CURRICULUM VITAE

Mahdi Hadi, Ph.D.
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Summary:

Environmental health engineer and data scientist with over 10 years of experience in water quality and health, quantitative microbial risk assessment, environmental data sciences, and modeling. Expert in exposure assessment, R programming, machine learning, spatial data analysis, environmental epidemiology, and web-based app development using R Shiny. Authored or co-authored more than 60 articles in peer-reviewed journals.

Main Interests:

- Water, Sanitation and Hygiene (WASH)
- Quantitative Microbial Risk Assessment
- Chemical exposure assessment
- Environmental Data Science
- Environmental Epidemiology
- Statistical modelling and data analysis
- Machine learning
- Spatial modeling
- R programming
- Shiny app Development

QUALIFICATIONS

2016	**Ph.D.**	**Environmental Health Engineering** Tehran University of Medical Sciences Dissertation title: Quantitative Microbial Risk Assessment of *Cryptosporidium* and *Giardia* in Drinking Water produced from Jalaliyeh and Tehranpars Water Treatment Plants in Tehran, Iran **(GPA: 19.24/20)**
2012	**M.Phil**	Public health Tehran University of Medical Sciences
2009	**M.S.**	**Environmental Health Engineering** Hamedan University of Medical Sciences Dissertation title: Removal of Acid Dyes (Acid Black 1, Acid Blue 113) from Aqueous Solutions using BDST Technique Based on Bohart-Adams Model by Granular Pine-Cone Derived Activated Carbon **(GPA: 17.6/20)**
2005	**B.S.**	**Environmental Health** Iran University of Medical Sciences **(GPA: 16.1/20)**

PROFESSIONAL /EXECUTIVE POSITIONS

2022/6 – present	**Associate professor** Center for Water Quality Research (CWQR) Institute for Environmental Research (IER) Tehran University of Medical Sciences
2016/10 – 2022/6	**Assistant professor** Center for Water Quality Research (CWQR) Institute for Environmental Research (IER) Tehran University of Medical Sciences
2010/06 – 2012/06	**Lecturer** Faculty of Health Kurdistan University of Medical Sciences

MEMBERSHIPS

2017-present	**International Water Association (IWA)** Membership number: 1606809 Member of the following specialist groups: • *Assessment and Control of Hazardous Substances in Water* • *Water Safety Planning* • *Health-Related Water Microbiology* • *IWA Young Water Professionals*
2010-present	**Iranian Association of Environmental Health (IAEH)**

JOURNAL ARTICLE PUBLICATIONS

1. Zirrahi F, **Hadi M**, Nodehi RN, Milan EG, Bashardoust P, Aboli S, Alimohammadi M. A systematic review on the investigation of optimal operating conditions of the reverse osmosis process in nitrate removal from drinking water. Results in Engineering. 2024 Feb 24:101947. HTTPS://DOI.ORG/10.1016/J.RINENG.2024.101947
2. **Hadi M**., Bashardoust P., Solaimany Aminabad M., Nazmaraa S., Rezvani Ghalhari Mohammad, Mesdaghiniaa A., Hemmati Borji S., Exposure assessment of nitrate and phenol derivatives in Tehran's water distribution system, Journal of Water & Health, 2023, https://iwaponline.com/jwh/article/doi/10.2166/wh.2023.133/99425/Exposure-assessment-of-nitrate-and-phenol
3. Adabi S., Yazdanbakhsh A., Shahsavani A., Sheikhmohammadi A. ,**Hadi M**. Removal of heavy metals from the aqueous solution by nanomaterials: a review with analysing and categorizing the studies. Journal of Environmental Health Science and Engineering. 2023/6/7 ; 1-14. HTTPS://DOI.ORG/10.1007/S40201-023-00863-0
4. Dargahi P, Nasseri S, **Hadi M***, Nodehi RN, Mahvi AH. Prediction models for groundwater quality parameters using a multiple linear regression (MLR): a case study of Kermanshah, Iran. Journal of Environmental Health Science and Engineering. 2023 Dec 23:1-9. HTTPS://DOI.ORG/10.1080/10.1007/S40201-022-00836-9
5. Aminabad MS, **Hadi M***, Mirbagheri SZ, Mesdaghinia A, Bakhtiari R, Alebouyeh M, Nazmara S. Effect of dilution factor on the isolation of Helicobacter pylori from municipal wastewater using culture technique. Iranian Journal of Microbiology. 2022 Dec 1;14(6). HTTPS://DOI.ORG/10.18502/IJM.V14I6.11264
6. Hashemi SY, Shahmahmoodi S, **Hadi M**, Nodehi RN, Alimohammadi M, Nejati A, Mesdaghinia A. Quantitative microbial risk assessment of enteroviruses in raw-eatable vegetables irrigated by wastewater: examining different scenarios of washing. Journal of Environmental Health Science and Engineering. 2022 Dec;20(2):629-40. HTTPS://DOI.ORG/10.1007/S40201-022-00789-Z
7. Abuzerr S, **Hadi M**, Zinszer K, Nasseri S, Yunesian M, Mahvi AH, Nabizadeh R, Quantitative microbial risk assessment to estimate annual infection risk and disease burden attributable to Escherichia coli O157:H7 in drinking water in the Gaza Strip: a prospective study, The Lancet, 2022, https://doi.org/10.1016/S0140-6736(22)01139-4 HTTPS://DOI.ORG/10.1016/S0140-6736(22)01139-4
8. Sadeghi S, Nikaeen M, Mohammadi F, Nafez AH, Gholipour S, Shamsizadeh Z, **Hadi M**. Microbial characteristics of municipal solid waste compost: Occupational and public health risks from surface applied compost. Waste Management. 2022 May 1;144:98-105. HTTPS://DOI.ORG/10.1016/J.WASMAN.2022.03.012
9. Farhadkhani M, Nikaeen M, **Hadi M**, Nikaein H, Alum A, Abbaszadegan M. cryptosporidium's burden of disease attributable to consumption of wastewater-irrigated raw vegetables. Microbial Risk Analysis. 2022 Apr 27:100218. HTTPS://DOI.ORG/10.1016/J.MRAN.2022.100218

