

## Abdorrezza Vaezi Hir (Ph.D)

### Profile

Name: Abdorrezza Vaezi hir

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### Academic Records

Ph.D. (2011), Geology, (Hydrogeology), University of Shiraz

M.Sc. (2004), Geology, (Hydrogeology), University of Shiraz

B.Sc. (2001), Geology, University of Tabriz

\*At the moment:

- Faculty member of earth sciences department in University of Tabriz

### Thesis

- MSc: A new method for designing of artificial recharge systems, defending in 2004 with excellent degree.
- PhD: Fate and transport of BTEX in groundwater of Shiraz oil refinery site

### Executive History

- Manager of Earth Sciences Department in University of Tabriz, December 2013 to December 2015.
- Head of Industrial relation, Intellectual property and Entrepreneurship office in University of Tabriz, December 2015 to July 2018.
- President of East Azerbaijan Science and Technology Park, August 2018 to Sept. 2022.
- Member of the Technology Committee of the Higher Education Development Council

## RESUME

- Plenipotentiary representative of the Minister of Science, Research and Technology in the special technology zone of Rabe Rashidi
- Founder and member of the board of directors of Rah Ab Azar Environment Company
- Founder and chairman of the board of directors of "Future Technology Transfer" Consortium
- Founder and chairman of the board of directors of "Future Agricultural Technology" Consortium

### *Research interest*

- Groundwater Contamination
- Fault zone hydrogeology
- Flow and Transport Modeling
- Karst and Fractured rock aquifers
- Environmental Pollution and Management

### *Teaching at University*

Lectures provided as the following courses in University of Tabriz:

- Flow through porous media, Groundwater hydraulics, Karst hydrogeology, Hydrogeology of fractured aquifers, Soil pollution, Advanced groundwater modeling, Groundwater artificial recharge, Geological environment.

### *Awards, Honorary Degrees, Medals and Positions*

- The top researcher of the University of Tabriz in 2014, 2016, 2017, 2018, 2019, 2020, 2021, 2022 and 2023
- Holder of the first rank in the entrance exam of M.S. in all over of Iran.
- Developer of a new method for artificial recharge systems designing.
- Developer of a new method in hydrocarbon contaminant source determination in Groundwater
- The inventor of the device of identifier and crushing of plastic bottles using ultrasonic method

### *Research Projects*

Title of project	Project manager	Project partner	Place of work	Dates	
				From	To
Evaluation of groundwater oil pollution in Kan oil warehouse Area and implementation of groundwater monitoring network	√		Iranian Petroleum Pipeline and Telecommunication Company	2019	2020
Identification of pollutants, extent of contamination plume and determining the source of oil spills in Shazand	√		Shazand of petrochemical complex	2018	2019

## RESUME

Petrochemical well No. 7 and remediation of pollutants from the aquifer area					
Monitoring and sampling of underground water wells and designing groundwater remediation system and implementation of a pilot point for remediation, Bandarabbas oil refinery	√		BandarAbbas oil refinery	2015	2017
Investigation of aquifer contamination due to possible leakage of wastewater of Kaveh Soda factory (Maragheh), identification of contamination source and determination of its extent of spread and presentation of control and remediation methods	√		Kaveh Soda Chemical Industries Company	2019	2020
Finding the origin of soil pollutant and groundwater sources, providing practical solutions to eliminate the origin, control the spread and reduce pollutant caused by hydrocarbon compounds in soil, sediments and water wells located in Tabriz railway station and surrounding lands.	√		Islamic Republic of Iran Railway Company	2023	2024
Determining the source and extent of oil pollution of the groundwater in the area of Shazand Refinery, designing and implementing aquifer remediation operations	√		Shazand oil Refinery	2022	2024
Comprehensive studies of groundwater pollution monitoring in the area of Ariasol petrochemical complex	√		Assalouyeh	2022	2024
Remediation and monitoring of soils contaminated with petroleum substances of Bandar Abbas Oil Refining Company	√		Bandar Abbas Oil Refinery	2020	2024
Designing of groundwater monitoring network for Kermanshah oil refinery	√		Kermanshah oil refinery	2015	2016
Designing of a surface and ground water and soil monitoring network for Abadan oil refinery	√		Abadan oil refinery	2020	2022
Determining the source and extent of oil pollution in the catchment basin of the Sarkhon karst spring, predicting pollution behavior and remediation	√		Iranian Petroleum Pipeline and Telecommunication Company	2020	2023
Studies on the transfer of petroleum substances in the aquifer area of Shazand Petrochemical Well No. 7 and the remediation of pollutants from the aquifer	√		Iranian Petroleum Pipeline and Telecommunication Company	2020	2024

