

MOHAMMAD RAFIEE

Contact Information

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Address: Department of Environmental Health Engineering, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences (SBMU), Tehran, IRAN. P.O. Box 1983535511.

Academic Rank

Associate Professor

School

Public Health and Safety

Department of Environmental Health Engineering

Birth date

09/21/1978

CV last edited on: 09/08/2023

Courses and Degrees

1. PhD

Environmental Health Engineering, Tehran University of Medical Sciences, Tehran, Iran, 2012

2. MSc

Environmental Health Engineering, Tehran University of Medical Sciences, Tehran, Iran, 2005

3. BSc

Environmental Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran, 2002

PhD Thesis Title and Supervisors

Evaluation of aerobic granular sludge bio-augmentation for degradation of 4-chlorophenol and Benzyl alcohol

Supervisors:

Prof. Alireza Mesdaghinia (mesdaghinia@tums.ac.ir)

Prof. Mohammad Hossein Ghahremani (mhghahremani@tums.ac.ir)

1. TEACHING PORTFOLIO

1.1. Subject area competence and current teaching activity

1. B.Sc

- Environmental Chemistry (2012 - present)
- Environmental Microbiology (2012 - present)
- Physico-chemical Processes for Water and Wastewater Treatment (2015 - present)
- Municipal & Industrial Wastewater Treatment (2015 - present)
- Water Quality & Treatment (2017 - 2020)
- Basics of Environmental Modeling (2012 - present)
- Fluid Mechanics & Hydraulic (2012 - present)
- Hydrology & Hydrogeology (2012 - 2016)

2. MSc

- Advanced Instrumental Analysis (2017 - present)
- Soil Pollution (2016 - present)

3. PhD

- Soil Pollution (2017 - present)
- Environmental Modeling (2017 - present)

4. MPH

- Environmental Health (Air pollution, Water Supply and Treatment, Wastewater Treatment, Health-care Solid Waste Management)

1.2. Short Courses / Workshops

Workshop on Environmental Microbiology (*Lecturer*) – Shahid Beheshti University of Medical Sciences, 2022

High Performance Liquid Chromatography-Mass Spectrometry (HPLC-MS) – PHYSTEC, 2021

Real-Time quantitative PCR (*RT-qPCR*) – Geniran, 2020

Sampling in research – Shahid Beheshti University of Medical Sciences, 2017

Biological monitoring of air pollutants – Institute for Environmental Research-TUMS, 2016

Introduction to epidemiological methods and statistical analysis in environmental studies - Tehran University of Medical Sciences, 2016

WHO joint mission for water quality control lab for chemical & microbial component, Ministry of Health and Medical Education, 2016

Practical HPLC, Pasture Institute, 2016

Educational Symposium on proteomics and its place in medical research, Alborz University of Medical Sciences, 2014

Bioinformatics and primer designing, Alborz University of Medical Sciences, 2014

Systematic review and meta-analysis, Alborz University of Medical Sciences, 2014

Problem based learning (PBL), Alborz University of Medical Sciences, 2013

How to Publish a Scientific Journal article, TUMS-Springer, 2011

Workshop on Water & Wastewater for Environmental Health Engineers of Iranian National Petroleum Co. (*Lecturer*), 2010

Teaching strategies and methods, TUMS, 2009

Basics, Structure, Documentation & Auditing of Health, Safety, Environment Management System HSE-MS, Tehran-TÜV Academy, 2006

1.3. Pedagogical development work and projects

1. Mentor of Environmental Health Department Journal Clubs (2014-2022)

2. Development of School Log-Book forum (in Excel format) (2020)

3. Chairman, Educational Development Office (EDO) at School of Public Health and Safety, Shahid Beheshti University of Medical Sciences (2019-2020)

4. Chairman, Educational Development Office (EDO) at School of Public Health, Alborz University of Medical Sciences (2013-2014)

2. SCIENTIFIC PORTFOLIO

2.1. Current scientific activity

- Understanding the environmental fate, behaviour, effects and risks associated with legacy pollutants as well as contaminants of emerging concern (CECs)
- Bioremediation of Organics in Soil and Water

2.2. Scientific Publications

2.2.1. Bibliometric parameters

- No. of published original works: 69
- H index: 20
- Scopus Author Identifier: 12774072800
- <https://orcid.org/0000-0002-9120-891X>
- Google Scholar address: <https://scholar.google.com/citations?user=rtFgNIAAAAJ&hl=en>

2.2.2. Original works

[Antimicrobial resistance burden and profile dynamics after passing through treatment processes in full](#)

[scale hospital wastewater treatment plants](#)

Authors: Esmaeili-khoshmardan, M., Dabiri, H., Rafiee, M.*, Eslami, A., Yazdanbakhsh, A., Amereh, F.
Under Review

[Volatile fatty acids and ammonia recovery, simultaneously cathodic hydrogen production and increasing thermophilic dark fermentation of food waste efficiency](#)

Authors: Amanidaz, N., Gholizadeh, A., Alavi, N., Majlesi, M., Rafiee, M., Zamanzadeh, M., Rashidi, M., Mirzaee, S.A.
International Journal of Hydrogen Energy, January 2023

[Urban informal waste recycling in Tehran: knowledge, attitudes and practices towards health risks during recycling process](#)

Authors: Ghaedrahmati, Z., Ghaffari, M., Mehrabi, Y., Alavi, N., Amereh, F., Roostaei, K., Rafiee, M.*
Cleaner Waste Systems, 2023, 4, 100064

[Sunlight-active hierarchical Ag@insulator@ZnO core-shell array architecture based on natural diatoms for environmental remediation](#)

