

## Shekoohiyani Sakine

Ph.D. Associate Professor

Department of Environmental Health Engineering

Tarbiat Modares University, Tehran, Iran

Email: [s.shekoohiyani@modares.ac.ir](mailto:s.shekoohiyani@modares.ac.ir)

[s.shekoohiyani@yahoo.com](mailto:s.shekoohiyani@yahoo.com)

Tel: (98) 21 82884865

Fax: (98) 21 82884580



### Scientometrics Information databases

- ISID: [https://isid.research.ac.ir/Sakine\\_Shekoohiyani](https://isid.research.ac.ir/Sakine_Shekoohiyani)
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=55626343000>
- Google Scholar: <https://scholar.google.com/citations?hl=en&user=Y3Ddn-cAAAAJ>
- Publons: <https://publons.com/wos-op/researcher/1581050/sakine-shekoohiyani/>
- ORCID: <https://orcid.org/0000-0002-0651-6521>

### Educational Background:

Degree	Major	University	Department	Year
<b>Sabbatical leave</b>	Chemical Engineering	École Polytechnique federal de Lausanne (EPFL)	Advanced Oxidation Processes Group GPAO	2017
<b>Ph.D.</b>	Environmental Health Engineering	Tarbiat Modares University	Environmental Health Engineering	2017
<b>M.Sc.</b>	Environmental Health Engineering	Tehran University of Medical Science	Environmental Health Engineering	2010
<b>B.Sc.</b>	Environmental Health Engineering	Zanjan University of Medical Science	Environmental Health Engineering	2008

## Teaching Experiences

2023-Present Associate Professor, Dept. of Environmental Health Engineering, Tarbiat Modares University

2018-Present Assistant Professor, Dept. of Environmental Health Engineering, Tarbiat Modares University

- Municipal Solid Waste Management (Ph.D. students)
- Water Reservoir Management (M.Sc. students)
- Instrumental Analysis Methods (M.Sc. students)
- Environmental Modelling (Ph.D. students)
- Risk Management in Disasters (M.Sc. and Ph.D. students)
- Risk management in Environmental Health (Ph.D. students)
- Internship (M.Sc. students)

2017-2018 Assistant Professor, Dept. of Environmental Health Engineering, Hormozgan University of Medical Science

- Water Reservoir Management (M.Sc. students)
- Water Quality Management (B.Sc. students)
- Disinfectants (B.Sc. students)
- Industrial and Hazardous Solid Waste (B.Sc. students)
- Food Hygiene (B.Sc. students)
- Environmental Health (water, Wastewater, Solid waste, Air pollution, Radiation) (B.Sc. students)

## Research Experiences

2013 – Present Department of Environmental Health Engineering, Tarbiat Modares University, Tehran, Iran

- Investigating the performance of the cyclic activated sludge integrated with rotating-bed (CASIR) bioreactor for biodegradation of TPH in oily-waters.
- Advanced oxidation processes for removal of recalcitrant
- Biological treatment processes
- Municipal solid waste management
- Health and Environmental Risk Assessment
- Life Cycle Assessment
- Machine Learning

2016-2017 Department of Advanced Oxidation Processes Group GPAO, chemistry and chemical faculty, EPFL University, Lausanne, Switzerland.

- Enhancing solar disinfection of water in PET bottles by optimized in-situ formation of iron oxide films. From heterogeneous to homogeneous action modes with H<sub>2</sub>O<sub>2</sub> vs. O<sub>2</sub> Direct use of (natural) iron oxides.

2008-2010 Department of Environmental Health Engineering, Tehran University of Medical Sciences

- Removal of algae (Cyanobacteria and Diatoms) from water reservoirs by biological method.

### **Analytical Skills**

1. High Performance Liquid Chromatography (HPLC)
2. Spectrophotometer
3. Water and Wastewater Chemical and Microbial Examination
4. Polymerase chain reaction (PCR) Technique

### **Professional Training Courses / Workshops**

1. Laboratory Safety Course, 2016.
2. Teaching Methods Training Workshop, 2011.
3. Research Methods Training Workshop
4. SPSS Workshop, 2012.
5. Endnote Workshop, 2012.
6. Scientific writing Workshop, 2009.
7. PubMed, Ovid Medline Workshop, 2009.

