

FATEMEH AMEREH

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EDUCATION

Doctorate of Philosophy of Environmental Health Engineering | Sep 2018 – Jan 2024

Shahid Beheshti University of Medical Sciences, Tehran, Iran

GPA: 19.64 out of 20

Thesis Title: Investigating the possible exposure of pregnant women to environmental pollutants in Tehran and its association with serum, urine, and milk metabolomic signature

Supervisor: Dr. Mohammad Rafiee

Master of Science in Environmental Health Engineering | Sep 2015 – Jan 2018

Shahid Beheshti University of Medical Sciences, Tehran, Iran

GPA: 19.18 out of 20

Thesis Title: Evaluation of Polystyrene Nano-plastics Effects on Endocrine System in Animal Model

Supervisor: Dr. Mohammad Rafiee

Bachelor of Science in Environmental Health Engineering | Sep 2011 – Aug 2015

Shahid Beheshti University of Medical Sciences, Tehran, Iran

GPA: 19.10 out of 20

RESEARCH INTERESTS

- Environmental Health
- Exposure science
- Biostatistics
- Mass Spectrometry
- Analytical Chemistry
- Environmental Biology
- Wastewater Epidemiology
- Environmental Chemistry

PUBLICATIONS

- Karimi P., Rafiee M., Saadani M., Etesami H., Amereh F., Yazdanbakhsh A., Innovative use of modified biochar for cadmium remediation in saline soils: Integrating biological and physicochemical strategies with implications for Cd uptake in garden cress (*Lepidium sativum*), *Applied Soil Ecology*, 2026, 220 106823, <https://doi.org/10.1016/j.apsoil.2026.106823>.

- Amereh F., Olazadeh K., Rafiee M., Eslami A., Pashaeimeykola M., Rezadoost H., Mehrabi Y., Amjadi N., Mahdavi V., Longitudinal untargeted maternal metabolomics identifies potential metabolic signatures of pregnancy failure. *J Environ Health Sci Engineer* 23, 37 (2025). <https://doi.org/10.1007/s40201-025-00963-z>
- Atamaleki A., Fakhri Y., Sadeghi S., Amereh F., Rahmatinia M., Paseban A., Sadeghi M., Systematic Review and Meta-analysis of Toxic Element Accumulation in Iranian Wheat Cultivation, *Journal of Food Protection*, 2025, 88, 8, 100558, <https://doi.org/10.1016/j.jfp.2025.100558>.
- Esmaeili-khoshmardan M., Dabiri H., Rafiee M., Eslami A., Yazdanbakhsh A., Amereh F., Jahangiri-rad M., Hashemi A., Dynamics of antimicrobial resistance and susceptibility profile in full-scale hospital wastewater treatment plants. *Water Science and Technology*, 2024; 90 (1): 103–123. doi: <https://doi.org/10.2166/wst.2024.201>
- Rashidi M., Alavi N., Amereh F., Rafiee M., Amanidaz N., Partovi Kh., Mosanefi Sh., Bakhshoodeh R., Biohydrogen production from co-digestion of sugarcane vinasse and bagasse using anaerobic dark fermentation, *Bioresource Technology Reports*, 2024, 25, 101793, [10.1016/j.biteb.2024.101793](https://doi.org/10.1016/j.biteb.2024.101793)
- Ghaedrahmati Z., Ghaffari M., Mehrabi Y., Alavi N., Amereh F., Roostaei K., Rafiee M.*," Urban informal waste recycling in Tehran: Knowledge, attitudes, and practices towards health risks during the recycling process", *Cleaner Waste Systems*, 2023, 4, 100064, <https://doi.org/10.1016/j.clwas.2022.100064>
- Amereh F., Jokar R., Baradaran Ghasemi A., Yazdanbakhsh A., Rafiee M.*, Hosseini Alast F., Mahdipour Naiem S.," Sunlight-active hierarchical Ag@insulator@ZnO core-shell array based on natural diatoms for environmental remediation", *Applied Materials Today*, 2023, 30, 101698, <https://doi.org/10.1016/j.apmt.2022.101698>
- Amereh F., Amjadi N., Mohseni-Bandpei A., Isazadeh S., Mehrabi Y., Eslami A., Rafiee M.*," Placental plastics in young women from the general population correlate with reduced fetal growth in IUGR pregnancies", *Environmental Pollution*, 2022, 314, 120174, <https://doi.org/10.1016/j.envpol.2022.120174>
- Amereh F. Jahangiri-rad M. Mohseni-Bandpei A. Mohebbi R. Asadzadeh Aghdaei H. Dabiri H. Eslami A. Roostaei K. Aali R. Hamian P. Rafiee M.*," Association of SARS-CoV-2 presence in sewage with public adherence to precautionary measures and reported COVID-19 prevalence in Tehran", *Science of The Total Environment*, 2022, 812,152597, <https://doi.org/10.1016/j.scitotenv.2021.152597>
- Rafiee, M., Isazadeh, S., Mohseni-Bandpei, A., Mohebbi, SR., Jahangiri-rad, M., Eslami, A., Dabiri, H., Roostaei, K., Tanhaei, M., Amereh, F*. , "Moore swab performs equal to composite and outperforms grab sampling for SARS-CoV-2 monitoring in wastewater", *Science of the Total Environment*, 2021, 790, 148205, <https://doi.org/10.1016/j.scitotenv.2021.148205>
- Babaei A, Rafiee M, Khodaghali F, Ahmadpour E, Amereh F.*, "Nanoplastics-induced oxidative stress, antioxidant defense, and physiological response in exposed Wistar albino rats", *Environmental Science and Pollution Research*, 2021, <https://doi.org/10.1007/s11356-021-15920-0>
- Amereh, F., Negahban-Azar, M., Isazadeh, S., (...), Jahangiri-Rad, M., Rafiee, M.," Sewage systems surveillance for sars-cov-2: Identification of knowledge gaps, emerging threats, and future research needs", *Pathogens*, 2021, 10(8),946, [10.3390/pathogens10080946](https://doi.org/10.3390/pathogens10080946)