Authors: Amereh, F., Jokar, R., Baradaran-Ghasemi, A.H., Yazdanbakhsh, A.R., Rafiee, M.*, Hosseini-Alast, F., Mehdipour-Naiem, S.
Applied Materials Today, 2023, 30, 101698

[Adverse effects of polystyrene nanoplastic and its binary mixtures with nonylphenol on zebrafish nervous system: From oxidative stress to impaired neurotransmitter system](#)

Authors: Aliakbarzadeh, F., Rafiee, M., Khodagholi, F., Khorramizadeh, M.R., Manouchehri, H., Eslami, A., Sayehmiri, F., Mohseni-Bandpei, A.
Environmental Pollution, 2023, 317, 120587

[Clindamycin removal from aqueous solution by non-thermal air plasma treatment: performance, degradation pathway and ensuing antimicrobial activity](#)

Authors: Akbarzadeh, A., Ghomi, H.R., Rafiee, M., Hosseini, O., Jahangiri-rad, M.
Water Science & Technology, 2022, 86 (10), 2593-2610

[A new approach on visible light assisted oxygen doped g-C₃N₄/β-Bi₂O₃ direct Z-scheme heterojunction towards the degradation of bisphenol A: Degradation pathway, toxicity assessment, and continuous mode study](#)

Authors: Mahdipour, F., Rafiee, M., Kakavandi, B., Khazaei, Z., Ghanbari, F., Andrew Lin, K.-Y., Wactawek, S., Eslami, A.*, Bagheri, A.
Separation and Purification Technology, 2022, 303, 122171

[Placental plastics in young women from general population: Association with neonatal anthropometric measurements](#)

Authors: Amereh, F., Amjadi, N., Mohseni-Bandpei, A., Isazadeh, S., Mehrabi, Y., Eslami, A., Rafiee, M.*
Environmental Pollution, 2022, 314, 120174

[Enhancement of MBBR reactor efficiency using effective microorganism for treatment of wastewater containing diazinon by engineered *Pseudomonas putida* KT2440 with manganese peroxidase 2 gene](#)

Authors: Amiri, N.A., Amiri, F.A., Faravardeh, L., Eslami, A., Ghasemi, A., Rafiee, M.
Journal of Environmental Management, 2022, 316, 115293

[Fate and inhibition of Bis \(2-ethylhexyl\) phthalate in biophysical reactors for treating real landfill leachate](#)

Authors: Seid-Mohammadi, A., Asgari, G., Rafiee, M., Samadi, M.T., Nouri, F., Pirsaeheb, M., Asadi, F.
Process Safety and Environmental Protection, 2022, 160, 450–464

Association of SARS-CoV-2 presence in sewage with public adherence to precautionary measures and reported COVID-19 prevalence in Tehran

Authors: Amereh, F., Jahangiri-rad, M., Mohseni-Bandpei, A., Mohebbi, SR., Asadzadeh Aghdaei, H., Eslami, A., Dabiri, H., Roostaei, K., Aali, R., Rafiee, M.*

Science of the Total Environment, 2022, 812, 152597

Enhanced biological hydrogen production through the separation of volatile fatty acids and ammonia based on microbial bipolar electro dialysis during thermal dark fermentation

Authors: Alavi, N., Majlessi, M., Amanidaz, N., Zamanzadeh, M., Rafiee, M., Gholizadeh, A., Mirzaee, S.A., Mokhtari, M.

Journal of Cleaner Production, 2022, 330, 129887

Occurrence, identification, and discharge of microplastics from effluent and sludge of the largest WWTP in Iran—South of Tehran

Authors: Oveysy, N., Rafiee, M., Rahmatpour, A., ...Hashemi, M., Eslami, A.

Water Environment Research, 2022, 94(8), e10765

Comparing the performance of UV/Acetylacetone and UV/O₃ processes for treatment of olive mill wastewater

Authors: Radmehr, R., Rafiee, M., Yazdanbakhsh, A.

Environmental Health Engineering and Management, 2022, 9(2), 115–123

Increased biological and cathodic hydrogen production using a novel integrated thermophilic fermenter and dual anion exchange membrane bioelectrochemical system

Authors: Alavi, N., Majlessi, M., Amanidaz, N., Zamanzadeh, M., Rafiee, M.

MethodsX, 2022, 9, 101770

Health risk assessment of stochastic exposure to arsenic, cadmium and copper in water distribution network. A case study of Robat Karim, Tehran, Iran

Authors: Rafiee, M., Jahangiri-rad, M.*, Razmi, E.

Environmental Engineering and Management Journal, 2021, 20 (12), 2061-2075

Bis(2-ethylhexyl) phthalate inhibition on aerobic flocculent and granular sludge in the treatment of landfill leachate: a comparative study

Authors: Seid-Mohammadi, A., Asgari, G., Rafiee, M., Samadi, M.T., Nouri, F., Pirsaeheb, M., Asadi, F.

Biomass Conversion and Biorefinery, 2021, <https://doi.org/10.1007/s13399-021-01934-8>

The formation of aerobic granular sludge for the treatment of real landfill leachate using a granular sequencing batch reactor at a constant volume

Authors: Seid-Mohammadi, A., Asgari, G., Rafiee, M., ...Pirsaeheb, M., Asadi, F.

Environmental Quality Management, 2022

Moore swab performs equal to composite and outperforms grab sampling for SARS-CoV-2 monitoring in wastewater

Authors: Rafiee, M., Isazadeh, S., Mohseni-Bandpei, A., Mohebbi, SR., Jahangiri-rad, M., Eslami, A., Dabiri, H., Roostaei, K., Tanhaei, M., Amereh, F.