### **Honors and Awards**

1. **Winner of Dr. Taghi Ebtekar Prize, 2022**
2. **Winner of Dr. Kazemi Ashtiani Prize, 2019.**
3. **Top Dissertation of Tarbiat Modares University in Ph.D. Course. 2018.**
4. **Distinguished as Young Researcher**, among all researchers in IRAN held by the Iran Association of Environmental Health (IAEH), 2018.
5. **Distinguished Researcher in Paper**, among all researchers in IRAN held by the Iran Association of Environmental Health (IAEH), 2016.
6. First rank graduated student in B.Sc., M.Sc. and Ph.D. grades.

### **Membership**

- Member of Education Development Center (EDC) of Tarbiat Modares University, Tehran, Iran.

- ✚ Member of Iranian Association of Environmental Health (IAEH), Iran.
- ✚ Member of Tarbiat Modares Student Research Committee, Tehran, Iran. 2013 – 2017.
- ✚ Member of Occupational and Environmental Health Engineering Research Center, Hormozgan University of Medical Sciences, 2013.
- ✚ Member of Health Promotion of Research Center, Hormozgan University of Medical Sciences, 2012-2013.
- ✚ Member of Student Research Committee. Hormozgan University of Medical Sciences, 2011-2013.

### Books (Persian)

- ✚ Identification, Effect and Control of Microplastics in the Environment. (Tarbiat Modares University Publication, 2024)
- ✚ Water Resources Development Management. (Asar Sobhan, 2021)
- ✚ Book chapter of Nitrogen Removal Processes for Wastewater Treatment, Bio Electrochemical Systems: A New Approach towards Environmental Pollution Remediation Biotechnology, 2019, 82-109.
- ✚ Modern Wastewater Treatment Technologies (Asar sobhan, 2016)
- ✚ Safe Management of Wastes from Health-Care Activities (Tarbiat Modares University Publication, 2017)
- ✚ Proposal writing for medical students (Bandar Abbas Azad Islamic University, accepted for publication)

### Journal Publication

1. Moussavi, G., Bakhtiarynasab, M., Shekoohiyan, S., Mohammadi, S., Giannakis, S., Li, M., High potential of the vacuum UV-activated peracetic acid (VUV/PAA) process in eliminating recalcitrant contaminants and waterborne pathogens: Assessing the efficacy of annular and helical reactor configurations. **Journal of Water Process Engineering**, (2024), 60, 105143 (**IF = 6.3**)
2. Mohammad Alizadeh, P., Ahmadi, O., Shekoohiyan, S., SheikhMozafari, M.J., Comprehensive analysis of acoustic properties of cellulose nano fibers absorbers: experimental and FEM-based mathematical modeling evaluation. *International Journal of Environmental Science and Technology*, (2024), (**IF = 3**)
3. Shekoohiyan, S., Mehrabi, F., Health risk assessment of heavy metals in precipitated dust in goldsmith workshops and simulation using Monte Carlo method. **Case Studies in Chemical and Environmental Engineering**, (2024), 100973.

