# Kamran Taghavi

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### **EDUCATION**

## PhD in Environmental Health Engineering, 1996

Tarbiat Moddaress University, Iran

Thesis: Removal of Cr (VI) from Industrial Wastewaters with Aerobic and Anaerobic Methods

# Taught courses for associate-bachelor's, bachelor's and master's degrees in environmental health engineering:

Disposal of solid waste in small communities – Wastewater treatment in small communities - Operation of Water and Wastewater Treatment plants –Solid Waste overview - Air pollution - Air pollution control - Design of sanitary sewer and Storm Water collection networks - Application of pump motors in water and wastewater facilities - Natural wastewater treatment systems - Human ecology - Internship of students in health-hospital centers, water and Wastewater treatment plants - project

#### **ACADEMIC APPOINTMENTS**

Assistant Professor, 1997-2019
Associate Professor,2019- present
Member of Department of environmental Health, 1997-Present
Membership in the international IAWQ forum in 1998
Establisher of school of health in Rasht: 1999
Dean of school of health: 1999-2001

#### **AWARDS**

Exemplary Assistant Professor: 2007 & 2011 Guilan University of Medical Sciences, Iran Exemplary Researcher, 2011 Guilan University of Medical Sciences, Iran

# **M.SC. THESIS UNDER SUPERVISION:**

- 1. Study on Existence of Tri-halo Methane in Rasht Drinking Water Distribution Network and Offering of Proposals in Order to Control of Prefabricators of Chlorine By-products, 2007.
- 2. The Survey of Pesticides (Diazinon, Lindane, Hinozane) in Raw Water at Sangar Dam and Treated Water and Suitable Suggestions for Adverse Effects Control, 2007.

- 3. Reduction of Contamination of Leachate from Solid Wastes at Compost Plant of the Rasht County with Coagulation and Flocculation Method and Application of Activated Carbon, 2012.
- 4. Investigating the efficiency of combined Fenton-like oxidation-aerobic biological process in wastewater treatment from detergent manufacturing industries, 2016.
- 5. Photochemical degradation of 2,4-dichlorophenol in aqueous solutions by Fe2+/PDS/UV process,2016.
- 6. Investigation of Heavy Metals in Soil and Groundwater in the Amlash, 2016.
- 7. Evaluating the Efficiency of Guilan Province Native Duckweed in Removing Lead from Aqueous Solutions, 2016.
- 8. Investigating the efficiency of removing cadmium from aqueous solutions with commercial nano aluminum oxide: Kinetic equilibrium study,2016.
- 9. The efficiency of anaerobic biological method integrated with Fenton and Nano silica absorbent in the treatment of Solid waste leachate at Saravan, 2018.
- 10. Survey of removal efficiency of 2,4-Dichlrophenol from wastewater with combination of Chemical and Biological method, 2019.
- 11. Quantitative and qualitative investigation of production waste materials of comprehensive health service centers and hospitals in Rasht and determination of heavy metal values in the leachate ,2019.
- 12. Investigation efficiency of  $\gamma$ -Al2O3/H2O2 combined process in the removal of azo dyes (Direct Red 31 and Acid Red 18) from Aqueous Solution, 2020.
- 13. Investigation of Remazol Blue Reactive and Acid Red 2 removal from aqueous solutions by using multi walled carbon nanotubes- CoFe2O4 nanoparticles composite, 2022.
- 14. Evaluation of the efficiency of Scallop shell coated Fe2O3 nanocomposite in removal of Dexamethasone and direct red 81from aqueous solutions,2022.
- 15. Determining the removal efficiency of sodium diclofenac and carbamazepine by peroxymonosulfate activated with bismuth phosphate nanoparticles from aqueous solutions,2022.

### M.SC. THESIS UNDER Advising:

- 1. Investigation of solid waste management in Rasht hospital,2005.
- 2. Survey of heavy metals concentration in Rasht water supply and distribution system ,2014.