Science of the Total Environment, 2021, 790, 148205

Nanoplastics-induced oxidative stress, antioxidant defense, and physiological response in exposed Wistar albino rats

Authors: Babaei, A.A., Rafiee, M., Khodaghali, F., Ahmadpour, E., Amereh, F.

Environmental Science and Pollution Research, <https://doi.org/10.1007/s11356-021-15920-0>

Kinetic study of real landfill leachate treated by non-thermal plasma (NTP) and granular sequential batch reactors (GSBR)

Authors: Seid-mohammadi, A., Asgari, G., Rafiee, M., Samadi, M.T., Nouri, F., Pirsaeheb, M., Asadi, F.
Journal of Water Process Engineering, 2021, 43,102245

Degradation of atenolol by CuFe₂O₄/visible light/oxidant: Effects of electron acceptors, synergistic effects, degradation pathways, and mechanism

Authors: Mohseni-Bandpei, A., Ghasemi, S.M., Eslami, A., Rafiee, M., Sadani, M., Ghanbari, F.
Journal of Photochemistry and Photobiology A: Chemistry, 2021, 418,113425

Sewage systems surveillance for SARS-CoV-2: Identification of knowledge gaps, emerging threats, and future research needs

Authors: Amereh, F., Negahban-Azar, M., Isazadeh, S., Dabiri, H., Masihi, N., Jahangiri-Rad, M., Rafiee, M.*
Pathogens, 2021, 10(8),946

Heterogeneous sonocatalytic degradation of atenolol using CuFe₂O₄ from aqueous solution: effects of operational parameters, energy consumption and degradation mechanism

Authors: Mohseni-Bandpei, A., Eslami, A., Rafiee, M., Ghasemi, S.M., Sadani, M., Ghanbari, F.
International Journal of Environmental Analytical Chemistry, <https://doi.org/10.1080/03067319.2021.1917558>

Multi-objective optimization of electrocoagulation-flotation (ECF) process for treatment of real dairy wastewater

Authors: Majlessi-Nasr, M., Rafiee, M., Amereh, F., Jahangiri-Rad, M., Jalilvand, H.
Desalination and Water Treatment, 2020, 206, 44-57

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

Authors: Amereh, F., Babaei, M. Eslami, A., Fazelipour, S., Rafiee, M.*
Environmental Pollution, 2020, 261, 114158

Impact of climate change on organic carbon removal efficiency in jajrood catchment: From dam to water treatment plant

Authors: Mohseni-Bandpei, A., Nasserri, M., Rafiee, M., Eslamizadeh, M., Hashempour, Y.
Journal of Mazandaran University of Medical Sciences, 2020, 30(191), 81-95

Comparative study of RSM and ANN for multiple target optimisation in coagulation/precipitation process of contaminated waters: mechanism and theory

Authors: Golbaz, S., Nabizadeh, R., Rafiee, M., Yousefi, M.
International Journal of Environmental Analytical Chemistry, 2020

Data on the microplastics contamination in water and sediments along the Haraz River estuary, Iran

Authors: Naeaji, N., Rafeei, M., Azizi, H., Hashemi, M., Eslami, A.
Data in Brief, 2020, 32, 106155

A comparative study on the toxicity of nano zero valent iron (nZVI) on aerobic granular sludge and flocculent activated sludge: Reactor performance, microbial behavior, and mechanism of toxicity

Authors: Daraei, H., Rafiee, M., Yazdanbakhsh, A.R., Amoozegar, M.A., Guanglei, Q.
Process Safety and Environmental Protection, 2019, 129, 238-248

Polycyclic aromatic hydrocarbons (PAHs) formation during the fast pyrolysis of hazardous health-care waste

Authors: Mohseni-Bandpei, A., Majlesi, M., Rafiee, M., Nojavan, S., Nowrouz, P., Zolfagharpour, H.
Chemosphere, 2019, 227, 277-288

[Multivariate and geostatistical analysis of spatial distribution and potential sources of heavy metals in surface waters](#)

Authors: Rafiee, M., Eslami, E., Saeedi, S., Abtahi, A., Jahangiri rad, M.
Caspian Journal of Environmental Sciences (CJES), 2019, 17(1), 23-41

[Degradation and COD removal of trichlorophenol from wastewater using sulfite anion radicals in a photochemical process combined with a biological reactor: Mechanisms, degradation pathway, optimization and energy consumption](#)

Authors: Sheikhmohammadi, A., Yazdanbakhsh, A., Moussavi, G., Eslami, A., Rafiee, M., Sardar, M., Almasian, M.
Process Safety and Environmental Protection, 2019, 123, pp. 263-271

[Thyroid endocrine status and biochemical stress responses in adult male Wistar rats chronically exposed to pristine polystyrene nanoplastics](#)

Authors: Amereh, F., Eslami, A., Fazelipour, S., Rafiee, M.*, Zibaii, M.I., Babaei, M.
Toxicology Research, 2019, 8(6), 953-963

[Responses of flocculated activated sludge to bimetallic Ag-Fe nanoparticles toxicity: Performance, activity enzymatic, and bacterial community shift](#)

Authors: Yazdanbakhsh, A.R., Rafiee, M., Daraei, H., Amoozegar, M.A.
Journal of Hazardous Materials, 2019, 366, pp. 114-123

[Evaluation of Microbiological Water Quality and Coastal Waters Quality Index of Persian Gulf in Bandar Abbas Coastal City, Iran](#)