4. Parsaee, F., Shekoohiyan, S., Moussavi, G., Life cycle assessment of Tehran's COVID-19 facemasks and prediction of environmental impacts using machine learning. **Environment, Development and Sustainability**, (2023), (IF = 4.7)
5. Tarviji, H., Shekoohiyan, S., Moussavi, G., Heidari, M., Comparison of contamination levels and health risks of toxic metals in raw and home-cooked rice; A field study on some rural households of Northern Iran. **Journal of Food Composition and Analysis**, (2023), 122, 105461 (IF = 4.3)
6. Ghorbaninejad Fard Shirazi, MM., Shekoohiyan, S., Moussavi, G., Heidari, M., Microplastics and mesoplastics as emerging contaminants in Tehran landfill soils: The distribution and induced-ecological risk. **Environmental Pollution**, (2023), 324, 121368 (IF = 9.998)
7. Shekoohiyan, S., Hadadian, M., Heidari, M., Hosseinzadeh-Bandbafha, H., cycle assessment of Tehran Municipal solid waste during the COVID-19 pandemic and environmental impacts prediction using machine learning. **Case Studies in Chemical and Environmental Engineering**, (2023), 100331.
8. Fanaei, F., Moussavi, G., Shekoohiyan, S., Enhanced bioremediation of oil-contaminated soil in a slurry bioreactor by H<sub>2</sub>O<sub>2</sub>-stimulation of oil-degrading/biosurfactant-generating bacteria: performance optimization and bacterial metagenomics. **Biodegradation**, (2023), 1-19 (IF = 3.731)
9. Shekoohiyan, S., Akbarzadeh, A., The abundance of microplastic pollution along the Jajroud river of Tehran: Estimating the water quality index and the ecological risk. **Ecological indicators**, (2022), 145, 109629. (IF = 6.263)
10. Ahmadiasl, R., Moussavi, G., Shekoohiyan, S., Razavian, F., 1Synthesis of Cu-Doped TiO<sub>2</sub> Nanocatalyst for the Enhanced Photocatalytic Degradation and Mineralization of Gabapentin under UVA/LED Irradiation: Characterization and Photocatalytic Activity. **Catalyst**. 2022, 12, 1310. (IF = 4.501)
11. Mohammadi, S., Moussavi, G., Kiyanmehr, K., Shekoohiyan, S., Heidari, M., Giannakis, S., Degradation of the antiviral remdesivir by a novel, continuous-flow, helical-baffle incorporating VUV/UVC photoreactor: Performance assessment and enhancement by inorganic peroxides, **Separation and Purification Technology**. 2022, 298, 121665. (IF= 9.136).

12. Molaee, S., Moussavi, S., Talebbeydokht, N., Shekoohiyan, S., Biodegradation of the petroleum hydrocarbons using an anoxic packed-bed biofilm reactor with in-situ biosurfactant-producing bacteria. **Journal of Hazardous Materials**, (2022): 421, 129699. (IF = 14.224)
13. Shekoohiyan, S., Parsaee, F., Ghyour, S., Assessment of knowledge, attitude and practice about biomedical waste management among healthcare staff of Fasa educational hospitals in COVID-19 pandemic. **Case Studies in Chemical and Environmental Engineering**, 6, 2022, 100207.
14. Mohammadi, S., Moussavi, G., Shekoohiyan, S., Marin, M.L., Bosca, F., Giannakis, S., A continuous-flow catalytic process with natural hematite-alginate beads for effective water decontamination and disinfection: Peroxymonosulfate activation leading to dominant sulfate radical and minor non-radical pathways. **Chemical Engineering Journal**. 411, 2021, 127738. (IF = 16.744).
15. Karimian, S., Shekoohiyan, S., Moussavi, G., Health and ecological risk assessment and simulation of heavy metal-contaminated soil of Tehran landfill. **RSC Advances**, 2021. (IF = 4.036).
16. Shekoohiyan, S., Mahdavianpour, M., Aghayani, E., Risk assessment and modeling of heavy metals in universal and local types of tobaccos. **International Journal of Environmental Analytical Chemistry**. (IF = 1.431).
17. Fanaei, F., Moussavi, G., Shekoohiyan, S. Enhanced treatment of the oil-contaminated soil using biosurfactant-assisted washing operation combined with H<sub>2</sub>O<sub>2</sub>-stimulated biotreatment of the effluent. **Journal of Environmental Management**, (2020): 271, 110941. (IF = 5.647).
18. Karimian, S., Moussavi, G., Fanaei, F., Mohammadi, S., Shekoohiyan, S., Giannakis, S. Shedding light on the catalytic synergies between Fe (II) and PMS in vacuum UV (VUV/Fe/PMS) photoreactors for accelerated elimination of pharmaceuticals: The case of metformin. **Chemical Engineering Journal**, (2020): 400, 125896. (IF = 10.652).
19. Shekoohiyan, S., Rahmania, A., Chamack, M., Moussavi, G., Rahmanian, O., Alipour, V., Giannakis, S. A novel CuO/Fe<sub>2</sub>O<sub>3</sub>/ZnO composite for visible-light assisted photocatalytic oxidation of Bisphenol A: Kinetics, degradation pathways, and toxicity elimination. **Separation and Purification Technology**, (2020): 242. (IF = 5.107).
20. Shekoohiyan, S., Rtimi, S., Moussavi, G., Giannakis, S., Pulgarin, S. Enhancing solar disinfection of water in PET bottles by optimized in-situ formation of iron oxide films. From heterogeneous to homogeneous action modes with H<sub>2</sub>O<sub>2</sub> vs. O<sub>2</sub> – Part 2: Direct use