- 2. The analysis of capability of the usage of greensand for elimination of Iron, Manganese, Chromium (VI) and Ammonium from water, 2015.
- 3. Survey of activated carbon absorption efficiency for metronidazole and cephalexin antibiotics with Sycamore wood absorbate from aqueous solutions, 2015.
- 4.Performance evaluation of activated carbon derived from pine wood for adsorption of Tetracycline and Diclofenac from aqueous solutions, 2017.
- 5. Investigating the performance of wastewater treatment plant in Rasht and the feasibility of reuse of effluent, 2017.
- 6. Survey of evaluation of the efficiency of Activated carbon derived from pine cone as an absorbent for removal of metoprolol and cefixime in aqueous solutions, 2018.
- 7. Investigation of removal amount of heavy metals Cadmium and lead from aqueous solution by Pseudomonas and Streptomyces bacteria, 2018.
- 8. Biosorption study of ceftriaxone and tetracycline antibiotics by pseudomonas putida bacteria from aqueous environments, 2019.
- 9. Investigation on the photocatalytic activity of zinc oxide nanoparticle combined with the zeolite in removal of safranin dye and hexavalent chromium from aqueous solution,2020.
- 10. Evaluation of tetracycline removal by adsorption method by magnetic iron oxide (Fe3O4) nanoparticles and Clinoptilolite from aqueous solutions,2021.
- 12. Title: Performance evaluation of LaCuO3- CeO2 for tetracycline removal from aqueous solution in the presence of H2O2 and visible light irradiation, 2022.
- 13. Evaluation of the efficiency of kaolin-iron oxide dual magnetic nanocomposite in removal of eftriaxone and cefixime from aqueous solutions,2023.

## University research plan Advising

Investigating the efficacy of iron oxide/scallop magnetic nanocomposite in removing tetracycline antibiotic from aqueous solutions,2021.

# **Master theses judgement:**

- 1.Investigating the corrosiveness and sedimentation potential of drinking water in the cities of Amlash and Rudsar ,2016.
- 2. Efficacy of synthesized magnetic nanocomposite Cu Fe2O4 / Cuttlebone in removal of cefixime antibiotic and direct red dye 81 in aqueous solutions, 2018.
- 3.Investigating and zoning the amount of heavy metals (arsenic, cadmium, mercury, lead) in underground water sources in the areas around Anzali lagoon,2018.

4.Synthesis of sugarcane bagasse magnetized with graphene oxide and its efficiency in the photocatalytic removal of hexavalent chromium metal and Acid Red 14 dye from aqueous solutions in the presence of visible light, 2020.

5. Investigating the efficiency of reduced magnetic zinc ferrite-graphene oxide nanocomposite in removing the antibiotic sulfamethoxazole from aqueous solutions using the response surface method, 2020

6.Evaluation of the efficiency of UiO-66 metal-organic framework nano adsorbent in the removal of cefixime and ceftriaxone antibiotics from aqueous solutions using Response Surface Methodology, 2022.

7.Synthesis of zinc oxide nanocomposite coated on perlite and determination of its efficiency in removing reactive black 5 and acid red 114 dyes from aqueous environments in the presence of visible light, the effect of parameters and kinetic study, 2022.

8.Synthesis of zinc oxide nanocomposite coated on activated carbon of recycled tires and determining its efficiency in removing hexavalent chromium metal and Acid Red 14 dye from aqueous solutions: a kinetic, equilibrium and thermodynamic study,2022.

9. Health risk assessment (carcinogenic and non-carcinogenic) of heavy metals (chromium, cadmium, lead, nickel, copper and zinc) in drinking water of villages Guilan (margin of Anzali lagoon) using EPA modle, 2022.

10.Synthesis and efficiency assessment of copper oxide- egg shell nanocomposite in photocatalytic removal of Reactive Black 5 and Acid Red 14 dyes from aqueous solutions in the presence of visible light irradiation: Investigation of parameters and kinetic study,2023.

11.Efficiency of synthesized copper ferrite/fish bone magnetic nanocomposite in removing cefixime antibiotic and direct red dye 81 from aqueous solutions, 2023.

12. Synthesis of zinc oxide nanocomposite coated on perlite and determination of its efficiency in removing reactive black 5 and acid red 114 dyes from aqueous environments in the presence of visible light, the effect of parameters and kinetic study, 2022.