Authors: Yazdanbakhsh, A.R., Rafiee, M., Alimoradi, M.
Iranian Journal of Health, Safety & Environment, 2019, Vol.6, No.4, pp.1344-1347

[Water quality assessment of the most important dam \(Latyan dam\) in Tehran, Iran](#)

Authors: Mohseni-Bandpei, A., Motesaddi, S., Eslamizadeh, M., (...), Mehrabi, Y., Riahi, S.M.
Environmental Science and Pollution Research, 2018, 25(29), pp. 29227-29239

[Indoor and outdoor concentrations of BTEX and formaldehyde in Tehran, Iran: effects of building characteristics and health risk assessment](#)

Authors: Hadei, M., Hopke, P.K., Rafiee, M., Rastkari, N., Yarahmadi, M., Kermani, M., Shahsavani, A.
Environmental Science and Pollution Research, 2018, 25(27), pp. 27423-27437

[Neurobehavioral assessment of rats exposed to pristine polystyrene nanoplastics upon oral exposure](#)

Authors: Rafiee, M., Dargahi, L., Eslami, A., Beirami, E., Jahangiri-rad, M., Sabour, S., Amereh, F.
Chemosphere, 2018, 193, pp. 745-753

[Photo-assisted degradation of 2, 4, 6-trichlorophenol by an advanced reduction process based on sulfite anion radical: Degradation, dechlorination and mineralization](#)

Authors: Yazdanbakhsh, A., Eslami, A., Moussavi, G., Rafiee, M., Sheikhmohammadi, A.
Chemosphere, 2018, 191, pp. 156-165

[Cadmium removal via phanerochate chryso sporium in integrating by using silver nanoparticles \(AgNP\)](#)

Authors: Alavi, N., Eslami, A., Rafiee, M., (...), Partoei, K., Saeedi, A.
Journal of International Pharmaceutical Research, 2018, 45, pp. 178-183

[Comparative treatment of textile wastewater by adsorption, Fenton, UV-Fenton and US-Fenton using magnetic nanoparticles-functionalized carbon \(MNPs@C\)](#)

Authors: Babaei, A.A., Kakavandi, B., Rafiee, M., Kalantarhormizi, F., Purkaram, I., Ahmadi, E., Esmaeili, S.
Journal of Industrial and Engineering Chemistry, 2017, 56, pp. 163-174

[Role of COD_{PCP} /COD_{Total} ratio on p-chlorophenol toxicity towards aerobic granular sludge](#)

Authors: Mesdaghinia, A., Ghahremani, M.H., Nabizadeh, R., Nasser, S., Rafiee, M.*

Journal of Industrial and Engineering Chemistry, 2017, 54, pp. 440-446

[Development of response surface methodology for optimization of phenol and p-chlorophenol adsorption on magnetic recoverable carbon](#)

Authors: Kakavandi, B, Jahangiri-Rad, M, Rafiee, M, Esfahani, AR, Babaei, AA

Microporous and Mesoporous Materials, 2016, 231, Pages 192-206

[COD and color removal from the solid waste leachate using graphen oxide](#)

Authors: Zadeh, AD, Rafiee, M, Majlessi, M

International Journal of Pharmacy and Technology, 2016, 8(2), Pages 13995-14005

[Performance of iron nano particles and bimetallic Ni/Fe nanoparticles in removal of amoxicillin trihydrate from synthetic wastewater](#)

Authors: Yazdanbakhsh, AR, Daraei, H, Rafiee, M, Kamali, H

Water Science and Technology, 2016, 73(12), pp. 2998-3007

[Characterization and source identification of trace elements in airborne particulates at urban and suburban atmospheres of Tabriz, Iran](#)

Authors: Gholampour A, Nabizadeh R, Hassanvand MS, Taghipour H, Rafee M, Alizadeh Z, Faridi S, Mahvi AH

Environmental Science and Pollution Research, Volume 23, 2016, Pages 1703-1713

[Steps Towards Mitigation of Air Pollutants as a Key for Sustainable Development](#)

Authors: Rafiee M, Jahangiri-rad M

Ecologica, 2015, doi: 10.3923/ecologica.2015

[An innovative drinking water nutritional quality index \(DWNQI\) for assessing drinking water contribution to intakes of dietary elements: A national and sub-national study in Iran](#)

Authors: Abtahi M, Yaghmaeian K, Mohebbi MR, Koulivand A, Rafiee M, Jahangiri-rad M, Jorfi S, Saeedi R, Oktaie S

Ecological Indicators, Volume 60, 2016, Pages 367-376

[Household recycling knowledge, attitudes and practices towards solid waste management](#)

Authors: Babaei AA, Alavi N, Goudarzi G, Teymouri P, Ahmadi K, Rafiee M*

Resources, Conservation and Recycling, Volume 102, 2015, Pages 94-100

[Artificial Neural Network Approaches to the Prediction of Eutrophication and Algal Blooms in Aras Dam, Iran](#)

Authors: Rafiee M, Jahangiri-rad M

Iranian Journal of Health Sciences, Vol.3 No.1 Year.2015 Pages 25-32

[A modified drinking water quality index \(DWQI\) for assessing drinking source water quality in rural communities of Khuzestan Province, Iran](#)

Authors: Abtahi M, Golchinpour N, Yaghmaeian K, Rafiee M, Jahangiri-rad M, Keyani A, Saeedi R

Ecological Indicators, Volume 53, 2015, Pages 283-291

[Community Perspectives on Air Pollution and its Related Health Risks: A Case Study of Tehran \(2012-2013\)](#)