## RESUME

Conceptual design of industrial and special production waste management system in East Azarbaijan province	√		Environment National Fund	2020	2021
Use of consulting services to oversee contract drilling of groundwater wells	√		Shazand oil refinery	2019	2020
Overview and updates groundwater monitoring network and drilling of monitoring wells and remediation in Bandarabbas oil refinery	√		BandarAbbas oil refinery	2018	2019
Designing of groundwater monitoring network for Tabriz oil refinery and radius around impressionable	√		Tabriz oil refinery	2013	2014
Remediation of soils contaminated with oil	√		Tabriz oil refinery	2017	2021
Designing of a surface and ground water and soil monitoring network for Shazand oil refinery	√		Shazand oil refinery	2014	2015
Augmentation of groundwater monitoring system in Shiraz oil refinery	√		Shiraz oil refinery	2010	2011
Monitoring of environmental parameters in Sungun copper mine	√		Sungun copper mine	2013	2022
Acidic waste water tradability and management in Sungun Mine	√		Sungun copper mine	2013	2014
Providing a suitable model for sustainable development in Sungun copper mine	√		Sungun copper mine	2014	2015
Determining the water catchment area and protective boundary of Ali Balaghi Spring and investigating the possible impact of mining operations in Buket limestone mine on the quantity and quality of spring water	√		Ajabshir	2023	2024
Determining the water catchment area and the protection boundary of the Manshegh hot spring and investigating the possible impact of mining operations in the nearby travertine mine on the quantity and quality of the spring water.	√		Gharegaghaj	2024	countinue
Investigating on hard rocks groundwater resources in East Ajarbaijan Province basin (case study, Garmi Chay basin)	√		Water and waste water company, East Azarbaijan Province	2019	2020
Comprehensive assessment of technical, economic, social and environmental on the construction of a cathode copper plant at Sungun Copper Complex	√		Sungun copper mine	2018	2019
Investigation on hard rocks groundwater resources in Ardabil Province basins, case study: Balikhlou Chai of Saien branch	√		Ardabil (Saien)	2014	2015

## RESUME

Development of Environmental Management Plan (EMP) for Kaveh Soda Company (Maragheh)	√		Kaveh Soda Chemical Industries Company	2020	2021
Study and design of the artificial recharge system of a pond to restore the quality of the aquifer in the downstream lands of Kaveh Soda Factory (Maragheh)	√		Kaveh Soda Chemical Industries Company	2021	2023
Numerical modeling of the quantitative and qualitative effects of the construction of Mimeh dam on the groundwaters of the Dehhran plain aquifer	√		Faraz Ab company	2022	2023
Monitoring service delivery projects approved by the Executive Committee of National of lake Salvation in East Azerbaijan province		√	East Azerbaijan province	2015	2015
Investigation on environmental effects of ethylene pipeline of south to Tabriz petrochemical (between Miandoab to Tabriz)		√	Tabriz petrochemical complex	2015	2016
Hydrogeology and tracing studying in Khersan 3 dam site		√	Khersan 3 dam (Lordeghan)	2003	2004
Hydrogeology and tracing studying in Dousti dam site		√	Dousti dam (Sarakhs)	2007	2008
Hydrogeology and tracing studying in Seymeh dam site		√	Seymeh dam (Ilam)	2007	2008
Hydrogeology and tracing studying in Sazbon dam site		√	Sazbon dam (Ilam)	2003	2004
Investigation on the BTEX contamination of Shiraz oil Refinery aquifer		√	Shiraz oil Refinery	2004	2006
Study of Hydrogeology and artificial recharge in Meyghan plane in Markazi province, Iran		√	Arak	2004	2005
Study of Hydrogeology and artificial recharge projection in Zarandiyeh (Markazi province), Iran		√	Arak	2004	2005
Investigation on groundwater and aquifer Kamhor watershed in Fars province		√	Shiraz	2005	2006
Study of feasibility the implementation of water resources management plans in 15 watersheds in Razavi Khorasan province		√	Razavi Khorasan Provn.	2004	2005
Artificial recharge designing in 3 watersheds in Sistan & Balochestan province south east of Iran		√	Sistan & Balochestan Provn.	2006	2007
Study of geology and Hydrogeology of 8 Watersheds in Sistan & Balochestan Province(watersheds: Shandekalati, Shandekalati, Torond,		√	Sistan & Balochestan Provn.	2006	2008

Pol chamani, Gazak, Nesparan, Sorkh kalat, Pashan, Jogarambit					
Study of geology and Hydrogeology of two watersheds in Semnan Province (Kohzar shimi and Satveh)		√	Semnan Provn.	2007	2008
Study of geology and Hydrogeology of 3 watersheds in Kerman Province (Ghivodari, Pol chamani and Sarzeh)		√	Kerman Provn.	2007	2008
Study of geology and Hydrogeology of Almaneh watershed in Kordestan Province		√	Kordestan Provn.	2008	2009
Study of geology and Hydrogeology of Dastgherd Taghrd watershed in Hormozghan Province,		√	Hormozghan Provn.	2006	2007
Study of geology and Hydrogeology of Mochan- Amirnan watershed in Tehran Province		√	Tehran Provn.	2007	2008
Study of geology and Hydrogeology of two watershed in East Azerbaijan Province (Ghojebel- Ahar, Bonab and Marand)		√	Ahar & Marand	2008	2009
Study of geology and Hydrogeology of Zilberchai (Marand)		√	Marand	2007	2009
Study of geology and Hydrogeology of Leilanchai (Malekan)		√	Malekan	2009	2010
Need for Studies of specialized water park in the city Eghlid		√	Eghlid	2010	2011

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### *Books*

- Shamsi, S., Valizadeh Kamran, Kh., **Vaezi hir**, A. 2017, Investigation of groundwater resources using Geographic Information System (GIS), Publishing of Doctor's Way- Measurement and Knowledge, Tehran (Compilation).