10. Gholipour S, Hosseini M, Nikaeen M, **Hadi M**, Sarmadi M, Saderi H, Hassanzadeh A. Quantification of human adenovirus in irrigation water-soil-crop continuum: are consumers of wastewater-irrigated vegetables at risk?. Environmental Science and Pollution Research. 2022 Mar 18:1-0. HTTPS://DOI.ORG/10.1007/S11356-022-19588-Y
11. **Hadi M***, Mesdaghinia A, Nasseri S, Iravani E. A bibliometric analysis on scientific productions of the Institute of Environmental Research of Tehran University of Medical Sciences. Iranian Journal of Health and Environment.: Iranian Journal of Health and Environment, 2021 HTTP://IJHE.TUMS.AC.IR/ARTICLE-1-6481-EN.HTML
12. Ravanipour, M., **Hadi, M**., Rastkari, N., Borji, S.H. and Nasseri, S., 2021. Presence of heavy metals in drinking water resources of Iran: a systematic review and meta-analysis. Environmental Science and Pollution Research, pp.1-29. HTTPS://DOI.ORG/10.1007/S11356-021-13293-Y
13. Soleimani Z, Mosadeghrad AM, AbbasabadiArab M, Safari M, Moradi M, **Hadi M,** Asgari M, Taherkhani A, Mesdaghinia A. Paramedical staff's knowledge, attitude, and performance about nosocomial infection controls at hospitals: A cross-sectional survey in Iran. Journal of Environmental Health Science and Engineering. 2021 Jul 14:1-9. HTTPS://DOI.ORG/10.1007/S40201-021-00699-6
14. Nasseri S, Yavarian J, Baghani AN, Azad TM, Nejati A, Nabizadeh R, **Hadi M**, Jandaghi NZ, Vakili B, Vaghefi SK, Baghban M. The presence of SARS-CoV-2 in raw and treated wastewater in 3 cities of Iran: Tehran, Qom and Anzali during coronavirus disease 2019 (COVID-19) outbreak. Journal of Environmental Health Science and Engineering. 2021 Feb 24:1-2. HTTPS://DOI.ORG/10.1007/S40201-021-00629-6
15. Talepour N, **Hadi M**, Nasseri S, Fard NJ, Mesdaghinia A, Borji SH. Isolation, identification and reviewing the health effect of HPC bacteria in household point-of-use (PoU) water treatment devices: a case study, Ahvaz, Iran. Journal of Environmental Health Science and Engineering. 2021 Feb 16:1-1. HTTPS://DOI.ORG/10.1007/S40201-020-00577-7
16. Rasulia L, Nasseria S, **Hadi M**. Performance of surfactant-modified forms of clinoptilolite and pumice in nitrate removal from aqueous solution. DESALINATION AND WATER TREATMENT. 2020 Mar 1;180:227-36. HTTPS://DOI.ORG/10.5004/DWT.2020.24861
17. Abuzerr S, Nasseri S, Yunesian M, **Hadi M**, Zinszer K, Mahvi AH, Nabizadeh R, Abu Mustafa A, Mohammed SH. Water, sanitation, and hygiene risk factors of acute diarrhoea among children under five years in the Gaza Strip. Journal of Water, Sanitation and Hygiene for Development. 2020 Mar 1;10(1):111-23. HTTPS://DOI.ORG/10.2166/WASHDEV.2019.072
18. Karimyan K, Alimohammadi M, Maleki A, Yunesian M, Nodehi RN, Foroushanig AR, **Hadi M**. Spatial distribution and potential health risks of heavy metal (loid) s present in drinking water resources of Iran. DESALINATION AND WATER TREATMENT. 2020 Mar 1;179:223-41. HTTPS://DOI.ORG/10.5004/DWT.2020.25062