- of (natural) iron oxides. **Chemical Engineering Journal**, (2019): 360, pp: 1051-1062. (IF = 6.735).
21. Shekoohiyan, S., Rtimi, S., Moussavi, G., Giannakis, S., Pulgarin, S. Enhancing solar disinfection of water in PET bottles by optimized in-situ formation of iron oxide films. From heterogeneous to homogeneous action modes with H<sub>2</sub>O<sub>2</sub> vs. O<sub>2</sub> – Part 1: Direct use of (natural) iron oxides. **Chemical Engineering Journal**, (2019): 358, pp: 211-224. (IF = 6.735).
  22. Moussavi, G., Pourakbar, M., Shekoohiyan, S., The photochemical decomposition and detoxification of bisphenol A in the VUV/H<sub>2</sub>O<sub>2</sub> process: Degradation, mineralization, and cytotoxicity assessment, **Chemical Engineering Journal**, 331 (2018) 755-764. (IF = 6.735).
  23. Moussavi, G., Shekoohiyan, S., Naddafi, K. The accelerated enzymatic biodegradation and COD removal of petroleum hydrocarbons in the SCR using active bacterial biomass capable of in-situ generating peroxidase and biosurfactants, **Chemical Engineering Journal**, 308 (2017) 1081-1089. (IF = 6.735)
  24. Moussavi, G., Momeninejad, H., Shekoohiyan, S., Baratpour, P. Oxidation of acetaminophen in the contaminated water using UVC/S<sub>2</sub>O<sub>8</sub><sup>2-</sup> process in a cylindrical photoreactor: Efficiency and kinetics of degradation and mineralization, **Separation and Purification Technology**, 181 (2017) 132-138. (IF = 3.927)
  25. Shekoohiyan, S., Moussavi, G., Naddafi, K. The peroxidase-mediated biodegradation of petroleum hydrocarbons in a H<sub>2</sub>O<sub>2</sub>-induced SBR using in-situ production of peroxidase: Biodegradation experiments and bacterial identification, **Journal of Hazardous Materials**, 313 (2016) 170–178. (IF = 6.434)
  26. Moussavi, G., Shekoohiyan, S. Simultaneous nitrate reduction and acetaminophen oxidation using the continuous-flow chemical-less VUV process as an integrated advanced oxidation and reduction process, **Journal of Hazardous Materials**, 318 (2016), 329-338. (IF = 6.434)
  27. Moussavi, G., Shekoohiyan, S., Naddafi, K. Anoxic biodegradation of petroleum hydrocarbons in saline media using denitrifier biogranules, **Ecotoxicology and Environmental Safety**, 129 (2016) 51–56. (IF = 3.974)
  28. Pourakbar, M., Moussavi, G., Shekoohiyan, S. Homogenous VUV advanced oxidation process for enhanced degradation and mineralization of antibiotics in contaminated water, **Ecotoxicology and Environmental Safety**, 125 (2016) 72–77. (IF = 3.974)
  29. Moussavi, G., Pourakbar, M., Aghayani, E., Mahdavianpour, M., Shekoohiyan, S. Comparing the efficacy of VUV and UVC/S<sub>2</sub>O<sub>8</sub><sup>2-</sup> advanced oxidation processes for