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### *Papers in National and International Journals*

1. **Vaezi hir**, A., Zare, M., Raeisi, E., Molson, J., Barker, J. 2012, Field scale modeling of BTEX released from multiple source zones, Bioremediation Journal, v. 16, no. 3:156-176.
2. **Vaezi hir**, A., Zare, M., Barker, J., Grathwohl, P., Raeisi, E. 2012. Source Determination for Subsurface Light Non-Aqueous Phase Liquid (LNAPL) Using Trimethylcyclopentane and Trimethylcyclohexane Isomer Ratios, Environ Forensics, v. 14, no. 1:25-35.
3. **Vaezi hir**, A., Tabarmayeh, M. 2015, Total vulnerability estimation for the Tabriz aquifer (Iran) by combining a new model with DRASTIC, journal of Environmental Earth Sciences, v. 74, no. 4:2949-2965.

4. **Vaezi hir**, A., Mohammadi, S. 2016, Groundwater Contamination Sourced from the Main Cemetery of Tabriz, Iran, *Environmental Forensics Journal*, v. 17, no. 2: 172- 182.
5. Rajabpour, H., **Vaezi hir**, A., Hasanpour Sedghi, M. 2016, The North Tabriz Fault, a barrier to groundwater flow in an alluvial aquifer northwest of Tabriz, Iran, *Journal of Environmental Earth Sciences*, v. 75, no. 10.
6. Rajabpour, H., **Vaezi hir**, A. 2017, Hydrogeological Studies to Identify the Trend of Concealed Section of the North Tabriz Fault (Iran), *Journal of Groundwater*, v. 55, no. 3: 327- 333.
7. Heidari, H.R, Zare, M., Barker, J. **Vaezi hir**, A. 2017, Lab scale experiment assessment of air sparging BTEX removal in fine grained aquifer of Shiraz Oil Refinery, *Journal of Desalination and Water Treatment*, v. 64, no. 1: 136- 146.
8. Aghili, S., **Vaezi hir**, A., & Hosseinzadeh, M. 2018, Distribution and modeling of heavy metal pollution in the sediment and water mediums of Pakhir River, at the downstream of Sungun mine tailing dump, Iran, *Journal of Environmental Earth Sciences*, 77(4). <https://doi.org/10.1007/s12665-018-7283-z>.
9. Taghipour, K., Khatib, M., Heyhat, M., Shabanian, **Vaezi hir**, A. 2018, Evidence for distributed active strike-slip faulting in NW Iran: The Maragheh and Salmas fault zones, *Journal of Tectonophysics*, 742-743 (2018) 15-33.
10. **Vaezihir**, A., Bayanlou, M.B., Ahmadnezhad, Z., Barzegari, G. 2020, Remediation of BTEX plume in a continuous flow model using zeolite-PRB, *Journal of Contaminant Hydrology*, 230 (2020) 103604
11. Azimi, R., **Vaezihir**, A., Lenhard, R.J., Hassanizadeh, M. 2020. Evaluation of LNAPL Behavior in Water Table Inter-Fluctuate Zone under Groundwater Drawdown Condition, *International journal of Water*, 12, 2337.
12. Ahmadnezhad, Z., **Vaezihir**, A., Schuth, Ch., Zarrini, Gh. 2020. Combination of zeolite barrier and bio sparging techniques to enhance efficiency of organic hydrocarbon remediation in a model of shallow groundwater, *Journal of Chemosphere*, <https://doi.org/10.1016/j.chemosphere.2020.128555>.
13. Khazini, L., Dehkharghanian, M.E., **Vaezihir**, A. 2021, Dispersion and modeling discussion of aerosol air pollution caused during mining and processing of open cast mines, *International Journal of Environmental Science and Technology*, <https://doi.org/10.1007/s13762-021-03225-1>.
14. **Vaezihir**, A., Safari, F., Tabarmayeh, M., Khalafi. A.S. 2021, Application of MCLP and LINGO methods to optimal design of groundwater monitoring network in an oil refinery site, *Journal of Hydroinformatics*, v. 24, no. 3: 813-830.
15. **Vaezihir**, A., Pirkhezranian, A., Sehhati, N., Hosseinzadeh, M.R., Salehi Lisar, S.Y., Sanderson, H. 2021, Investigation of long term hazards of chemical weapon agents in the environment of Sardasht area, Iran, *Journal of Environmental Science and Pollution Research*, <https://doi.org/10.1007/s11356-021-15593-9>.