19. Ravanbakhsh M, Javid AZ, **Hadi M**, Fard NJ. Heavy metals risk assessment in fish species (Johnius Belangerii (C) and Cynoglossus Arel) in Musa Estuary, Persian Gulf. Environmental Research. 2020 Sep 1;188:109560. HTTPS://DOI.ORG/10.1016/J.ENVRES.2020.109560
20. Shokoohi R, Ghobadi N, Godini K, **Hadi M**, Atashzaban Z. Antibiotic detection in a hospital wastewater and comparison of their removal rate by activated sludge and earthworm-based vermifilteration: Environmental risk assessment. Process Safety and Environmental Protection. 2020 Feb 1;134:169-77. HTTPS://DOI.ORG/10.1016/J.PSEP.2019.10.020
21. Alimohammadi M, Younesian M, Madihi-Bidgoli S, Nabizadeh Nodehi R, Jahed Khaniki GR, **Hadi M**, Ghanbari F. Heavy metal (oid) s concentration in Tehran supermarket vegetables: carcinogenic and non-carcinogenic health risk assessment. Toxin Reviews. 2020 Jul 2;39(3):303-10. HTTPS://DOI.ORG/10.1080/15569543.2018.1522644
22. Farhadkhani M, Nikaeen M, **Hadi M**, Gholipour S, Yadegarfar G. Campylobacter risk for the consumers of wastewater-irrigated vegetables based on field experiments. Chemosphere. 2020 Jul 1;251:126408. HTTPS://DOI.ORG/10.1016/J.CHEMOSPHERE.2020.126408
23. Sheikhi R, Mahvi AH, Baghani AN, **Hadi M**, Sorooshian A, Delikhoon M, Golbaz S, Dalvand A, Johar F, Ghalhari MR. Reducing free residual chlorine using four simple physical methods in drinking water: effect of different parameters, monitoring microbial regrowth of culturable heterotrophic bacteria, and kinetic and thermodynamic studies. Toxin Reviews. 2020 Feb 18:1-4. HTTPS://DOI.ORG/10.1080/15569543.2020.1726959
24. Abuzerr S, **Hadi M**, Zinszer K, Nasseri S, Yunesian M, Mahvi AH, Nabizadeh R, Hussien Mohammed S. Comprehensive Risk Assessment of Health-Related Hazardous Events in the Drinking Water Supply System from Source to Tap in Gaza Strip, Palestine. Journal of environmental and public health. 2020 Jan 29;2020. HTTPS://DOI.ORG/10.1155/2020/7194780
25. **Hadi, Mahdi**, Alireza Mesdaghinia, Masud Yunesian, Simin Nasseri, Ramin Nabizadeh Nodehi, Patrick WMH Smeets, Jack Schijven, Hamidreza Tashauoei, and Esfandiar Jalilzadeh. "Optimizing the performance of conventional water treatment system using quantitative microbial risk assessment, Tehran, Iran." Water research, 162, 394-408 (2019). HTTPS://DOI.ORG/10.1016/J.WATRES.2019.06.076
26. Abuzerr S, Nasseri S, Yunesian M, Yassin S, **Hadi M**, Mahvi AH, Nabizadeh R, Al Agha M, Sarsour A, Darwish M. Microbiological quality of drinking water and prevalence of waterborne diseases in the Gaza strip, Palestine: a narrative review. Journal of Geoscience and Environment Protection. 2019 Apr 23;7(04):122. HTTPS://DOI.ORG/10.4236/GEP.2019.74008
27. **Hadi, M**.*, Aboosaedi, Z. and Pasalari, H., 2019. Corrosion or scaling tendency and trend for water resources in rural areas of Kashan, Iran. Iranian Journal of Health and Environment, 12(1), pp.113-128. HTTPS://IJHE.TUMS.AC.IR/ARTICLE-1-6207-EN.PDF
28. Abolli S, Alimohammadi M, Zamanzadeh M, Yaghmaeian K, Yunesian M, **Hadi M**, Soliemani Z. The Situation of water treatment devices in the public distribution network under the control of the

water safety plan. Iranian Journal of Health and Environment. 2019 Dec 10;12(3):477-88. HTTPS://IJHE.TUMS.AC.IR//ARTICLE-1-6234-EN.HTML

29. Abuzerr S, Nasseri S, Yunesian M, **Hadi M**, Mahvi AH, Nabizadeh R, Mustafa AA. Prevalence of diarrheal illness and healthcare-seeking behaviour by age-group and sex among the population of Gaza strip: a community-based cross-sectional study. BMC public health. 2019 Dec;19(1):704 HTTPS://DOI.ORG/10.1186/S12889-019-7070-0
30. Abuzerr, Samer, Simin Nasseri, Masud Yunesian, **Mahdi Hadi**, Amir Hossein Mavi, Ramin Nabizadeh, and Ayman Abu Mustafa. "Household drinking water safety among the population of Gaza Strip, Palestine: knowledge, attitudes, practices, and satisfaction." Journal of Water, Sanitation and Hygiene for Development (2019). HTTPS://DOI.ORG/10.2166/WASHDEV.2019.134
31. Madanipour S, Alimohammadi M, Rezaie S, Nabizadeh R, Khaniki GJ, **Hadi M**, Yousefi M, Bidgoli SM, Yousefzadeh S. Influence of postharvest application of chitosan combined with ethanolic extract of liquorice on shelflife of apple fruit. Journal of Environmental Health Science and Engineering. 2019 Jun 1;17(1):331-6. HTTPS://DOI.ORG/10.1007/S40201-019-00351-4
32. Radfard, M., Yunesian, M., Nabizadeh, R., Biglari, H., Nazmara, S., **Hadi, M**., Yousefi, N., Yousefi, M., Abbasnia, A. and Mahvi, A.H., 2018. Drinking water quality and arsenic health risk assessment in Sistan and Baluchestan, Southeastern Province, Iran. Human and Ecological Risk Assessment: An International Journal, 2019, pp.1-17. HTTPS://DOI.ORG/10.1080/10807039.2018.1458210
33. **Hadi, M**., Solaimany Aminabad, M., Amiri, M. and Arjipour, M., 2018. Optimization of UV/H2O2/TiO2 process for the treatment of hospital effluent. Iranian Journal of Health and Environment, 11(3), pp.293-306. HTTP://IJHE.TUMS.AC.IR/ARTICLE-1-6139-EN.HTML
34. Akbari, A., Sadani, M., Amin, M.M., Teimouri, F., Khajeh, M., Mahdavi, M. and **Hadi, M**., 2018. Managing sulfate ions produced by sulfate radical-advanced oxidation process using sulfate-reducing bacteria for the subsequent biological treatment. Journal of environmental chemical engineering, 2018 6(5), pp.5929-5937. HTTPS://DOI.ORG/10.1016/J.JECE.2018.09.004
35. Moazeni M, Nikaeen M**, Hadi M**, Moghim S, Mouhebat L, Hatamzadeh M, Hassanzadeh A. Estimation of health risks caused by exposure to enteroviruses from agricultural application of wastewater effluents. Water Research. 2017 Nov 15;125:104-13. HTTPS://DOI.ORG/10.1016/J.WATRES.2017.08.028
36. Mirzabeygi M, Abbasnia A, Yunesian M, Nodehi RN, Yousefi N, **Hadi M**, Mahvi AH. Heavy metal contamination and health risk assessment in drinking water of Sistan and Baluchistan, Southeastern Iran. Human and Ecological Risk Assessment: An International Journal. 2017 Nov 17;23(8):1893-905. HTTPS://DOI.ORG/10.1080/10807039.2017.1322895
37. Hossein Jafari Mansoorian, Mostafa Karimaeec, **Mahdi Hadi**, Elaheh Jame Porazmey, Farzan Barati, Mansour Baziar, Feed Forward Artificial Neural Network Model to Estimate the TPH