- Amereh, F., Babaei, M., Eslami, A., Fazelipour, S., Rafiee, M., "The emerging risk of exposure to nano(micro)plastics on endocrine disturbance and reproductive toxicity: From a hypothetical scenario to a global public health challenge", *Environmental Pollution*, 2020, 261, 114158, <https://doi.org/10.1016/j.envpol.2020.114158>
- Majlessi-Nasr, M., Rafiee, M., Amereh F., Jahangiri-Rad M., Jalilvand H., "Multi-objective optimization of electrocoagulation-flotation (ECF) process for treatment of real dairy wastewater", *Desalination Water Treatment* 206, 44-57, [doi: 10.5004/dwt.2020.26212](https://doi.org/10.5004/dwt.2020.26212)
- Amereh, F., Eslami, A., Fazelipour, S., Rafiee, M., Zibaii, M.I., Babaei, M., "Thyroid endocrine status and biochemical stress responses in adult male Wistar rats chronically exposed to pristine polystyrene nano plastics", *Toxicology Research*, 2019, 8(6), 953-963, <https://doi.org/10.1039/c9tx00147f>
- Rafiee, M., Dargahi, L., Eslami, A., (...), Sabour, S., Amereh, F*, "Neurobehavioral assessment of rats exposed to pristine polystyrene nano plastics upon oral exposure", *Chemosphere*, 2018, 193, pp. 745-753, <https://doi.org/10.1016/j.chemosphere.2017.11.076>
- Amereh F, Jahangiri-rad M, Mazloomi S, Rafiee M, "The role of environmental and lifestyle factors in the incidence and prevalence of cancer", *Environmental Health Engineering Journal*, 2016, 1, Pages 30-42, <http://jehe.abzums.ac.ir/article-1-287-en.html>

Books:

Process Chemistry, Authors: Amereh F., Jahangiri-Rad M., Ava Publisher, 2021

SELECTED COURSES

• Environmental Toxicology	20/20	• Environmental Modeling	20/20
• Environmental Epidemiology	18/20	• Advanced Instrumental Analysis	20/20
• Biostatistics	20/20	• Environmental Chemistry	20/20

RESEARCH EXPERIENCE

Research Assistant | 2019-Present

Laboratory: Advanced Analytical Instrument

Supervisor: Dr. Mohammad Rafiee

Location: School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Internship | 2020-2022

Laboratory: GenIran LAB

Location: No. 89, Second Floor, South Mofateh St, Tehran, Iran

TEACHING EXPERIENCE

Teacher Assistant | 2017 – Present

Courses:

- Environmental Chemistry
- Environmental Modeling
- Advanced Instrumental Analysis
- Environmental Microbiology
- Fluid Mechanics and Hydraulic
- Physicochemical Process for Water and Wastewater Treatment

Location: School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran

RESEARCH PROJECTS

- Untargeted investigation of maternal metabolomic disorders during the first trimester of pregnancy due to environmental exposures and its relationship with adverse reproductive outcomes Project value: 450,000,000 Iranian Rials
- Assessment of microplastics contamination in human placenta. Project value: 178,000,000 Iranian Rials
- Computational analysis of SARS-CoV-2 surveillance to estimate the prevalence and hot spots of affected COVID-19 through wastewater-based epidemiology in Tehran. Project value: 2,180,000,000 Iranian Rials
- Study of Diclofenac, Ibuprofen, Carbamazepine and Valproic acid adsorptive behavior on facial scrubs derived polyethylene microbeads in aqueous solutions. Project value: 70,000,000 Iranian Rials
- Evaluation of nano-plastics effects on oxidative stress responses in animal model. Project value: 198,000,000 Iranian Rials
- The emerging risk of exposure to nano(micro)plastics on endocrine disturbance and reproductive toxicity: From a hypothetical scenario to a global public health challenge. Project value: 70,000,000 Iranian Rials
- Behavioral assessment of rats exposed to pristine polystyrene nanoparticles upon oral exposure. Project value: 70,000,000 Iranian Rials
- Evaluation of polystyrene nanoplastics effects on endocrine system in an animal model. Project value: 60,000,000 Iranian Rials