16. Azizi, B., **Vaezihir**, A., Siahcheshm, K., Seydaie, M., Aber, S. 2021, Remediation of heavy metals from contaminated river water using natural zeolite and limestone, *Arabian Journal of Geosciences*, <https://doi.org/10.1007/s12517-021-08222-9>.
17. Nasiri, Sh., **Vaezihir**, A., Ahmadishali, J. 2023, Designing soil contamination monitoring network in petroleum refineries by XGBoost weighting and geostatistical facility allocation methods, *Journal of Environmental Science and Pollution Research*, <https://doi.org/10.1007/s11356-023-30452-5>.
18. **Vaezihir**, A., Mohammadzadeh, T., Tabarmayeh, M. 2023, Hydrochemical and hydrodynamic studies to explore the origin of water in a volcanic aquifer, *Journal of Water Supply*, <https://doi.org/10.2166/ws.2023.329>.
19. **Vaezihir**, A., Sepehripour, A., Tabarmayeh, M. 2024, Identifying flow regime in the aquifer of fractured rock system in Germi Chai Basin, Iran, *Journal of Mountain Science*, <https://doi.org/10.1007/s11629-023-8113-7>
20. **Vaezihir**, A., Mohammadzadeh, M., Bakhtiari, Sh., Ahmadnezhad, Z., Tabarmayeh, M. 2024, Prediction of hydrocarbon migration and evaluation of remediation efficiency in groundwater (Bandar Abbas Refinery), *Journal of Sustainable water resources management*, <https://doi.org/10.1007/s40899-024-01105-3>
21. Sobhanikia, M., Nikniaz, L., ShakerKhatibi, M., **Vaezihir**, A., Gilani, N., Mosafieri, M. 2024, Evaluating Heavy Metals in Human Breast Milk: A Cross-Sectional Study from Mining and Agricultural Areas in Northwestern Iran, *Journal of Biological Trace Element Research*, <https://doi.org/10.1007/s12011-024-04249-7>.
22. **Vaezihir**, A., Tabarmayeh, M., Taghipour, K. 2024, *Exploring the rate and potential risk of land subsidence induced by groundwater overexploitation in a multilayer aquifer*, *Journal of Natural Hazards*, <https://doi.org/10.1007/s11069-024-06820-w>.
23. **Vaezihir**, A., Zarvash, N., Karimi, H. 2015, Evaluation on karst development potential in Kabirkoh anticline in Ilam province using phase modulation and Analytical Hierarchy Process (AHP) and remote sensing and GIS, *Iranian Association of Geomorphology Journal*, no. 3: 144-157.
24. Tabarmayeh, M., **Vaezihir**, A. 2014, Investigation on vulnerability of Tabriz- plain unconfined aquifer, *Journal of water and soil*, no. 6: 1137-1151.
25. Tabarmayeh, M., **Vaezihir**, A. 2015, Estimation of the vulnerability of the Tabriz aquifer subjected to agricultural activities, *Journal of water and development*, no. 2: 140-151.
26. Aghili, S., **Vaezihir**, A., Hossen zadeh, M., Reyhani tabar, A. 2016, Investigation on changes of heavy metals concentration in the Alluvial Sediments of Sungun Copper Mine, East Azerbaijan province, Iran, *Sciences of water and soil Journal*, no. 4/1: 143-155.
27. **Vaezihir**, A., Safari, F., Asghari, E. 2016, Identification of hydrocarbon contamination and evaluation bioremediation potential in the aquifer Tabriz petrorefinement complex, *Journal of applied geology*, no. 17: 48-58.
28. Namakchi, F., Asghari, E., **Vaezihir**, A. 2016, Zonation of landslide hazard in Khoy city west by Anbalagan method, *Journal of Geography and Planning*, no. 56: 19-38.



29. **Vaezi hir**, A., Sari Sarraf, B., Valaei, A. 2016, Investigation on the causes of reduction of flow in the major rivers of the Southeast of Urmia lake, *Journal of Geographical Space*, no. 16: 123-150.
30. **Vaezi hir**, A., Tabarmayeh, M. 2016, Evaluation of potential groundwater resources in fracture rock using AHP and SAM methods (case study: Almaneh Basin, Marivan, Iran), *Journal of water and soil*, no. 5: 1461-1477.
31. **Vaezi hir**, A., Ahmad zadeh, Z., Hasanpour Sedghi, M. 2017, Investigation on probable subsidence and karstification on West Ethylene Pipeline from Miyandoab to Tabriz petrochemical complex, *Journal of applied geology*, no. 22: 88-98.
32. Pourranjbari, Kh., **Vaezi hir**, A., Hosseinzadeh, M. 2017, Study on the effects of Cu-Mo deposit Haftcheshmeh on health life species in the protected area of Arasbaran, *Journal of Environmental Sciences*, no. 3:187-200.
33. Sari Sarraf, B., **Vaezi hir**, A., Valaei, A., Abtahi, V. 2017, Study of trend and relationship between meteorological and hydrogeological droughts of Sufi Chai and Mordagh Chai watershed, *Journal of Natural Environmental Hazards*, no. 10: 25-42.
34. Pourranjbari, Kh., **Vaezi hir**, A., Hossein zadeh, M. 2017, Investigation of Environmental Impacts of Heavy Metals Released from the Porphyry Cu- Mo Deposit in Haftcheshmeh Area, North West of Varzaghan-East Azarbaijan, *Sciences of water and soil Journal*, no. 2: 293-305.
35. Rajabpour, H., **Vaezi hir**, A. 2017, Investigation on effect of Tabriz North fault on the quantity and quality of groundwater resources in the vicinity of Tabriz East, *Journal of Iranian geology*, no. 42: 141-153.
36. **Vaezi hir**, A., Jowdat, Y., 2017, Probably contamination seepage through abutment of the tailing dam of Sungun Cu–Mo mine using of geotechnical characteristics and groundwater hydrogeochemical evidences, *Journal of Civil and Environmental Engineering*, no. 3: 105-113.
37. **Vaezi hir**, A., Tabarmayeh, M. 2017, Determination of the potential of groundwater contamination under the pressure of Tabriz Plain, *Journal of Science of soil and water*, no. 4: 105-119.
38. Salahi, B., Rezaei Banafsheh, M., **Vaezi hir**, A., Faridpour, M. 2018, Monitoring and comparative analysis of meteorological drought on the groundwater level changes Marand plain, *Journal of spatial analysis of environmental hazards*, no. 4: 61-78.
39. **Vaezi hir**, A., Esmaeilnia, N. 2018, Seepage layer determination and investigation on seepage mechanism in the left abutment of Aghchai dam (West Azarbaijan) using hydrogeological studies, *Journal of Iranian irrigation and water engineering*, no. 30: 72-84.
40. Jafarian, H., **Vaezi hir**, A., Pirkharrati, H. 2018, Determination of factors affecting the hydrochemistry of groundwater resources in hard and karstic formations of west Urmia, *Journal Hydrogeomorphology*, no. 15: 75-94.
41. Karimi, H., Zarvash, N., **Vaezihir**, A. 2019, Application of GIS and Analytical Hierarchy Process in susceptible areas determination of groundwater in Mehran plain - Ilam province, *Journal Hydrogeomorphology*, no. 16: 1-22.
42. **Vaezi hir**, A., Ghobadian, S. 2018, Investigation on bioremediation potential of oil pollution in aquifer of Shazand refinery complex, *Journal of Iranian geology*, no. 47: 51-61.
43. **Vaezi hir**, A., Vafadar, M., Aghaei, V. 2019, Evaluation of groundwater potential in the karstic and hard rock formations of Moro Mountain using AHP, SAW and F-AHP methods, *Journal of Geographical Space*, no. 64: 215-234.