Removal Efficiency in Soil Washing Process, Arch Hyg Sci, 2017, 6(1), 96-104 HTTPS://DOI.ORG/10.29252/ARCHHYGSCI.6.1.96

38. Bakir H, **Hadi M**, Jurdi M. Towards a renewed public health regulatory and surveillance role in water, sanitation and hygiene. Eastern Mediterranean Health Journal. 2017 Aug 1;23(8):525-7. HTTPS://PUBMED.NCBI.NLM.NIH.GOV/29105042/
39. Nabizadeh Nodehi R, Mesdaghinia AR, Nasseri S, **Hadi M***, Soleimani H, Bahmani P. Analysis of Water Corrosion Tendency in Water Supply System Using Qualitative Indices and Calcium Carbonate Precipitation Potential index. Iranian Journal of Health and Environment. 2017 Mar 15;9(4):457-70. HTTPS://IJHE.TUMS.AC.IR/ARTICLE-1-5720-EN.HTML
40. Mesdaghinia A, Nabizadeh Nodehi R, Nasseri S, Imran SA, Samadi MT, **Hadi M***. Potential for iron release in drinking water distribution system: a case study of Hamedan city, Iran. Desalination and Water Treatment. 2016 Jul 2;57(31):14461-72. HTTPS://DOI.ORG/10.1080/19443994.2015.1066269
41. Berizi Z, Hashemi SY, **Hadi M**, Azari A, Mahvi AH. The study of non-linear kinetics and adsorption isotherm models for Acid Red 18 from aqueous solutions by magnetite nanoparticles and magnetite nanoparticles modified by sodium alginate. Water Science and Technology. 2016 Sep 19;74(5):1235-42. HTTPS://DOI.ORG/10.2166/WST.2016.320
42. Mirzaei N, **Hadi M**, Gholami M, Fard RF, Aminabad MS. Sorption of acid dye by surfactant modificated natural zeolites. Journal of the Taiwan Institute of Chemical Engineers. 2016 Feb 29;59:186-94. HTTPS://DOI.ORG/10.1016/J.JTICE.2015.07.010
43. Mesdaghinia AR, Nasseri S, **Hadi M***. Assessment of Carcinogenic Risk and Non-Carcinogenic Hazard Quotient of Chromium in Bottled Drinking Waters in Iran. Iranian Journal of Health and Environment. 2016 Dec 15;9(3):347-58. HTTP://IJHE.TUMS.AC.IR/ARTICLE-1-5618-EN.HTML
44. **Hadi M**, Mesdaghinia A, Yunesian M, Nasseri S, Nodehi RN, Tashauoei H, Jalilzadeh E, Zarinnejad R. Contribution of environmental media to cryptosporidiosis and giardiasis prevalence in Tehran: a focus on surface waters. Environmental Science and Pollution Research. 2016 Oct 1;23(19):19317-29. HTTPS://DOI.ORG/10.1007/S11356-016-7055-9
45. Khodadadi M, Mesdaghinia A, Nasseri S, Ghaneian MT, Ehrampoush MH, **Hadi M***. Prediction of the waste stabilization pond performance using linear multiple regression and multi-layer perceptron neural network: a case study of Birjand, Iran. Environmental Health Engineering and Management Journal. 2016 Jun 10. HTTPS://DOI.ORG/10.15171/EHEM.2016.05
46. Mesdaghinia A, Younesian M, Nasseri S, Nodehi RN, **Hadi M***. A Bibliometric and Trend Analysis on the Water-Related Risk Assessment Studies for Cryptosporidium Pathogen. Iranian journal of parasitology. 2015 Jul;10(3):338. HTTPS://IJPA.TUMS.AC.IR/INDEX.PHP/IJPA/ARTICLE/VIEW/299