Authors: Jahangiri-rad M, Mousavi M, Rafiee M

Iranian journal of health sciences, Vol.2 No.2 Year. 2014 Pages 69-75

[Separate and simultaneous removal of phenol, chromium, and cyanide from aqueous solution by coagulation/precipitation: Mechanisms and theory](#)

Authors: Golbaz S, Jonidi Jafari A, Rafiee M*, Rezaei Kalantary R

Chemical Engineering Journal, Volume 253, 2014, Pages 251-257

Detection and identification of Legionella species in hospital water supplies by Polymearse Chain Reaction (16s rRNA)

Authors: Rafiee M, Mesdaghinia AR, Hajjaraan H, Jahangiri-rad M, Hajaghazadeh M
Journal of Environmental Health Science & Engineering 2014, 12:83

The efficacy of residual chlorine content in hospital water systems in the control of Legionella spp.

Authors: Rafiee M, Mesdaghinia AR, Hajjaraan H, Jahangiri-rad M, Hajaghazadeh M
Iranian J Publ Health, Vol. 43, No.5, 2014, Pages 637-644

Counterion effects on nitrate adsorption from aqueous solution onto functionalized polyacrylonitrile coated with Iron oxide nanoparticles

Authors: Jahangiri-rad M, Rafiee M
Research journal of Environmental Sciences, Vol. 8, No. 5, 2014, Pages 287-293

Adsorption behavior of reactive blue 29 dye on modified nanoclay

Authors: Rafiee M, Jahangiri-rad M
Trends in applied sciences research, Vol. 9, No. 6, 2014, Pages 303-311

Adsorption of reactive blue 19 from aqueous solution by carbon nano tubes: equilibrium, thermodynamics and kinetic studies

Authors: Rafiee M, Jahaniri-rad M
Research journal of Environmental Sciences, Vol. 8, No. 5, 2014, Pages 205-214

Evaluation of combined Fenton oxidation and chemical precipitation process performance in cyanide removal from aqueous solution

Authors: Jonidi Jafari A, Rafiee M, Rezaei Kalantary R, Golbaz s
Environmental engineering and management journal, 2017, 16(9), pp. 1873-1880

Sequential study on reactive blue 29 dye removal from aqueous solution by peroxy acid and single wall carbon nanotubes: experiment and theory

Authors: Jahangiri-rad M, Naddafi K, Nabizadeh R, Rafiee M
Journal of Environmental Health, Science and engineering, Vol. 10, No. 5, 2013

4-chlorophenol inhibition on flocculent and granular sequencing batch reactors treating synthetic industrial wastewater

Authors: Rafiee M, Mesdaghinia AR, Ghahremani MH, Nasseri S, Nabizadeh R
Desalination and water treatment, Vol. 49, No. 1-3, 2012, Pages 307-316

Purification and removal of Ascaris and Fasciola Hepatica eggs from water using roughing filters

Authors: Nouri,J., Mahvi,A.H., saeedi,R., Dindarloo,K., Rafiee,M., Dobaradaran,S
Korean. J. Chem. Eng, Vol. 25, No. 3, 2008, Pages 501-504

Control of Disinfection By-Products Formation Potential by Enhanced Coagulation

Authors: Mesdaghinia AR, Rafiee MT*, Vaezi F, Mahvi AH, Torabian A, Ghasri A
International Journal of Environmental Science & Technology, Vol. 2, No. 4, 2005, Pages 335-342

Evaluation of Ferric Chloride and Alum Efficiencies in Enhanced Coagulation for TOC Removal and Related Residual Metal Concentrations

Authors: Mesdaghinia AR, Rafiee MT*, Vaezi F, Mahvi AH
Iranian Journal of Environmental Health Science & Engineering (IJEHSE), Vol. 2, No. 3, 2005, Pages 189-194

Impact of climate change on organic carbon removal efficiency in Jajrood catchment: From dam to

[water treatment plant](#)

Authors: Mohseni-Bandpei, A., Nasser, M., Rafiee, M., Eslamizadeh, M., Hashempour, Y.
J Mazandaran Univ Med Sci 2020; 30 (191) (In Persian)

[Modeling and Optimization of Cationic Dye Removal from Aqueous Solution Using Low-Cost Adsorbent](#)

Authors: Rafiee, M., Mousavi, S. A. R., Faraji, M., Shahbazi, D., Nayeri, D.
Journal of Water and Wastewater, 2021. doi: 10.22093/wwj.2020.206319.2940. (In Persian)

[Evaluation of microbial quality of drinking water in villages covered by Alborz province \(A case study of Asareh branch of Karaj\)](#)

Authors: Rafiee, M., Eskandari, A., Begloo, M.
Rah-Avard-e-Salamat, 2018, 3 (3) (In Persian)

[Evaluation of endotoxin concentration and reducing its level during treatment process in a drinking water treatment plant in Tehran](#)

Authors: Massoudinejad, M., Rafiee, M., Esmaili, MA, Mohseni, M, Aliyari, A
Journal of Mazandaran University of Medical Sciences, 26(144), 2017, Pages 127-135 (In Persian)

[The role of environmental and lifestyle factors in the incidence and prevalence of cancer](#)

Authors: Amereh F., Jahangiri-rad M., Mazloomi S., Rafiee M.*
Environmental Health Engineering Journal, 2016, 1, Pages 30-42 (In Persian)

[Amoxicillin Oxidative Degradation Synthesized by Nano Zero-valent Iron](#)