44. **Vaezi hir**, A., Azizan, V. 2019, Numerical modeling of petroleum contaminants transported in groundwater probable leakage from Khoy oil storage tanks, West Azarbaijan, Iran, *Journal of Environmental Science and Technology*, no. 6: 151-172.
45. Hatami, M., **Vaezi hir**, A., Hasanpour, M. 2019, Evaluation of the Construction effects of Copper Cathode Production Plant on Flash Furnace Method in Sungun Copper Complex, *Journal of Environmental Sciences*, no. 2: 123-136.
46. **Vaezi hir**, A., Jabraeili, N., Bakhtiari, Sh. 2019, Investigation of karst development in Kurdistan province; Geomorphology of cave and hydrogeology of karst springs, *Journal Hydrogeomorphology*, no. 20: 41-56.
47. Taghipour, K., Khatib, M., Heihat, M., **Vaezihir**, A., Shabanian, A. 2019, The role of structural controls on the hydrogeochemistry of travertine of Azarshahr region, Northwest of Iran, *Journal of Iranian geology*, no. 52: 105-121.
48. Taheri, S., **Vaezihir**, A. 2020, Subsidence potential in Shazand plane due to the groundwater level drawdown by weighting model and verification by radar data, *Journal of Ecohydrology*, no. 1: 183-194.
49. Azizi, B., **Vaezi hir**, A., Siahcheshm, K. 2020, Optimization of copper ion adsorption by zeolite filter using laboratory studies and numerical modeling, *Journal of Environmental Researches*, no. 21: 249-260.
50. **Vaezi hir**, A., Ghobadian, S., Golmohammadi, A. 2020, Investigation on groundwater pollution of Shazand refinery with BTEX and MTBE, *Journal of Environmental Science and Technology*, no. 6: 49-59.
51. Mahjobi, R., Hasanpour Sedghi, M., **Vaezihir**, A., Mazaheri, N. 2020, Concentration of heavy and toxic metals in the downstream of Sungun mine tailing and the role of lime bed of the river in the reduction of the pollutant, *Journal of Ecohydrology*, no. 3: 743-756.
52. Mohammadzadeh, T., **Vaezihir**, A., Seifi, R., Khayyat Rostami, B. 2020, Determination of Strategic Water Resources in Hard Rocks of Saein Area in order to Supply Drinking Water for Ardabil City at a Critical Water Shortage, *Journal of Science of soil and water*, no. 3: 93-106.
53. Pashazadeh, Z., Jafari, H., **Vaezihir**, A. 2020, Assessment of Aji-Chay River Pollution in Tabriz Plain Area Using Water Quality Indices, *Journal of Science of soil and water*, no. 6: 1203-1218.
54. **Vaezihir**, A., Sepehripour, A. 2021, Exploration of Strategic groundwater in fractured and karstic rocks in order to supply of drinking water for Myaneh and Tark in the condition of water crisis, *Journal of applied geology*, no. 2: 332-348.
55. Pashazadeh, Z., Jafari, H., **Vaezihir**, A. 2021, Qualitative assessment of the Aji-Chay River (Tabriz plain) based on the specific uses quality indices, *Journal of Engineering of Irrigation and water*, no. 44: 345-398.
56. **Vaezihir**, A., Mohammadzadeh, M., Bakhtiari, Sh., Nematollahi, R. 2021, Identification of LNAPL phase contaminants in Bandar Abbas refinery aquifer, *Journal of Human and Environment*, no. 59: 141-158.
57. **Vaezihir**, A., Tabarmayeh, M., Mohammadzadeh, T. 2022, Quantitative and qualitative hydrogeological study of groundwater resources in fractured rocks aquifers (Almaneh Basin, Marivan), *Journal of Science of soil and water*, no. 3: 131-144.