47. Mesdaghinia A, Younesian M, Nasseri S, Nodehi RN, **Hadi M***. Analysis of the microbial risk assessment studies from 1973 to 2015: a bibliometric case study. Scientometrics. 2015 Oct 1;105(1):691-707. HTTPS://DOI.ORG/10.1007/S11192-015-1692-5
48. Mesdaghinia A, Mahvi AH, Nasseri S, Nodehi RN, **Hadi M***. A bibliometric analysis on the solid waste-related research from 1982 to 2013 in Iran. International Journal of Recycling of Organic Waste in Agriculture. 2015 Sep 1;4(3):185-95. HTTPS://DOI.ORG/10.1007/S40093-015-0098-Y
49. Mesdaghinia A, Nasseri S, Mahvi AH, Tashauoei HR, **Hadi M***. The estimation of per capita loadings of domestic wastewater in Tehran. Journal of Environmental Health Science and Engineering. 2015 Mar 24;13(1):1. HTTPS://DOI.ORG/10.1186/S40201-015-0174-2
50. Solaimany-Aminabad M, Maleki A, **Hadi M***. Application of artificial neural network (ANN) for the prediction of water treatment plant influent characteristics. Journal of Advances in Environmental Health Research. 2014 Jan 26;1(2):89-100. HTTPS://DOI.ORG/10.22102/JAEHR.2013.40130
51. Samarghandi MR, **Hadi M***, McKay G. Breakthrough Curve Analysis for Fixed-Bed Adsorption of Azo Dyes Using Novel Pine Cone—Derived Active Carbon. Adsorption Science & Technology. 2014 Dec 1;32(10):791-806. HTTPS://DOI.ORG/10.1260/0263-6174.32.10.791
52. McKay G, Mesdaghinia A, Nasseri S, **Hadi M***, Aminabad MS. Optimum isotherms of dyes sorption by activated carbon: fractional theoretical capacity & error analysis. Chemical engineering journal. 2014 Sep 1;251:236-47. HTTPS://DOI.ORG/10.1016/J.CEJ.2014.04.054
53. Kiyani H, Shamohammadi S, **Hadi M.** Study of breakthrough curves for column of bed to remove manganese from aqueous solution by the windy sand of sistan plain. Journal of Environmental Studies. 2013;1(39):21-30. HTTPS://DOI.ORG/10.22059/JES.2013.30386
54. Samarghandi, M. R., **M. Hadi***, S. Azizian, and Aminabad M. Solaimany. behavioral parameters of pinecone derived activated carbon column for dye adsorption from aqueous solutions. Journal of Environmental Studies. 2012: 117-128. HTTPS://DORL.NET/DOR/20.1001.1.10258620.1390.37.60.12.6
55. **Hadi M***, McKay G, Samarghandi MR, Maleki A, Solaimany Aminabad M. Prediction of optimum adsorption isotherm: comparison of chi-square and Log-likelihood statistics. Desalination and water treatment. 2012 Nov 1;49(1-3):81-94. HTTPS://DOI.ORG/10.1080/19443994.2012.708202
56. **Hadi M***, Samarghandi MR, Azizian SA, Samadi MT, Shokoohi RE, Rahmani AL. Using Thomas model to evaluate dye removal from aqueous solutions in fixed-bed columns of activated carbon. Journal of Water and wastewater. 2011 Jan 1;22(77):23-34. HTTPS://WWW.WWJOURNAL.IR/ARTICLE_1134.HTML?LANG=EN
57. McKay G, **Hadi M***, Samadi MT, Rahmani AR, Aminabad MS, Nazemi F. Adsorption of reactive dye from aqueous solutions by compost. Desalination and water treatment. 2011 Apr 1;28(1-3):164-73. HTTPS://DOI.ORG/10.5004/DWT.2011.2216

58. **Hadi M***, Shokoohi R, Ebrahimzadeh Namvar AM, Karimi M, Solaimany Aminabad M. Antibiotic resistance of isolated bacteria from urban and hospital wastewaters in Hamadan City. Iranian Journal of Health and Environment. 2011 May 15;4(1):105-14. HTTP://IJHE.TUMS.AC.IR/ARTICLE-1-91-EN.HTML
59. **Hadi M***, Samarghandi MR, McKay G. Simplified fixed bed design models for the adsorption of acid dyes on novel pine cone derived activated carbon. Water, Air, & Soil Pollution. 2011 Jun 1;218(1-4):197-212. HTTPS://DOI.ORG/10.1007/S11270-010-0635-2
60. **Hadi M***, Samarghandi MR, McKay G. Equilibrium two-parameter isotherms of acid dyes sorption by activated carbons: study of residual errors. Chemical Engineering Journal. 2010 Jun 1;160(2):408-16. HTTPS://DOI.ORG/10.1016/J.CEJ.2010.03.016
61. Samadi MT, Saghi MH, Ghadiri K, **Hadi M**, Beikmohammadi M. Performance of Simple Nano Zeolite Y and Modified Nano Zeolite Y in Phosphor Removal fromAqueous Solutions. Iranian Journal of Health and Environment. 2010 Apr 15;3(1):27-36. HTTPS://IJHE.TUMS.AC.IR/ARTICLE-1-132-EN.PDF
62. Shokoohi R, Saghi M, Ghafari H, **Hadi M** .Biosorption of iron from aqueous solution by dried biomass of activated sludge. Journal of Environmental Health Science & Engineering. 2009;6(2):107-14. HTTPS://IJEHSE.TUMS.AC.IR/INDEX.PHP/JEHSE/ARTICLE/VIEW/200/0
63. Samarghandi MR, **Hadi M***, Moayedi S, Barjasteh Askari F. Two-parameter isotherms of methyl orange sorption by pinecone derived activated carbon. 2009; Iran. J. Environ. Health. Sci. Eng 6(4): 285-294. HTTPS://WWW.SID.IR/EN/VEWSSID/J_PDF/102620090409.PDF

BOOK CHAPTER:

Ardalan, A., Rad, M.K. and **Hadi, M.**, 2019. Urban Water Issues in the Megacity of Tehran. In Urban Drought (pp. 263-288). Springer, Singapore.

TRAINING COURSE CERTIFICATES

- Short course for decentralised water supply and sanitation-IHE Delft Institute for Water Education – 4 July 2022/ 22 July **2022** – The Netherlands
- Regional training workshop on sanitation safety planning (SSP)-WHO regional office for Eastern Mediterranean-Jordan 24-27 July **2017**

INTERNATIONAL CONFERENCE ATTENDING

Analysis of water treatment performance for Giardia parasite by Quantitative Microbial Risk Assessment, 9th IWA Young Water Professionals, Hungary – Budapest, 2017 (**Oral presentation**)

COURSE TEACHING EXPERIENCE

2018-present	**R programing language** Ph.D students, Tehran University of Medical Sciences
2018-present	**Water Quality Management** M.Sc students, Tehran University of Medical Sciences
2017- present	**Modeling techniques in Environmental Health Engineering** Ph.D students, Kerman University of Medical Sciences
2016-present	**Advanced Technologies for Water Treatment** Ph.D students, Tehran University of Medical Sciences
2010-2012	**Engineering methods for vector control** B.Sc. students, Kurdistan University of Medical Sciences
2010-2012	**Environmental Chemistry** B.Sc students, Kurdistan University of Medical Sciences
2010-2012	**Processes for Water and Wastewater Treatment** B.Sc students, Kurdistan University of Medical Sciences
2010-2012	**Water treatment** B.Sc students, Kurdistan University of Medical Sciences
2010-2012	**Hydraulic laboratory** B.Sc students, Kurdistan University of Medical Sciences