Authors: Yazdanbakhsh A.R., Rafiee M., Daraei H., Kamali H.
Journal of Shahid Sadoughi University of Medical Sciences, Vol. 23, 2016, Pages: 1155-1168 (In Persian)

[Treatment of dairy products processing industrial wastewater by Electro-Coagulation-Flotation \(ECF\) process](#)

Authors: Majlessi-Nasr M., Rafiee M., Jalilvand H.
Journal of Health in the Field, 2017, Vol.4, Pages 1-10 (In Persian)

[Using Coagulation Process in Optimizing Natural Organic Matter Removal from Low Turbidity Waters](#)

Authors: Mesdaghinia A., Rafiee M.*, Mahvi A.H., Vaezi F.
Water and Wastewater, Vol. 57, 2006 (In Persian)

[TOC removal from drinking water](#)

Authors: Mesdaghinia A., Rafiee M.*
Water & Environment, 2006 (In Persian)

2.3. International & national scientific congresses

2.3.1. International

[Sewage surveillance to estimate the prevalence and hot spots of affected COVID-19 through wastewater-based epidemiology](#)

WRC-IORA RCSTT webinar: *TECHNICAL KNOWLEDGE AND INNOVATION SHARING WORKSHOP: COVID-19 RESEARCH AND INNOVATION PROGRAMMES AND PROJECTS IMPLEMENTED BY IORA MS AND DP*, 30 September 2020 (Oral presentation)

[Reactive blue 29 dye removal from aqueous solution by modified-nanoclay](#)

International conference on advanced materials research and manufacturing technologies, Singapore, August 18-20, 2016 (Oral presentation)

[Investigation of *Legionella* Species in Tehran's Hospital Water Supplies](#)

8th ISERD international conference, Istanbul, Turkey, August 9, 2015 (Oral presentation - Excellent paper)

[The efficacy of residual chlorine content in hospital water systems in the control of Legionella spp.](#)
5th International congress on environmental research, Malaysia, November 22-24, 2012 (Oral presentation)

[The efficacy of residual chlorine content in hospital water systems in the control of Legionella spp.](#)
6th International Scientific Conference on Bioaerosols, Fungi, Bacteria, Mycotoxins in Indoor and Outdoor Environments and Human Health Saratoga Springs, New York, USA, September 6-9, 2011 (Poster)

2.3.2. National

[Detection of SARS-CoV-2 in wastewater is influenced by different sampling methods](#)

5th International and 24th National Conference on Environmental Health, Kashan University of Medical Sciences, 2021 (Poster presentation - Excellent paper)

[Micro\(nano\)plastics Pollution and Human Health](#)

First National Conference on Plastics and Environment, Yazd, Iran, 2021 (Oral presentation)

[Monitoring of bio-augmented microbial strain in aerobic flocculent and granular sludge](#)

First National Conference on Bioremediation, Sharif University, 2013 (Oral presentation)

[Aerobic granular sludge bio-augmentation to degrade 4-chlorophenol](#)

16th National Conference on Environmental Health, Tabriz University of Medical Sciences, 2013 (Oral presentation - Excellent paper)

[Evaluation of the quality and quantity of solid waste produced at Tehran Oil Refinery](#)

1st Conference and Exhibition of Environmental Engineering, Tehran University, 2006

[Chitosan and its application in water and wastewater treatment](#)

8th National Conference on Environmental Health, Tehran University of Medical Sciences, 2005

[Global strategies on management and control of CO₂](#)

Conference on air pollution and its effects on the environment, Environmental Protection Agency, 2005

[Guidelines for acceptance of solid waste in sanitary landfill sites in developed countries](#)

Second Regional Conference on Solid Waste Management, Kurdistan University of Medical Sciences, 2005

[New guidelines on the landfill of municipal solid waste](#)

Second Regional Conference on Solid Waste Management, Kurdistan University of Medical Sciences, 2005

[Basic strategies in the management of construction debris after natural disasters](#)

Second International Congress of Health and crisis management in disasters, Medical Community Basij & Baqiatallah University of Medical Sciences, 2004

[Sick Building Syndrome and its relation to indoor air pollution](#)

First Health and Family Festival, Iran University of Medical Sciences, 2004

[Solid waste disposal using Plasma Gasification](#)

Student Seminar on Health Sciences, Tehran University of Medical Sciences, 2004

[Strategies to control and reduction of CO₂](#)

Third National Student Congress of Health and Nutrition

2.4. Books

[Solid Waste Microbiology](#)

Translated by: Rafiee M, Gholampour A, Kimiaei-talab A

Andishe Rafi, 2010

Comprehensive Textbook of Environmental Health

Authors: Kargar M, Rafiee M

Andishe Rafi, 2006

Comprehensive Tests of Environmental Health

Authors: Rafiee M, Kargar M

Danesh Taban, 2000

2.5. Research projects & grants

Investigation of possible exposure of pregnant women to environmental pollutants in Tehran and its association with serum, urine, and milk metabolomic

Assessment of microplastics contamination in human placenta

Efficacy study of biochar modified by Fe-Mn oxides to immobilize cadmium in soils with different salinities in the presence of *Eisenia fetida*

Investigation of agricultural soil contamination around southern Tehran wastewater treatment plant to microplastics and heavy metals

Selective removal of nitrate from water using ion imprinted polymer (IIP) in the fixed-bed continuous flow column adsorption

Biodegradability enhancement study of old landfill leachate using non-thermal plasma process

Evaluation of fluoxetine removal from aqueous solutions using reductive persulfate radical through zero-valent iron bed reactor anaerobic conditions