WORKSHOP

- “Artificial Intelligence and Machine Learning in Biology“, IINS institute, Tehran, 2024
- 48-Hour workshop of “Environmental Microbiology”, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran, 2022- **Lecturer**
- 35-Hour workshop of “Python in Biology“, GenIran laboratory, Tehran, 2022
- 50-Hour workshop of “Applied Microbiology”, GenIran laboratory, Tehran Iran, 2021
- 100-Hour workshop “Essential Lab Skills and Molecular Biology Techniques“, GenIran laboratory, 2021
- 5-Day workshop of “Bioinformatics”, GenIran laboratory, Tehran Iran, 2020
- 7-Day workshop of “R Software”, Tehran University of Medical Science, 2020
- 100-hour workshop “Systematic Review and Meta-analysis”, Tehran University of Medical Science, 2019

LAB SKILLS

- **Sample and Reagent Preparation**

Proficient in accurately preparing samples and reagents for various laboratory experiments

- **Analytical Instrument**

Skilled in sample preparation for mass spectrometers

Experience in the operation and troubleshooting of mass spectrometers

- **Gel Electrophoresis**

Expertise in both Agarose Gel Electrophoresis (AGE) and Polyacrylamide Gel Electrophoresis (PAGE)

- **PCR Techniques**

Proficient in Real-time PCR

Experienced with Tetra-ARMs PCR and PCR-RFLP techniques

- **Animal Models**

Extensive experience in working with animal models for research purposes

- **Nucleic Acid Extraction**

Skilled in RNA and DNA extraction techniques

- **MVic Test**

Proficient in conducting MVic tests for various applications

- **ELISA**

Competent in performing ELISA (Enzyme-Linked Immunosorbent Assay) assays

HONORS & AWARDS

- Selected Recipient of the “Jahat” Faculty Recruitment Program, Iran’s National Elites Foundation | 2025
- Recipient of the Shahid Vezvaei Program, Iran’s National Elites Foundation | 2021
- Recipient of the Shahid Vezvaei Program, Iran’s National Elites Foundation | 2022
- Outstanding Talent Student, B.Sc. in Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences | 2011–2015
- Outstanding Talent Student, M.Sc. in Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences | 2015–2018
- Ranked 1st among B.Sc. Graduates in Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences | 2015
- Ranked 1st among M.Sc. Graduates in Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences | 2018
- Ranked 1st among Ph.D. Graduates in Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences | 2024
- First-Place Award, Shahid Motahari Educational Festival | 2015

COMPUTER SKILLS

- **Programming Languages:** Python, R
- **Applied Software:** MATLAB, Minitab, SPSS, MSD ChemStation, Origin pro, STATA, GIS

LANGUAGE SKILLS

- **Persian:** Native
- **English:** Advanced (C1)

MEMBERSHIPS

Chemosphere | 2020– Present (Total Completed Reviews: 13)

Science of the Total Environment | 2024– Present (Total Completed Reviews: 8)

Hazardous Materials | 2024– Present (Total Completed Reviews: 3)

Water Research | 2025– Present (Total Completed Reviews: 1)

Ecotoxicology and Environmental Safety | 2024– Present (Total Completed Reviews: 4)

Environmental Technology & Innovation | 2024– Present (Total Completed Reviews: 1)

Biomass and Bioenergy | 2024– Present (Total Completed Reviews: 1)

iScience | 2024– Present (Total Completed Reviews: 1)

Atmospheric Pollution Research (APR) | 2024– Present (Total Completed Reviews: 1)

International Journal of Hygiene and Environmental Health | 2024– Present (Total Completed Reviews: 1)

International Journal of Environmental Research (IJER) | 2024– Present (Total Completed Reviews: 3)

Journal of Environmental Health Science and Engineering | 2024– Present (Total Completed Reviews: 2)

Environmental Advance | 2025– Present (Total Completed Reviews: 1)

BMC Urology | 2024– Present (Total Completed Reviews: 1)

Journal of Chemical Health Risks| 2020– Present (Total Completed Reviews: 1)

PERSONAL INTERESTS

- Swimming
- Planting Flowers
- Reading Books