Lectured Workshops

2023	**Programming in R** IER, Tehran University of Medical Sciences
2023	**Sanitation Safety Planning** IER, Tehran University of Medical Sciences
2023	**Water Safety Plan and application of QMRA in water treatment plants** IER, Tehran University of Medical Sciences
2019	**R Programming Language (intermediate level)** IER, Tehran University of Medical Sciences
2017	**Sanitation/Wastewater Reuse Safety Planning** IER, Tehran University of Medical Sciences, Ministry of Health
2016	**R Programming Language (intermediate level)** IER, Tehran University of Medical Sciences
2016	**Design of experiments (How to work with Design Expert software)** IER, Tehran University of Medical Sciences
2016	**Principles of sustainable remediation bio-degradable pollutants in soils** IER, Tehran University of Medical Sciences
2015	**R Programming Language (elementary level)** IER, Tehran University of Medical Sciences
2010	**Environmental pollution control for pipelines of petroleum products** For operators of the National Petroleum Company
2009	**Working with EndNote** For MSc students, Hamedan University of Medical Sciences

2008	**Principals of scientific writing** For MSc students, Hamedan University of Medical Sciences
2008	**Principals of scientific research** For MSc students, Hamedan University of Medical Sciences

SCIENTIFIC WORKSHOPS TRAINING CERTIFICATES

2017	**Regional Training workshop on Sanitation/Wastewater Reuse Safety Planning** WHO, Amman, Jordan
2016	**Systematic Review & Meta-Analysis (2)** IER, Tehran University of Medical Sciences
2016	**Questionnaire design** IER, Tehran University of Medical Sciences
2015	**Workshop on climate change** IER, Tehran University of Medical Sciences
2015	**Molecular techniques: PCR and DNA and RNA extraction** Tehran University of Medical Sciences
2015	**Elsevier workshop on "How to write an international article"** Tehran University of Medical Sciences
2014	**Computing for data analysis** Online workshop by John-Hopkins University
2014	**Remote Sensing and Arc GIS** IER, Tehran University of Medical Sciences
2013	**Springer workshop for scientific writing** Tehran University of Medical Sciences
2013	**Systematic Review & Meta-Analysis (1)** IER, Tehran University of Medical Sciences
2011	**Developing an educational program** Kurdistan University of Medical Sciences
2009	**Working with End-Note** Hamadan University of Medical Sciences
2009	**Research Methodology** Hamadan University of Medical Sciences

AWARDS AND HONORS

2019 Best article (Optimizing the performance of conventional water treatment system using quantitative microbial risk assessment, Tehran, Iran) selected by the Iranian Association of Environmental Health (IAEH), 11th Festival on Environmental Health

2017 Best Ph.D. thesis (Quantitative Microbial Risk Assessment of *Cryptosporidium* and *Giardia* in Drinking Water produced from Jalaliyeh and Tehranpars Water Treatment Plants in Tehran, Iran) selected by Iranian Association of Environmental Health (IAEH), 8th Festival on Environmental Health

2009 The selected best researcher of the Faculty of Health of the Hamedan University of Medical Sciences

PI OR CO-PI IN RESEARCH PROJECTS

2023 **Investigating the amount of nitrate and nitrite in drinking water and food and its relationship with chronic diseases in the Persian cohort population of Dehgolan, Kurdistan, Iran**
Co-Principal Investigator, Kurdistan University of Medical Sciences, Iran

2021 **Design a web-based tool for the collection of social mixing data and the feasibility of its use in a pilot scale**
Principal Investigator, IER, Tehran University of Medical Sciences, Iran

2021 **Quantification of SARS-CoV-2 and the performance of wastewater treatment plants in Tehran**
Principal Investigator, IER, Water and Wastewater Company of Tehran, Iran

2021 **Analysis of the relationship between the level of Water, Sanitation and Hygiene (WASH) services and neonatal and under-five mortalities at an international scale**
Principal Investigator, IER, Tehran University of Medical Sciences

2020 **The presence of SARS-CoV-2 in raw and treated wastewater in 3 cities of Iran: Tehran, Qom and Anzali during the coronavirus disease 2019 (COVID-19) outbreak**
Principal Investigator, IER, Tehran University of Medical Sciences

2020 **Developing an interactive dashboard for visualising, analysing and making a report for global data on COVID-19**
Principal Investigator, IER, Tehran University of Medical Sciences

2019 **Estimation the burden of disease attributed to enteroviruses in raw vegetables produces irrigated with treated wastewater in the south of Tehran**
Adviser of Ph.D thesis, IER, Tehran University of Medical Sciences

2019 **Forecasting the amount of municipal solid waste generation using artificial neural network and zoning the predicted values using geographical information system (GIS) for Tehran metropolitan area by regions**
Supervisor of M.Sc. thesis, IER, Tehran University of Medical Sciences

2019 **Microbiological risk assessment and estimation of the burden of diarrheal diseases in Gaza Strip's water supply system, Palestine**
Adviser of Ph.D thesis, IER, Tehran University of Medical Sciences

2018 **Identify hazard events in the drinking water supply system of Faramarzan area (Bastak) based on WHO's Water Safety Plan**
Adviser of M.Sc. thesis, Tehran University of Medical Sciences

2018 **Piloting the In-depth Reporting on Safely Managed Drinking Water and Sanitation Services**
WHO Regional Office/CEHA, Tehran University of Medical Sciences

2018 **An ecological analysis of the relationship between the number and type of industries and some socio-economic components with the incidence of cancer in Iran**
Principal Investigator, Tehran University of Medical Sciences