# **Publications in Journals:**

- 1. Taghavi K., Hassani A.H., Javid A.H., Mir Bagheri, Jafari M.A.\*, Survey of THMs Value in Drinking Water in Lahijan and Suggestions in Order to Product Control after Disinfection, Journal of Guilan University of Medical Sciences, Vol. 17, No. 68, Winter 2008 (Printed in Farsi, Abstract in English)
- 2. Taghavi K.\*, Removal of Biochemical Oxygen Demand from Domestic Wastewater with Trickling Filter in The Scale of Pilot Plant, The Journal of Qazvin University of Medical Sciences, No. 25, Spring 2003 (Printed in Farsi, Abstract in English)
- 3. Taghavi K.\*, Mesdaghnia A., Adsorption of Cr (VI) with MLSS in Pilot Scale Activated Sludge, Journal of Guilan University of Medical Sciences, Vol. 8, No: 29-30, 1999 (Printed in Farsi, Abstract in English)
- 4. Taghavi K.\*, Food Spoilage & Contamination of Marine Sea, Journal of Esfehan Water & Wastewater, No.32, 1999 (Printed in Farsi, Abstract in English)

- 5. Taghavi k.\*, Biological Removal of Cr (VI) from Industrial Wastewaters with Aerobic & Anaerobic Method, Journal of Behdasht Iran, No. 3-4, 1996 (Printed in Farsi, Abstract in English)
- 6. Taghavi, K., Purkareim, S\*., Pendashteh, A.R., Chaibakhsh, N.Optimized removal of sodium dodecylbenzenesulfonate by Fenton-like oxidation using response surface methodology, Iranian Journal of Chemistry and Chemical Engineering, 35(4), pp. 113-124,2016.
- 7. Naghipour, D., Taghavi, K., Moslemzadeh, M\*.,Removal of methylene blue from aqueous solution by Artist's Bracket fungi: Kinetic and equilibrium studies, Water Science and Technology, 73(11), pp. 2832-2840,2016.
- 8. Naghipour, D., Taghavi, K., Jaafari, J., (...), Jamshidi, A., Hossein Mahvi\*, A., Statistical modeling and optimization of the phosphorus biosorption by modified Lemna minor from aqueous solution using response surface methodology (RSM), Desalination and Water Treatment, 57(41), pp. 19431-19442,2016.
- 9. Naghipour, D., Gharibi, H., Taghavi, K.\*, Jaafari, J., Influence of EDTA and NTA on heavy metal extraction from sandy-loam contaminated soils, Journal of Environmental Chemical Engineering, 4(3), pp. 3512-3518,2016.
- 10. Taghavi, K., Naghipour, D., Mohagheghian, A., Moslemzadeh, M.\*, Photochemical degradation of 2,4-dichlorophenol in aqueous solutions by Fe2+/ peroxydisulfate/ UV process, International Journal of Engineering, Transactions A: Basics, 30(1), pp. 15-22,2017.
- 11. Taghavi, K., Pendashteh, A., Mozhdehi, S.P.\*, Combined fenton-like oxidation and aerobic MBBR biological processes for treatment of the wastewater of detergent industries, Desalination and Water Treatment, 77, pp. 206-214.2017.
- 12. Hosseinipour Dizgah, S., Taghavi, K., Jaafari, J., Roohbakhsh, E., Ashrafi, S.D.\*, Data on pollutants content in the influent and effluent from wastewater treatment plant of Rasht in Guilan Province, Iran, Data in Brief, 16, pp. 271-275,2018.
- 13. Karimpour, M., Ashrafi, S.D., Taghavi, K., (...), Roohbakhsh, E., Naghipour, D.\*, Adsorption of cadmium and lead onto live and dead cell mass of Pseudomonas aeruginosa: A dataset, Data in Brief, 18, pp. 1185-1192,2018.
- 14. Naghipour, D., Ashrafi, S.D., Taghavi, K.\*, Data of heavy metals in soil and groundwater at Kiwi gardens of Amlash in Guilan Province, Iran, Data in Brief, 18, pp. 1556-1561,2018.
- 15. Naghipour, D., Hoseinzadeh, L.\*, Taghavi, K., Jaafari, J., Characterization, kinetic, thermodynamic and isotherm data for diclofenac removal from aqueous solution by activated carbon derived from pine tree, Data in Brief, 18, pp. 1082-1087,2018.