- degradation and mineralization of cyanide in wastewater, **Chemical Engineering Journal** 294 (2016) 273-280. (IF = 6.735)
30. Moussavi, G., Shekoohiyan, S., Mojab, S. Adsorption capacity of NH<sub>4</sub>Cl-induced activated carbon for removing sodium dodecyl sulfate from water, **Desalination and Water Treatment** 57 (2016) 11283-11290. (IF = 1.631)
31. Moussavi, G., Jiani, F., Shekoohiyan, S. Advanced reduction of Cr (VI) in real chrome-plating wastewater using a VUV photoreactor: Batch and continuous-flow experiments, **Separation and Purification Technology** 151 (2015) 218–224. (IF = 3.927)
32. Mohagheghian, A., Mahvi, A.H., Shekoohiyan, S., Koolivand, A. determination of copper, nickel and chromium contents in cultivated tea in north of Iran, **Environmental Engineering and Management Journal** 14 (2015) 2409-2413. (IF = 1.0651)
33. Ghoochani, M., Shekoohiyan, S., Yunesian, M., Nazmara, S., Mahvi, A.H. Determination of aluminum and zinc in infusion tea cultivated in north of Iran, **Journal of Environmental Health Science and Engineering**, 13 (2015) 1-6. (IF = 2.337)
34. Shekoohiyan, S., Ghoochani, M., Mohagheghian, A., Mahvi, A.H., Yunesian, M., Nazmara, S.H. Determination of lead, cadmium and arsenic in infusion tea cultivated in north of Iran. **Journal of Environmental Health Science and Engineering**, 9 (2012) 1-6. (IF = 2.337)
35. Shekoohiyan, S., Moussavi, G., Mojab, S. Adsorption of the reactive azo dyes onto NH<sub>4</sub>Cl-induced activated carbon, **Environmental Health Engineering and Management Journal**, 3 (2016) 1-7.
36. Alipour, V, Rezaie, L., Shekoohiyan, S., Dindarloo, K., Goodarzi, B. Trihalomethanes formation Potential in drinking water from Minab Steghlal dam to Water Distribution Network in Bandar Abbas. **Hormozgan Medical Journal**. 2014: 18(3).
37. Ghoochani, M., Shekoohiyan, S., Mahvi, A.H., Haibati, B., Norouzi, M. Determination of Detergent in Tehran Ground and Surface Water. **American-Eurasian J. Agric. & Environ. Sci.** 2011, 10 (3): pp, 464-469.
38. Shekoohiyan, S., Dindarloo, K., Shirpour K., Omid, N., Mshhadizadeh, N. The Study of Current Status of Hazardous Wastes Management in Hormozgan University of Medical Sciences, **Medicine and Public Health Journal** 1 (2014) 20-24.
39. Shekoohiyan, S., Dindarloo, K., Tajvar, A., Shekoohiyan, N. Safety Assessment of Hospitals Affiliated with Hormozgan University of Medical Sciences, Iran, **Medicine and Public Health journal** 1 (2014) 1-4.




40. Shekoohiyan, S., Mahvi, M.H., Alimohammadi, M., Mesdaghinia, A.R., Nabizadeh, R., Dabbagh, R. Performance evaluation of cyanobacteria removal from water reservoirs by biological method. **African Journal of Microbiology Research**, 2013.7(17), pp: 1729-1734.
41. Fallahi, S., Nejatizadeh, A., Salimi, M., Rajai, M., Shekoohiyan, S. Assessment of faculty members' and students' awareness, attitude and performance about plagiarism at Hormozgan University of Medical Sciences. **Advances in Environmental Biology**, 2012. 7(1), pp: 66-69.
42. Heyat, A., Piroozan, A., Nedjatizade, A., Mohebi, S., Shekoohiyan, S. Researchers' Attitude about Ethics in Research at Hormozgan University of Medical Sciences, Bandar-e-Abbas, Iran. **Advances in Environmental Biology**, 2013.7(1), pp: 56-60.

#### Conference Publication

1. Mehrabi, F., Shekoohiyan, S., Health and environmental impact assessment of goldsmith workshops: with emphasis on practical methods for industrial wastewater treatment, Second National Conference and First International Conference on Environmental Challenges: Green Industry and Mining, 1403.
2. Parsaee, F., Shekoohiyan, S., Mousavi, G., Life cycle assessment of used surgical and N95 masks in Tehran during the COVID-19 outbreak. The 1st National Conference on Environmental Challenges: Green Industry and Mining, 2022.
3. Sadeghi, F., Parsaee, F., Shekoohiyan, S., Investigating the ability of face mask recycling during the outbreak of COVID-19, The 1st National Conference on Environmental Challenges: Green Industry and Mining, 2022.
4. Ghorbaninejad, MM., Shekoohiyan, S., Moussavi, S., The determination of microplastics detected in the soil samples collected from residential area near the Tehran landfill. The 1st National Conference on Environmental Challenges: Green Industry and Mining, 2022.
5. Moussavi, G., Shekoohiyan, S., Ghasvand, S., Building eco-friendly houses using eco-bricks that made of recycled plastic waste as a green building material. The first national conference on green waste management. 2021.