2017 **Identification of isolated heterotrophic plate count bacteria in drinking water treated by household treatment systems using DNA sequencing analysis**
Co-Principal Investigator, National Institute for Medical Research Development (NIMAD)

2016 **Quantitative Microbial Risk Assessment of Cryptosporidium and Giardia in Drinking Water Produced from Jalaliyeh and Tehranpars Water Treatment Plants in Tehran, Iran**
Principal Investigator, IER, Tehran University of Medical Sciences; Tehran Water and Wastewater Company

2015 **Estimation of Water poverty index in provincial scale and for Iran**
Principal Investigator, IER, Tehran University of Medical Sciences

2015 **Application Monte Carlo simulations to reduce the uncertainty of corrosion indices for water corrosion tendency assessment**
Principal Investigator, IER, Tehran University of Medical Sciences

2015 **Forecasting Air Quality Index (AQI) in Kermanshah using artificial neural network modeling**
Co-Principal Investigator , IER, Tehran University of Medical Sciences, Iran

2015 **Estimation of Per-Capita Wastewater Parameters and Treatment Plants Performance in Tehran**
Co-Principal Investigator, IER, Tehran University of Medical Sciences, Iran

2014 **The formulation of a national program and adaptation of quality and safety of water and water born diseases with climate change**
Co-Principal Investigator, IER, Tehran University of Medical Sciences, Iran

2014 **Predicting the influent water properties of water treatment plant in Sanandaj using artificial neural network and auto-regressive moving average models**
Co-Principal Investigator, Kurdistan University of Medical Sciences, Iran

2013 **Chromium removal from aqueous solutions in fixed-bed column by natural and modified sawdust**
Co-Principal Investigator, Zabol University, Iran

2013 **The fixed-bed column to remove manganese from the water using sand plains of Sistan**
Co-Principal Investigator, Zabol University, Iran

2012 **Development software for water quality and corrosion analyzing and correlation analysis of corrosion indices with non-specific indices (TOC, DOC, UV254 and SUVA) and iron in the water distribution network**
Principal Investigator, Kurdistan University of Medical Sciences, Iran

2012 **Comparing the performance of nanoparticles of titanium dioxide (TiO2)**

and zinc oxide (ZnO) in photo-catalytic removal of cyanide (-CN) and bivalent lead from the aquatic environment in the presence of UV: equilibrium and kinetics study
Co-Principal Investigator, Kurdistan University of Medical Sciences, Iran

2012 **Application of UV irradiation, hydrogen peroxide and titanium dioxide (UV/H2O2/TiO2) for the oxidation of organic compounds in hospital waste**
Principal Investigator, Kurdistan University of Medical Sciences, Iran

2011 **Analysis of corrosion tendency in the water distribution system in Hamadan using calcium carbonate precipitation potential index**
Principal Investigator, Hamadan University of Medical Sciences, Iran

2011 **Antibiotic resistance of Pseudomonas aeroginosa, Klebsiella pneumonia and Escherichia coli in hospital wastewaters of Hamedan**
Principal Investigator, Hamadan University of Medical Sciences, Iran

2010 **Kinetic models of dye removal from aqueous solutions using Pine Cone and compost-derived activated carbons**
Principal Investigator Hamadan University of Medical Sciences, Iran

Supervising and Advising Experiences

Title	Year	Student	Role	Program	Status
Forecasting the amount of urban solid waste in Tehran by region, using artificial neural network tools and zoning the predicted values using geographical information system.	2018	Boshra Ojaghi	Supervisor	M.Sc.	completed
Characterization of hazardous events in the water supply system of Faramarzan (Bastak) region using WHOs WSP principals and recommendations for risk management approaches	2018	Esmaeil Harasi	Adviser	M.Sc.	completed
Analysing the level of WASH services in rural areas of Swadkoh, Mazandaran	2018	Maryam Lasemi	Supervisor	M.Sc.	completed
Developing statistical models for predicting quality parameters of underground water in Kermanshah	2019	Parisa Dargahi	Supervisor	M.Sc.	completed
Microbial Risk Assessment to Estimate the Burden of Communicable Diseases of Drinking Water in Gaza Strip, Palestine	2019	Samer Abouzer	Adviser	Ph.D.	completed
A feasibility study to develop models for the prediction of car exhaust quality parameters (CO, HC, CO2, O2) using technical control data of light cars in Tehran.	2021	Mohammad Raeesi	Supervisor	M.Sc.	completed
Designing a consumer water footprint questionnaire and the feasibility of	2023	Rezvaneh Barzegar	Supervisor	M.Sc.	completed

using it to estimate consumer water footprint in Iran.					
Spatial-temporal variations of ambient air O3 and NO2 concentrations in Tehran and effects of meteorological parameters on their concentration over a period of 2017 to 2021	-	Moazam Rezaee	Adviser	M.Sc.	ongoing
A systematic review of the investigation of optimal operating conditions of the reverse osmosis process in nitrate removal from drinking water	2023	Fateme Zirrahi	Adviser	M.Sc.	completed
Investigating the presence of detergents in the drinking water resources of Hamedan city and investigating the risk in correcting Shahid Beheshti House in Hamedan	2023	Seyd Amirhossain Zaolfagharifar	Adviser	Ph.D.	completed
Arsenic intake assessment through drinking water and most used vegetables among a population of adults in the city of Qom and investigation of its relationship to arsenic urinary concentration and carcinogenic risk estimation in different scenarios	2023	Leila Kazemizad	Adviser	Ph.D.	completed
Evaluation of the disease burden attributed to enteroviruses in raw edible vegetables irrigated with wastewater from the South Tehran treatment plant due to different exposure scenarios.	2022	Seyd Yaser Hashemi	Adviser	Ph.D.	completed
Predicting groundwater quality parameters using statistical models in Kashan province in Iran	2023	Aysan Morovati Razmabad	Supervisor	M.Sc.	completed
Feasibility of developing a model for pediction of carbon dioxide emission using World Bank indices on an international scale	-	Milad Malecpour	Supervisor	M.Sc.	ongoing