- 16. Naghipour, D., Ashrafi, S.D., Gholamzadeh, M., Taghavi, K.\*, Naimi-Joubani, M., Phytoremediation of heavy metals (Ni, Cd, Pb) by Azolla filiculoides from aqueous solution: A dataset, Data in Brief, 21, pp. 1409-1414,2018.
- 17. Salehi, M.\*, Taghavi, K., Naghipour, D., Ashrafi, S.D, The Efficiency of Anaerobic Biological Method Integrated with Fenton and Nano silica Absorbent in the Treatment of Solid Waste Leachate, Asian Journal of Water, Environment and Pollution, 16(3), pp. 91-97,2019.
- 18. Naghipour, D., Amouei, A.\*, Ghasemi, K.T., Taghavi, K, Removal of metoprolol from aqueous solutions by the activated carbon prepared from pine cones, Environmental Health Engineering and Management, 6(2), pp. 81-88,2019.
- 19. Naghipour, D., Amouei, A.\*, Estaji, M., Taghavi, K., Allahabadi, A., Cephalexin adsorption from aqueous solutions by biochar prepared from plantain wood: Equilibrium and kinetics studies, Desalination and Water Treatment, 143, pp. 374-381,2019.
- 20. Amouei, A.I., Naghipour, D.\*, Taghavi, K., Estaji, M., Removal of metronidazole antibiotic from hospital wastewater by biosorbent prepared from plantain wood, Journal of Babol University of Medical Sciences, 22(1), pp. 45-52,2020.
- 21. Naghipour, D., Taghavi, K., Ashournia, M., Jaafari, J.\*, Arjmand Movarrekh, R., A study of Cr (VI) and NH4+adsorption using greensand (glauconite) as a low-cost adsorbent from aqueous solutions, Water and Environment Journal, 34(1), pp. 45-56,2020.
- 22. Naghipour, D., Movarrekh, R.A., Taghavi, K., Jaafari, J.\*, Adsorption of Fe (II) and Mn (II) using glauconitic greensands from aqueous solution, Desalination and Water Treatment, 190, pp. 237-246,2020.
- 23. Naghipour, D., Amouei, A.\*, Ghasemi, K.T., Taghavi, K., Removal of cefixime from aqueous solutions by the biosorbent prepared from pine cones: Kinetic and isotherm studies, Desalination and Water Treatment, 201, pp. 219-227,2020.
- 24. Ghazanfari, S.Z., Jaafari, J., Ashrafi, S.D., Taghavi, K.\*, Decolorization of direct red dye 81 from aqueous solutions by SnO2/H2O2 hybrid process, International Journal of Environmental Analytical Chemistry, 1-15,2021.
- 25. Naghipour, D., Hoseinzadeh, L., Taghavi, K., Jaafari, J., Amouei, A.\*, Effective removal of tetracycline from aqueous solution using biochar prepared from pine bark: isotherms, kinetics and thermodynamic analyses, International Journal of Environmental Analytical Chemistry, 1-14,2021.
- 26. Taghavi, K., Naghipour, D., Ashrafi, S.D., Salehi, M.\*, The removal of heavy metals from the leachate of aged landfill: The application of the Fenton process and Nano silica absorbent, Environment and Natural Resources Journal, 19(6), pp. 427-434,2021.