Risk assessment of swimming beaches of Mazandaran using Quantitative microbial risk assessment (QMRA) during 1-year period

Computational analysis of SARS-CoV-2 surveillance to estimate the prevalence and hot spots of affected COVID-19 through wastewater-based epidemiology in Tehran

Occurrence and eco-toxicological risk of antiviral drugs associated with COVID-19 in hospital wastewater effluent

Investigation of the fate of selected antibiotics, antibiotic-resistant bacteria and antibiotic-resistant genes during the treatment of hospital wastewater

Performance evaluation of infectious wastes decontamination (sterilizer) devices in general hospitals under the auspicious of Khoy University of Medical Sciences in 2020-2021

Photocatalytic activity evaluation of plasmonic nanocomposite based on ZnO@diatomite@Ag with UV or Solar simulator for degradation of methylene blue in aqueous solutions

Study of health risks-related knowledge, attitude and practice among scavengers during informal

recycling process in Tehran – 2019

Study of single and combined effects of polystyrene nanoplastics and nonylphenol on anti-oxidation system hemostasis in Zebrafish

Feasibility of bio-hydrogen production from co-digestion of Vinsasse and Bagasse using anaerobic dark fermentation under thermophilic conditions

Evaluation of polystyrene nanoplastics effects on endocrine system in an animal model

Behavioral assessment of rats exposed to pristine polystyrene nanoparticles upon oral exposure

Identification of TOC components and determination of the potential of disinfection by-products (DBPs) formation in drinking water - Tehran

The investigation of photochemical degradation and biodegradability enhancement of 2,4,6-trichlorophenol using advanced reduction process by sulfite –mediated UV irradiation

The effect of different stages of drinking water treatment on removal of Endotoxins in Tehran-pars water treatment plant in summer and autumn 2015

Spatial distribution and potential sources of heavy metals in surface waters of Zanjan province

Study on the efficiency of electro-coagulation-flotation (ECF) process in the treatment of an industrial dairy wastewater

Assessment of aerobic granular sludge response to a shock load of zinc oxide nanoparticles during biological wastewater treatment

Survey on the efficacy of micronutrients on the formation and stability of aerobic granular sludge

Study on the burden of diseases attributable to water supply and sewage disposal and analysis of social inequality in the I.R. Iran in the period of 1990-2010

Evaluation of potential and performance of sequencing batch reactor (SBR) with aerobic granular sludge in the treatment of industrial wastewater containing phenol with high-TDS

Evaluation of aerobic granular sludge bioaugmentation for degradation of 4-chlorophenol and Benzyl alcohol

Performance evaluation of enhanced and conventional coagulation using alum and ferric chloride in the removal of THMs precursors

2.6. Supervision of graduate students

2.6.1. PhD candidates

Co-Supervisor

1. Mahdipour, F. (2022) SBMU, Thesis Title: Study on the performance of oxygen doped graphitic carbon nitride and bismuth oxide ($\text{Bi}_2\text{O}_3/\text{Og-C}_3\text{N}_4$) nanocomposite by direct Z-scheme design coated on the granules with visible irradiation for degradation of bisphenol A from aqueous solutions.
2. Amanidaz, N. (2022) SBMU, Thesis Title: Promotion of bio-hydrogen production and bio-electrochemical regeneration of volatile fatty acids and ammonia from food waste using dark fermentation system and microbial electro dialysis with bipolar membrane.
3. Asadi, F. (2021) Hamadan University of Medical Sciences, Thesis Title: Efficacy study of combined non-thermal plasma and aerobic granular sludge for treatment of landfill leachate containing Bis(2-ethylhexyl) phthalate.
4. Ghasemi, S.M. (2021) SBMU, Thesis Title: Efficacy study of integrated nano-sono-photocatalytic with visible light (VL/US/CuFe 2O_4) on the degradation of Atenolol from Aqueous Solutions.
5. Bay, A. (2021) SBMU, Thesis Title: Kinetic and deterministic investigation of the inhibitory effects of Cefixime on microbial growth and organic matters removal and Nitrification in a sequencing batch moving bed biofilm reactor.
6. Daraei, H. (2019) SBMU, Thesis Title: Study of silver and iron nanoparticles impact on the performance of aerobic microbial flocs and granules in activated sludge system.
7. Nowrouz, P. (2019) SBMU, Thesis Title: Process optimization of infectious & pharmaceutical medical waste continuous pyrolysis in view of reducing by-products (PAHs) formation potential.
8. Hashempour, Y. (2018) SBMU, Thesis Title: Study of climate change effect on carbon mass balance in Jajrood catchment from dam to the consumption point.
9. Karimi, P., SBMU, Thesis Title: Efficacy study of biochar modified by Fe-Mn oxides to immobilize cadmium in soils with different salinities in the presence of *Eisenia fetida*.
10. Heydari, M., SBMU, Thesis Title: Evaluation of the efficiency of visible-photocatalytic process using iron single atom catalyst and modified form on chitosan and carbon block (Fe single atoms/g- $\text{C}_3\text{N}_4/\text{Ag}_3\text{PO}_4/\text{chitosan/CB}$) on removal of the most resistant humic component in water storage tanks behind the dam.

Main supervisor

11. Amereh, F., SBMU, Thesis Title: Possible exposure of pregnant women to environmental pollutants in Tehran and its association with serum, urine, and milk metabolomic signature.
12. Aliyari, A., SBMU, Thesis Title: Performance evaluation of multi-templates molecularly imprinted polymer based on Black TiO_2 in a packed cartridge filter for simultaneous selective adsorption

and photocatalytic degradation of Non-Steroidal Anti-Inflammatory Drugs under visible light irradiation from aqueous solution.