58. **Vaezihir**, A., Ranjdoust, M., Kadkhodaei, A., Golmohammadi, A. 2022, Investigation of chemical quality and oil and metal contaminations in surface runoff of Shazand distribution and refinery complex, Arak, Journal of Human and Environment, no. 62: 245-262.
59. **Vaezihir**, A., Aghaei, V., Tabarmayeh, M. 2023, Determination of the Catchment Area and the Capture Zone of Chelleh Khanehe Olya Spring (Soufiyan), Journal of Water and Soil, no. 1: 15-29.
60. Zahed, F., **Vaezihir**, A., Ahmadnezhad, Z. 2023, Determining the extent of aromatic oil compounds caused by gasoline leakage in the area of Shazand well No. 7 and the effect of the well drop cone in the extent of contamination, Journal of applied geology, no. 3: 744-756.
61. **Vaezihir**, A., Khalkhali, M., Tabarmayeh, M. 2024, Determination of groundwater resources potential in fractured and karstic formations of West Azerbaijan province, Journal of water and soil, no. 38: 338-350.
62. Bayanlou, M., **Vaezihir**, A., Baezegari, G., Shams Falahat, V. 2018, Investigation on feasibility of benzene remediation from groundwater using Clinoptilolite type of zeolite, Journal of Environmental Science and Technology (Accepted, Under publication).
63. Hasanpour, M., **Vaezihir**, A. 2024, Investigating the possibility of using artificial recharge method for diluting the aquifer contaminated with salty effluents of Kaveh Soda factory (Maragheh) and determining the location of the project implementation, Journal of applied geology (Accepted, Under publication).
64. **Vaezihir**, A., Safari, F. 2024, Investigation the possibility of using Goijeh Bel fractured rocks aquifer to supply drinking water to Ahar city, Journal of watershed engineering and management (Accepted, Under publication).

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### *Thesis supervision*

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1. H. Rajabpour, PhD candidate, University of Tabriz. Iran  
Title: Investigation on hydrogeological characteristics, North fault of Tabriz and its impact on nearby aquifers in the range of Soufiyan to Bostanabad
2. R. Azimi, PhD candidate, University of Tabriz. Iran  
Title: Investigating the behavior of LNAPL in the area of groundwater level fluctuations under the influence of fast and slow fluctuations of the water table
3. H. Ebrahimi, PhD candidate, University of Tabriz. Iran  
Title: Evaluation of land subsidence in Kouhpayeh-Segzi and Isfahan-Borkhar plains of Isfahan using satellite imagery and interferometry radar and presentation of aquifer subsidence management program based on MODFLOW code results
4. J. Edraki, PhD candidate, University of Tabriz. Iran  
Title: Numerical modeling of pollution transport to evaluate possibility of qualitative restoration of aquifer in Kaveh Soda factory downstream, Maragheh, Iran
5. M. Tabarmayeh, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on the intrinsic and specific pollution potential of Tabriz Aquifer
6. S. Mohammadi. MSc, candidate, University of Tabriz. Iran  
Title: Investigation on the potential groundwater pollution of Tabriz main cemetery

7. M. Salili, MSc, candidate, University of Maraghe (Azad). Iran  
Title: Investigation on contamination possible of nitrate in the aquifer plain of Tabriz
8. Y. Jowdat, MSc, candidate, University of Tabriz. Iran  
Title: Probably contamination seepage through reservoir and abutment of tailing dam in the Sungun Cu–Mo mine, Iran
9. N. Esmaeilnia, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on origin and mechanism of seepage from abutments of Agh chai earth dam, northwest of Iran
10. T. Mohammad zadeh, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on hard rocks groundwater resources in Balikhlou Chai basin (Saien branch), Ardabil Province Iran
11. V. Azizan, MSc, candidate, University of Tabriz. Iran  
Title: Numerical modeling of Benzene and MTBE transport in the groundwater probably released from Khoy oil storage tanks
12. F. Safari, MSc, candidate, University of Tabriz. Iran  
Title: Designing of groundwater monitoring network for Tabriz oil refinery and petrochemical complex
13. M. Vafadar, MSc, candidate, University of Tabriz. Iran  
Title: Hydrogeology and evaluation of potential groundwater resources in the karstic and hard rock units of Moro Mountain\_Soufian, East Azarbaijan
14. V. Aghaei, MSc, candidate, University of Tabriz. Iran  
Title: Determination of the hydrogeological boundaries of catchment area and the Protection zone of Spring Cheleh khaneye olya (Soufiyan)
15. S. Ghobadian, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on the contamination of aquifer of Shazand Refinery area by oil contamination and designing of a groundwater monitoring network for the site
16. Sh. Bakhtiari, MSc, candidate, University of Tabriz. Iran  
Title: Remediation of hydrocarbon contaminants of aquifer of Bandar Abass refinery in pilot- scale
17. S. Alinasab, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on oil contaminants aquifer of Kermanshah refinery and designing of groundwater monitoring network
18. M. Mohammad zadeh, MSc, candidate, University of Tabriz. Iran  
Title: The identification of hydrocarbon contaminants in the aquifer of Bandar Abbas refinery and numerical modeling of contaminant transport
19. A. Nouri, MSc, candidate, University of Tabriz, Iran  
Title: Investigate the potential leak and flow model on the right abutment and dam building, Ghermi
20. A. Sepehripour, MSc, candidate, University of Tabriz, Iran  
Title: Hydrogeology and potential of groundwater resources available in hard and karstic formations of the Germei Chay river basin in Miyaneh, East Azarbaijan
21. M. Hajipour, MSc, candidate, University of Tabriz, Iran  
Title: Determination of characteristics, extent and pollution source in well 7 of Shazand petrochemical complex.