- 27. Khabbaz, N., Jafari, J., Naghipour, D., Taghavi, K.\*, Moslemzadeh, M., New hybrid process of peroxymonosulfate activation on the BiPO4 to photocatalytic degradation of diclofenac sodium in aqueous solution, International Journal of Environmental Analytical Chemistry, 1-14,2022.
- 28. Naghipour, D., Taghavi, K., Jaafari, J., (...), Javan Mahjoub Doust, F.\*, Mahjoub Doust, M.J., Evaluation of the efficacy of Fe2O3 magnetized kaolin: simultaneous removal of ceftriaxone and cefixime from aqueous media, International Journal of Environmental Analytical Chemistry, 1-18., 2022.
- 29. Rouhani, M., Ashrafi, S.D., Taghavi, K., Joubani, M.N., Jaafari, J.\*, Evaluation of tetracycline removal by adsorption method using magnetic iron oxide nanoparticles (Fe3O4) and clinoptilolite from aqueous solutions, Journal of Molecular Liquids, 356,119040,2022.
- 30. Rahbar, H., Ashrafi, S.D., Taghavi, K.\*, Jaafari, J., Synthesis and evaluation of the performance of MWCNTs-CoFe2 O4 magnetic nanocomposite for adsorption of Remazol Brilliant Blue Reactive: kinetics and thermodynamics study, Desalination and Water Treatment, 272, pp. 290-302,2022.
- 31. Bozorginia, S., Jaafari, J., Taghavi, K., (...), Roohbakhsh, E., Naghipour, D.\*, Biosorption of ceftriaxone antibiotic by Pseudomonas putida from aqueous solutions, International Journal of Environmental Analytical Chemistry, 103(9), pp. 2067-2081,2023.
- 32. Naghipour, D., Taghavi, K., Jaafari, J., (...), Javan Mahjoub Doust, M., Javan Mahjoub Doust, F.\*, Scallop shell coated Fe2O3 nanocomposite as an eco-friendly adsorbent for tetracycline removal, Environmental Technology (United Kingdom), 44(2), pp. 150-160,2023.
- 33. Dadras, K., Ashrafi, S.D., Taghavi, K.\*, Jaafari, J., Evaluating the efficiency of scallop shell/iron oxide (II) nanocomposite in removal of Direct red 81 dye from aqueous solutions: kinetic, isotherm and thermodynamic studies, Desalination and Water Treatment, 289, pp. 238-247,2023.

#### Presentation of accepted articles in foreign congresses: (Oral presentation)

M. ESKANDARI\* & K. TAGHAVI, A comparative study on pulpotomy using Ferosulfate in primary molar, Faculty of Dentistry, Guilan University of Medical Sciences, Iran, OS045, 2005 BSPD and IAPD, International Journal of Paediatric Dentistry, Australia,15 (Suppl. 2): P16.

#### <u>Seminars</u>

- 1. Taghavi K., Biological Traps for Removal & Recovery of Heavy Metals, The 1<sup>st</sup> International Water & Wastewater in Asian Countries, International Conference Center of I.R.I.B, Tehran, Iran, 1997, (Poster).
- 2. Taghavi K., Heavy Metal Recovery from Wastewaters Industries Which Applied Recovered Metals with Electro-dialysis Method, The 2<sup>nd</sup> Conference of Environmental Pollutants, University of Guilan, Rasht, Iran, 1998, (Poster).

- 3. Taghavi K., Engineering Analysis of New Trickling Filter Methods, The 2nd Conference of Environmental Pollutants, University of Giulan, Rasht Jran, 1998, (Poster).
- 4. Taghavi K., Physical Analysis of Medical Solid Wastes in Rasht and Suggestions for Control of Adverse effects, The 8th National Conference of Environmental Health, Tehran University of Medical Sciences, Tehran, Iran 2001, (Oral).
- 5. Mohagheghian A.\*, Taghavi k., Farrokhi Keri Bozor M., Saeed Omidi S., The Survey of Environmental Health of Rasht Hospital Universities, The 11<sup>th</sup> National Conference of Environmental Health, Zahedan University of Medical Sciences, Zahedan, Iran, 2005, (poster).
- 6. Taghavi K., Mohaghegian A., Naghipour D., Jamali M., Rafii Z., Determination of 3 Pesticides in Sefidroud River & Rasht Drinking Water, The 12<sup>th</sup> National Conference of Environmental Health, Shahid Beheshti University of Medical Sciences, Iran, 2006, (Oral).
- 7. Taghavi K., Naghipour D, Borghei M., Porsaeid F., waste leachate Quality investigation of compost factory in Rasht city and treatment by coagulation method with Poly Aluminum chloride and Ferric chloride, The 15<sup>th</sup> National Conference of Environmental Health, Giulan University of Medical Sciences, Rasht, Iran, 2012, (Poster).
- 8. Amouei A., Naghipour D\*, Kamran Taghavi, Jalil Jafari, Evaluation of the efficiency of the biochar prepared from the pine bark in removing Diclofenac from aqueous solutions, 5<sup>th</sup> international and 24th national conference on Environmental Health Kashan, Iran-2021, (Poster).
- 9. Dariush Naghipour D., Amouei A.\*, Taghavi K., Jaafari J., Effective removal of tetracycline from aqueous solution using biochar prepared from pine bark: Isotherms, kinetics and thermodynamic analyses, 5<sup>th</sup> international and 24th national conference on Environmental Health Kashan, Iran-2021.
- 10. Dariush Naghipour, Abdoliman Amouei\*, Kamran Taher Ghasemi, Kamran Taghavi, Removal of Cefixime from aqueous solutions by the biosorbent prepared from Pine Cones: kinetic and isotherm studies, 5<sup>th</sup> international and 24th national conference on Environmental Health Kashan, Iran-2021.
- 11. Ghazanfaria S.Z., Jaafari J., Ashrafia S.D., and Taghavi K.\*, Evaluation of the efficiency of SnO2/H2O hybrid process for removing direct red dye 81 from aqueous solutions, 5<sup>th</sup> international and 24th national conference on Environmental Health Kashan, Iran-2021, (Poster).
- 12. Taghavi K\*, Dadres Kh., Naghipour D., Jaafari J., Investigating the efficiency of iron oxide/Scallop shell nanocomposite in removing direct red dye 81 from aqueous solutions: study of kinetics, adsorption isotherm and thermodynamics, 6<sup>th</sup> International and 25th National Conference on Environmental Health, Ahvaz, Iran, 2022, (Poster)
- 13. Taghavi K.\*, JafaariJ., Ashrafi S.D., RahbarH., Synthesis and evaluation of the performance of multi-walled carbon nanotubes CoFe2O4 nanoparticles as a magnetic composite for surface adsorption of Remazol