6. Ghorbaninejad, MM., Shekoohiyan, S., Moussavi, S., Health and ecological risk caused by microplastics released into the environment. The first national conference on green waste management. 2021.
7. Hdadaian, M., Shekoohiyan, S., Heidari, M., Challenges and policies related to waste management during the outbreak of Covid-19 in the world and Iran. The first national conference on green waste management. 2021.
8. Shekoohiyan, S., Giannakis, S., Suarez Murillo, L.V., Schaerer, A., Moussavi, G., Pulgarin, C., Low-cost interventions for drinking water treatment and sterile surface preparation based on Fe-oxides, 6th European Conference on Environmental Applications of Advanced Oxidation Processes (EAAOP-6), 25-30/06/2019, Portoroz, Slovenia.
9. Karimian, S., Moussavi, G., Shekoohiyan, S., Health risk assessment of heavy metals (Al, Mn, Ba, Cu and Sr) in cultivated vegetables near Tehran landfill area, National conference on health and environment, 2019.
10. Shekoohiyan, S., Karimian, S., Moussavi, G., Heavy metals determination in vegetables that cultivated near Tehran landfill area, 12<sup>th</sup> university students conference on innovations in health sciences, Tehran, 2018.
11. Shekoohiyan, S., Moussavi, G., Naddafi, K. The enhanced biodegradation of petroleum hydrocarbons in saline media using anoxic biogranules, 18th National conference of environmental health, 2016, Shiraz, Iran.
12. Shekoohiyan, S., Moussavi, G., Mojab, S. investigation potential removal of sodium dodecyl sulfate by activated carbon induced NH<sub>4</sub>Cl from polluted water, 2014, Tehran, Iran.
13. Shekoohiyan, S., Dindarloo, K., Razmjoe, Z. Assessment preparedness of hospitals affiliated with Hormozgan University of Medical Sciences against disasters, 16<sup>th</sup> National conference of environmental health, 2013, Tabriz, Iran.
14. Shekoohiyan, S., Ghoochani, M., Mahvi, A.H. Determination of detergent in Tehran ground and surface water, 1th international conference on environmental crisis and its solutions, 2013, Kish, Iran.
15. Shekoohiyan, S., Mahvi, A.H. Algae removal by Pseudomonas aeruginosa, 1th National Conference on Environmental Research, 2013, Bandar Abbas, Iran.

#### Reviewer for Peer Reviewed Journals

 Chemical Engineering Journal

Curriculum Vitae  
Shekoohiyan, S, 13 Oct, 2024

- ✚ Chemosphere
- ✚ Journal of Hazardous Materials
- ✚ Environmental pollution
- ✚ Ecotoxicology and Environmental Safety
- ✚ Science of the Total Environment
- ✚ Separation Science and Technology
- ✚ Biomass Conversion and Biorefinery
- ✚ Energy Conversion and Management
- ✚ Process Safety and Environmental Protection
- ✚ ACS Agricultural Science & Technology
- ✚ RSC Advances
- ✚ Water Science and Technology
- ✚ Recycling journal
- ✚ Journal of Water Process Engineering
- ✚ Water Process Engineering
- ✚ Emerging Contaminants
- ✚ Environmental Nanotechnology, Monitoring & Management
- ✚ Environmental Science and Pollution Research
- ✚ Applied Water Science
- ✚ Case Studies in Chemical and Environmental Engineering
- ✚ Human and Ecological Risk Assessment: An International Journal
- ✚ Journal of Environmental Health Science and Engineering
- ✚ Journal of Trace Elements and Minerals
- ✚ Applied Sciences
- ✚ Cleaner Water
- ✚ Heliyon
- ✚ Environmental Advances
- ✚ Infection, Disease & Health
- ✚ The Journal of Solid Waste Technology and Management
- ✚ Sustainability
- ✚ Materials
- ✚ Polymer
- ✚ Bioengineering
- ✚ Water
- ✚ Process
- ✚ Catalysts
- ✚ Environmental Technology & Innovation
- ✚ Research on Chemical Intermediates
- ✚ Iranian Journal of Environmental Health Science & Engineering

Curriculum Vitae  
Shekoohiyan, S, 13 Oct, 2024