22. F. Mirzaei, MSc, candidate, University of Tabriz, Iran  
Title: Optimum determination of the best method from the technical and economic point of view for remediation the soil contaminated by petroleum substances.
23. O. Zounozi, MSc, candidate, University of Tabriz, Iran  
Title: Investigation of aquifer contamination due to possible leakage of wastewater of Kaveh Soda factory (Maragheh), identification of contamination source and determination of its extent of spread and presentation of control and remediation methods.
24. A. Ziadpour, MSc, candidate, University of Tabriz, Iran  
Title: Bioremediation of polluted soils of Tabriz Refinery on a pilot scale.
25. M. Khalkhali, MSc, candidate, University of Tabriz, Iran  
Title: Hydrogeology and potential of groundwater resources in the hard and karst formation of West Azarbaijan province.
26. S. Ashjari, MSc, candidate, University of Tabriz, Iran  
Title: Investigating the quantitative and qualitative characteristics of the aquifer and determining the polluted parts and the pollution potential in the Saveh Plain aquifer.
27. S. Abbaspour, MSc, candidate, University of Tabriz, Iran  
Title: Investigation of aquifer pollution and design of groundwater monitoring network in Abadan oil refinery.
28. E. Veisi, MSc, candidate, University of Tabriz, Iran  
Title: Determining the source and extent of oil pollution in the catchment basin of the Karst spring of Serkhon.
29. V. Alizadeh, MSc, candidate, University of Tabriz, Iran  
Title: Locating and designing the industrial and special production waste management site in East Azarbaijan province.
30. F. Zahed, MSc, candidate, University of Tabriz, Iran  
Title: Modeling the flow and transport of dissolved substances in the soil around well No. 7 of Shazand Petrochemical.
31. S. Kheiri, MSc, candidate, University of Tabriz, Iran  
Title: Remediation of the aquifer contaminated with oil in the area of well number 7 of Shazand Petrochemical Complex.
32. M. Hasanpour, MSc, candidate, University of Tabriz, Iran  
Title: Locating and designing the artificial recharge system of a pond for remediation the aquifer area of Kaveh Soda factory in Maragheh.
33. A. Noujavan, MSc, candidate, University of Tabriz, Iran  
Title: Simulating the behavior of oil pollution in the karstic aquifer of sarkhoun region and perdicting the fate of pollutants under different remediation scenarios
34. V. Naderi, MSc, candidate, University of Tabriz, Iran  
Title: Simulation of the petroleum pollutants transport in the aquifer of Shazand Oil Refinery and prediction of the pollutant behavior
35. F. Naieb, MSc, candidate, University of Tabriz, Iran  
Title: Investigating of Asalouye coastal aquifer in the area of Aryasasol petrochemical complex and assessing the risk of hydrocarbon contamination

36. S. Mashmoul, MSc, candidate, University of Tabriz, Iran  
Title: Identification of oil pollutants in the aquifer of Tabriz railway station area and determination of contamination leakage source.

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*Thesis Co- supervision*

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1. Z. Ahmadnezhad, PhD, candidate, Co- supervisor with Dr. J. Molson, University of Tabriz. Iran  
Title: Investigation of efficiency of PRBs with Zeolite filters and Biosparging composite methods in the remediation of BTEX from shallow groundwater at bench and field scales
2. Sh. Nasiri, PhD, candidate, Co- supervisor with Dr. J. Ahmadi Shali, University of Tabriz. Iran  
Title: Dataming, designing and optimizing groundwater contamination monitoring network at the oil refineries' site
3. P. Fathipour, PhD, candidate, Co- supervisor with Dr. J. Ahmadi Shali, University of Tabriz. Iran  
Title: Design of an optimal groundwater pollution monitoring network using spatial statistics
4. H. Molapiri, MSc, candidate, Co- supervisor with Dr. M. Hosseinzadeh, University of Tabriz. Iran  
Title: Heavy metal contamination of soil and groundwater in and around the Sungun Cu–Mo mine, Iran
5. N. Zarvash, MSc, candidate, Co- supervisor with Dr. H. Karimi, University of Tabriz. Iran  
Title: Hydrogeology and karst development model in Sarab and Siah gav springs of Abdanan, Ilam, Iran
6. S. Aghili, MSc, candidate, Co- supervisor with Dr. M. Hosseinzadeh, University of Tabriz. Iran  
Title: Investigation on heavy metals concentration in the alluvium of Sungun and Pakhir rivers bed in the Sungun mine area, East-Azarbaidjan, Iran
7. M. Bayanlou, MSc, candidate, Co- supervisor with Dr. G. Barzeghari, University of Tabriz. Iran  
Title: Investigation on the remediation of oil contaminants of Groundwater using active barriers in a laboratory model
8. B. Azizi, MSc, candidate, Co- supervisor with Dr. K. Siyahcheshm, University of Tabriz. Iran  
Title: Treatment of acid mine drainage Pakhir valley, Sungun mine
9. M. Ranjdoust, MSc, candidate, Co- supervisor with Dr. A. Kadkhodaei, University of Tabriz. Iran  
Title: Investigation Hydrocarbon contamination of soil and surface water of Shazand Refinery and optimization monitoring network for soil and surface water
10. H. Jafarian, MSc, candidate, Co- supervisor with Dr. H. Pirkharrati, University of Urmia. Iran  
Title: Determination of privacy the quality and hydrogeological boundaries of Shahrchay river (Urmia)
11. Z. Ahmadzadeh, MSc, candidate, Co- supervisor with Dr. M. Hasanpour, University of Tabriz. Iran  
Title: Investigation on the effects of subsidence and corrosion of west ethylene pipeline between Tabriz Petrochemical and Miyandoab
12. Z. Pashazadeh, MSc, candidate, Co- supervisor with Dr. H. Jafari, University of Shahroud. Iran  
Title: Monitoring and zoning AjiChay in the plain of Tabriz area using qualitative indicators
13. M. Hatami, MSc, candidate, Co- supervisor with Dr. Hasanpour , University of Tabriz, Iran