Brilliant Blue R from synthetic wastewater: study of isotherms, kinetics and thermodynamics of the process, 6<sup>th</sup> International and 25th National Conference on Environmental Health, Ahvaz, Iran, 2022, (Poster).

- 14. Taghavi K.\*, Naghipour D., Mohaghegian A., Muslemzadeh M., Photochemical removal of 2,4-dichlorophenol from aqueous solutions using persulfate/divalent iron/UV process, 6<sup>th</sup> International and 25th National Conference on Environmental Health, Ahvaz, Iran, 2022, (Poster).
- 15. Hasanzadeh D, Naghipour D.\*, Taghavi K., Ashrafi S.D. remove safranin dye from the Aqueous solution using zinc oxide stabilized on zeolite in the presence of ultraviolet light, 6<sup>th</sup> International and 25th National Conference on Environmental Health, Ahvaz, Iran, 2022 (oral).

#### Judging Journal articles in Iran:

- 1. Ehsanifar M., Jonidi Jafari A.\*, Shirzad Siboni M., Asadgol Z., Arfaeinia H., Effect of Ozonation and Hydrogen Peroxide on Reducing the Volume and Chemical Oxygen Demand of Waste, Water Treatment Plants Sludge, 3,15-19, 2018.
- 2. Soltani Gardframarzi S., Ghasemi M., Qanei Bafghi M.J., Spatial and temporal changes of dust subsidence rate in Yazd city and its relationship with some climatic parameters, Journal of natural environment, 73, 701-714, 2020.
- 3. Kochakichani B., Khajavi R.\*, Rashidi A.S., Mansouri N., Sameil Yazdanshenas M., Removal of heavy metal chromium from aquatic environments using activated carbon produced from used cigarette filters, Journal of natural environment,73,791-804,2020.
- 4. Yasini Ardakani S.S., Abakhari R.\*, Mirjalili M., Color removal from textile wastewater by nanofibers of titanium dioxide, cobalt ferrite and titanium dioxide/cobalt ferrite, Journal of natural environment, summer, 2021.
- 5. Kamali E., Bamani Kharanagh A., Hayatzadeh M., Tasshi Ardakani Gh.R., Khalili H., Numerical modeling of the effects of construction of urban wastewater treatment plant on the quantity and quality of underground water resources in Ardakan city, Journal of natural environment,74,139-152,2021.

#### **Judgment of Journal articles in foreign journals:**

1. Hanyu Ch., Shici Zh. Zexuan Zh. \*, Performance of a Hybrid System for Antibiotic Wastewater Treatment, Desalination and Water Treatment, 182,109-117,2020.