LABORATORY ANALYTICAL SKILLS

- Protozoan parazites in water (1623.1 EPA Method)
- Commonly conducted water chemical quality tests
- Commonly conducted water microbial quality tests (culturing techniques and Kits)
- Commonly conducted wastewater quality characteristics tests (including BOD, COD,…)
- TOC/DOC measurement using a TOC analyser
- PCR technique (identification of HPC bacterial species in drinking water)

EPIDEMIOLOGICAL ANALYSIS SKILLS

- Measuring Disease Occurrence (Incidence, Prevalence, Odds)

- Measuring Associations Between Exposures and Outcomes (Cohort Study, Cross-Sectional Studies: Point Prevalence Rate Ratio, Case-Control Studies, Strength of Associations)
- Understanding Lack of Validity: Bias (Selection Bias, Information Bias)
- Identifying Noncausal Associations (Assessing the Presence of Confounding)
- Assessing Heterogeneity of Effects (Interaction)

STATISTICAL ANALYSIS SKILLS

- **stats** (t.test, wilcox.test, prop.test, chisq.test, fisher.test, kruskal.test,mcnemar.test, lm, friedman.test, glm, cor, cor.test, manova),
- **stats** (glm): Simple logistic regression, Factorial logistic regression, Multiple logistic regression,
- **stats** (aov): Analysis of covariance,
- **car**(Anova),
- **lme4**(glmer): linear and generalized linear mixed-effects models, Repeated measures logistic regression,
- **MASS**(polr): Ordered logistic regression,
- **MASS**(lda): Discriminant analysis,
- **psych**(fa): Factor analysis,
- **keras, reticulate, tensorflow:** Machine learning
- **Brodgar** GUI (statistical modelling)
- **epicalc:** Epidemiological calculator

SOFTWARE SKILLS

- **Rstudio**
- **Shiny** (We-based application development)
- **Brodgar** GUI (statistical modelling with R)
- **QMRAspot (**a tool for Quantitative Microbial Risk Assessment**)**
- **Oracle Crystal Ball (**risk assessment stochastic modelling)
- **QGIS (*Organics* plugin, *ENVIFATE* plugin)**
- **SPSS (**statistical data analysis)
- **Origin Pro (**statistical data analysis)
- **Minitab (**statistical data analysis)
- **R INLA (**spatial analysis)
- **GeoDa (**spatial analysis)
- **ArcView GIS (**spatial analysis**)**
- **VOSviewer** (for visualizing bibliometric results)
- **Visual studio 2019 (visual basic .net)**
- **Python (**Keras, and Tensorflow libraries for Image recognition**)**

WEB-BASED APPs development (using R Shiny+ HTML + JavaScript + CSS)

- **COVID-19 REPORTER:** A shiny app for visualizing and modelling CODID-19 data available at Coronavirus (shinyapps.io).

- **SOCIAL MIXING DATA COLLECTOR**: A Shiny app for the collection of social mixing data using standard diary forms for analyzing population contacts in different age categories and places. (https://github.com/mehdihadi/social-mixing-data-collector)
- **Excess Mortality APP:** One app for estimation of excess mortality for COVID-19 and other environmental or natural crises (adapted for Iran)
- **MCQ exam**: A web-based tool for making and taking MCQs exams. It is a flexible app that teachers can use to set a schedule for MCQs exam. Each exam will be marked automatically and the final marks for all students will be sent to the teacher's phone number by SMS. (https://github.com/mehdihadi/MCQs-app)
- **Iran's groundwater dashboard (**irGWater**):** irGWater is a web-based application for visualizing the basic information of groundwater resources (Wells) of Iran available at irGWater (shinyapps.io).
- **Tracking faculty dissertations:** a web-based application for monitoring the progress of TUMS Faculty of Health student dissertations. As each academic member has a maximum capacity as a supervisor. this tool visualizes the information of each faculty member. (https://github.com/mehdihadi/thesis)

APPLICATION DEVELOPMENT (using Visual Basic)

- **WATER QUALITY INDEX CALCULATOR for toxic parameters**: A **Visual Basic .Net** windows-based software developed to calculate Water Quality Index for toxic parameters in water resources. (https://cwqr.tums.ac.ir/uploads/325/2024/Jan/28/WQI(Toxic)%20calculator%20-%20English.exe)
- **WATER QUALITY INDEX CALCULATOR for common parameters**: A **Visual Basic .Net** windows-based software developed to calculate Water Quality Index for commom water quality parameters in water resources. https://cwqr.tums.ac.ir/uploads/325/2024/Feb/06/WQI(common%20parameters)%20calculator%20-%20Persian.exe
- **AIR QUALITY INDEX CALCULATOR**: A **Visual Basic .Net** windows-based software developed to calculate Air Quality Index. https://cwqr.tums.ac.ir/uploads/325/2024/Feb/20/Upload%20AQI%20-%20English%20version.rar
- **WATER CORROSION INDEX CALCULATOR:** A VB6 windows-based software developed to calculate 9 important water corrosion indices: Langelier, Ryznar, Pockorius, Driving force, Momentary excess, Saturation level, Larson–Scold and Aggressiveness and CCPP indices. (https://cwqr.tums.ac.ir/uploads/325/2023/Nov/01/Water%20Corrosion%20Index%20Calculator.rar)
- **MPN CALCULATOR:** A VB6 windows-based software for the estimation of coliform densities based on the MPN method **(**https://cwqr.tums.ac.ir/uploads/325/2023/Nov/01/MPN%20calculator.rar**)**