Title: Assessment of environmental impact of Sungun copper cathode plant on soil and water environment

14. F. Fadaei vash, MSc, candidate, Co- supervisor with Dr. Hossein zadeh , University of Tabriz, Iran  
Title: Investigation of Kermanshah refinery oil contamination of soil and soil monitoring network design
15. R. Mahjubi, MSc, candidate, Co- supervisor with Dr. Hasanpour, University of Tabriz, Iran  
Title: Investigating on potential of self-remediation of the Ilginina, Zarankab rivers and tailing dam in the vicinity of the Sungun Mine
16. A. Pirkhezranian, MSc, candidate, Co- supervisor with Dr. Hossein zadeh, University of Tabriz, Iran  
Title: Investigation of the durability of chemical bomb compounds in the Sardasht area
17. F. Mirzaie, MSc, candidate, Co- supervisor with Dr. Alavi, University of Tabriz, Iran  
Title: Determination of optimal the best technical and economical method for remediation og the soils contaminated by petroleum.
18. Z. Jafari, MSc, candidate, Co- supervisor with Dr. Simonz, University of Tabriz, Iran  
Title: Remediation of the oil pollutants from contaminated soils in a pilot scale of Bandar Abbas refinery.
19. R. Mohammadzadeh, MSc, candidate, Co- supervisor with Dr. Alavi, University of Tabriz, Iran  
Title: Monitoring and determination of oil contaminations in the soils of Bandar Abbas refinery.
20. Z. Mohammadi, MSc, candidate, Co- supervisor with Dr. Hasanpour, University of Tabriz, Iran  
Title: Identification of contaminated areas of Sazand Oil Refinery aquifer and determination of possible leakage sources.
21. M. Parvini, MSc, candidate, Co- supervisor with Dr. Hasanpour, University of Tabriz, Iran  
Title: Designing an optimal groundwater-monitoring network in the area of Aryasol petrochemical complex.
22. H. Mirzaei, MSc, candidate, Co- supervisor with Dr. Jahanghiri, University of Tabriz, Iran  
Title: Remediation of the saturated and unsaturated zone of the aquifer contaminated with petroleum substances in the area of Plume No. 11 of Bandar Abbas Oil Refinery.

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#### *Thesis advisor*

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1. M. Mousavi, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on qualitative and quantitative effects of artificial incharge in emamzadeh Jafar plain on the aquifer
2. M. Salehi Azar, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on groundwater quality of Mahabad plain
3. H. Heidari. PhD, candidate, University of Shiraz. Iran  
Title: Evaluation of remediation methods of BTEX in the aquifer of Shiraz Refinery
4. Y. Mohebbi, MSc, candidate, University of Tabriz. Iran  
Title: study on hydrogeological and hydrogeochemical characteristics of Kahriz plain the aquifer, Urmia

5. S. Shokri, MSc, candidate, University of Tabriz. Iran  
Title: Feasibility and optimal ways to reuse treated wastewater (Case Study: Tabriz refinery)
6. S. Fakhri, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on hydrogeochemistry and hydrogeology of Marand aquifer
7. A. Rahghosh, MSc, candidate, University of Tabriz. Iran  
Title: Investigation the quantitative and qualitative of Tuyserkan plain aquifer
8. F. Shams, MSc, candidate, University of Tabriz. Iran  
Title: Investigation of quantitative of underground water sources, the aquifer of Marand plain using numerical models
9. L. Fathalizadeh, MSc, candidate, University of Tabriz. Iran  
Title: Investigation of the hydrogeological and hydrogeochemical characteristics of Ivughli aquifer
10. A. Valaei, MSc, candidate, University of Tabriz. Iran  
Title: Investigation of affecting factors on the flow reduction of south rivers of Lake Urmia
11. M. Faridpour, MSc, candidate, University of Tabriz. Iran  
Title: Investigation the impact of drought on groundwater quantity and quality of Marand plain
12. S. Shamsi, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on potential of water resources in hard rocks
13. Z. Javanmard, MSc, candidate, University of Tabriz. Iran  
Title: Investigation of the hydrogeological and hydrogeochemical characteristics of Mehrban plain
14. M. Jalilzadeh, MSc, candidate, University of Tabriz. Iran  
Title: Investigation on environmental contaminations caused by the dumping of toxic and heavy metals in soil resources of Zakhor alteration zones (Meshkinshar)
15. F. Heidari, MSc, candidate, University of Tabriz. Iran  
Title: Environmental Impact Assessment of Marand city
16. M. Mahmoudipour, MSc, candidate, University of Tabriz. Iran  
Title: Bioremediation of petroleum contamination in soil of Tabriz Refinery by microbial consortium
17. M. Mokhtari, MSc, candidate, University of Tabriz. Iran  
Title: Investigation of environmental effects of khoy wastewater treatment plant to water resources of the region