2.6.2. Master of Science (MSc) students

Main supervisor

1. Maleki, M., SBMU, Thesis Title: *Feasibility study of Klebsiella pneumoniae and Non-tuberculous Mycobacteria inactivation and removal of corresponding antibiotic resistant genes by Non-Thermal Plasma.*
2. Shahidi-Moghaddam, Z., SBMU, Thesis Title: *Biodegradability enhancement study of old landfill leachate containing recalcitrant organic compounds using non-thermal plasma process.*
3. Esmaeili-Khoshmardan, M. (2022) SBMU, Thesis Title: *Investigation of the fate of antibiotics, antibiotic-resistant bacteria and antibiotic resistant-genes during the treatment of hospital wastewater.*
4. Jokar, R. (2021) SBMU, Thesis Title: *Photocatalytic activity evaluation of plasmonic nanocomposite based on ZnO@diatomite@Ag with UV or simulated sunlight for degradation of methylene blue in aqueous solutions.*
5. GhaedRahmati, Z. (2021) SBMU, Thesis Title: *Study of health risks-related knowledge, attitude and practice among scavengers during informal recycling process in Tehran –2019.*
6. ZareiKar, M. (2020) SBMU, Thesis Title: *Study of stable Fe⁰/graphene magnetic nano composite hybrid potential in the removal of nitrate and chromium ions from aqueous solutions.*
7. Aghazadeh-amiri, F. (2019) SBMU, Thesis Title: *Study of pyrene-contaminated soil remediation through bio-augmentation with cloning of Mn peroxidase gene in Pseudomonas putida.*
8. Amereh, F. (2018) SBMU, Thesis Title: *Evaluation of polystyrene nanoplastics effects on endocrine system in animal model.*

Co-supervisor

1. Ahangari, B., SBMU, Thesis Title: *Selective removal of nitrate from water using ion imprinted polymer (IIP) in the fixed-bed continuous flow column adsorption.*
2. Mozaffar-ghadirli, M., SBMU, Thesis Title: *Investigation of agricultural soil contamination around southern Tehran wastewater treatment plant to microplastics and heavy metals.*
3. Mohammadi, Z., (2021) SBMU, Thesis Title: *Effect evaluation of microplastics on activated sludge performance and microbial community.*
4. Aliakbarzadeh, F., (2021) SBMU, Thesis Title: *Study of single and combined effects of polystyrene nanoplastics and nonylphenol on anti-oxidation system hemostasis in zebrafish.*

5. Radmehr, R., (2021) SBMU, Thesis Title: [Investigating the Treatment and Improvement of the Sewage Disintegration of the olive oil mill wastewater using combined process coagulation, microfiltration and UV-acetylacetone.](#)
6. Oveisi, N., (2021) SBMU, Thesis Title: [Occurrence of microplastics in the sludge and effluent of south wastewater treatment plant of Tehran.](#)
7. Rezaei-arshad, N., (2021) SBMU, Thesis Title: [Comparative study of IRWQISC and IRWQIGC indices in surface and groundwater resources in the Kan river's basin and their interrelationship determination using geostatistical information.](#)
8. Rashidi, M., (2020) SBMU, Thesis Title: [Feasibility of bio-hydrogen production through co-digestion of Vinasse and Bagasse using anaerobic dark fermentation under thermophilic conditions.](#)
9. Aghazadeh-amiri, N., (2019) SBMU, Thesis Title: [Efficiency of MBBR reactor bioaugmented with gene cloning of Mn peroxidase in Pseudomonas for removal of diazinon from aqueous solutions.](#)
10. Alimoradi, M., (2018) SBMU, Thesis Title: [The study of microbial and physicochemical contamination in coastal waters of the Persian Gulf in the Bandarabbas city-2017.](#)
11. Khakbaz, S., (2018) SBMU, Thesis Title: [Study of cadmium adsorptive removal by Diethylenetriamine-functionalized montmorillonite nanoclay from aqueous solutions.](#)
12. Naeiji, N., (2017) SBMU, Thesis Title: [Evaluation of microplastic contamination in water and sediments of Haraz River estuary.](#)
13. Mollaei-tavani, S., (2017) Alborz University of Medical Sciences, Thesis Title: [Study the possibility of Synthesis and paramagnetic P₄VP-Fe₃O₄ nanoparticles behavior in the adsorption of Diclofenac from aqueous solutions.](#)
14. Ebrahimi, R., (2015) SBMU, Thesis Title: [Determination of volatile organic compounds & formaldehyde in residential building's indoor air comparing it's outdoor.](#)
15. Irani, M., (2017) SBMU, Thesis Title: [Quantification of health impacts and economic burden of criteria air pollutant in Alborz province in 2014 -2015.](#)
16. Bozorgi, R., (2016) SBMU, Thesis Title: [Assesment of temperature, sun light ,storage time and TDS effects on the release of bisphenol-A in PET bottled water.](#)
17. Dadashzadeh, A., (2016) SBMU, Thesis Title: [Study of Graphene Oxide treatment efficiency in the removal of organics loading, TDS and color from Urmia landfill leachate.](#)
18. Jalilvand, H., (2016) SBMU, Thesis Title: [Study on the efficiency of electro-coagulation-flotation \(ECF\) process in the treatment of an industrial dairy wastewater.](#)
19. Aliyari, A., (2016) SBMU, Thesis Title: [The effect of different stages of drinking water treatment on removal of Endotoxin in Tehran-pars water treatment plant in summer and autumn 2015.](#)