Recent Advances.

Release Characteristics of Pb from Zn-Pb Mine Tailings Under Simulation Leaching Conditions. (2022). A Akhavan, A Golchin.

Distribution characteristics, release, environmental behavior and risk assessment of cadmium in Zn-Pb mine tailings. (2020). A Akhavan, A Golchin, Journal of Natural Environment 73 (3), 411-426.

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Chemical Fractionation and Environmental Risk Assessment of Lead in Lead-Zinc Mine Tailings. (2020). A Akhavan, A Golchin, Iranian Journal of Soil and Water Research 50 (9), 2303-2322.

PH-dependent leaching behavior of copper, zinc, iron and manganese from municipal sewage sludge. (2017). A Akhavan, Z Kolahchi, Journal of Natural Environment 70 (4), 735-743.

The leaching behavior of some heavy metals from municipal solid sewage sludge as a function of pH. (2013). A Akhavan, Z Kolahchi.

evaluation of rye infestation on vegetative growth and yield of wheat. (2002). A Akhavan, z kolahchi. agricultural sciences and technology 16 (2), 33-39.

### **Conference Papers**

Akhavan, A., & Kolahchi, Z. (2020). Surface properties, mineralogy, and release behavior of cadmium, lead, and nickel from municipal solid sewage sludge. The 16th International Symposium on Science and Technology Advances.

Akhavan, A., & Kolahchi, Z. (2021). The leaching behavior of some heavy metals from municipal solid sewage sludge as a function of pH. Second International Conference on Agricultural, Natural Resources and Environmental Engineering.

Akhavan, A . (2025). Evaluation of Leachate Quality from the Waste Disposal Site in Hamedan City, International Conference on Hekmat-Based Architecture, Urban Development, Art, Industrial Design, Construction and Technology.

A Miiari, M Jalali, A Akhavan. (2016). Concentration of Heavy Metals in Soil and Potato Tubers in Fields of Hamadan Province. 12th Iranian Soil Science Congress.

### **Books and Book Chapters**

Akhavan, A. (2020). The behavior of lead and zinc mineral tailings in the release of heavy metals by leaching. Zarnevesht Publications.

Akhavan, A. (2022). New advancements in the field of pollution treatment, including contamination of the soil and water. In Heavy Metals - Recent Advances (pp. 1-10). IntechOpen, London. ISBN: 978-1-83768-515-8.



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Water quality  
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Risk assessment  
Waste management



### **Research Projects**

Investigation of the quality of industrial effluents, Hamedan City. 2012.

Assessment of leachate quality in municipal waste, Hamedan City.  
2014.

Evaluation of the quality of surface water from mountains to  
consumption sites, Hamedan City. 2016.

Free-thinking sessions: The nature and purpose of scientific debates.  
2018.

### **Work Experience**

Laboratory Manager, Chemistry and Soil Fertility Laboratory, Bu-Ali  
Sina University, Faculty of Agriculture (2013-2017).

Faculty Member, Iranian Research Organization for Science and  
Technology (IROST). (2021-2023)

### **Teaching Experience**

Soil Pollution, Bu-Ali Sina University, Faculty of Agriculture.

Soil Fertility and Plant Nutrition, University of Zanjan, Faculty of  
Agriculture.

Environmental Issues, Organization of Student Basij.

Emerging Political Discourses, Tabaan Future Studies Center.

### **Awards and Recognitions**

Member of the National Elites Foundation of Iran

Winner of the Best Thesis Award, Khayyam International Festival

Committee member of International Kwarazmi and Kwarazmi Youth  
Awards, sponsored by UNESCO, FAO, UNIDO, COMSATS since 2021.