

## Curriculum Vitae

### Biography:

#### Personal Data:

Surname: **Rezaei**  
First name: **Abolfazl**  
Nationality: **Iranian**



Present address: Room A006, Earth Science Department, Institute for Advanced Studies in Basic Sciences, No. 444, Yousef Sobouti Blvd., Zanjan, Iran  
P. O. Box 45195-1159  
Email: [arezaei@iasbs.ac.ir](mailto:arezaei@iasbs.ac.ir); [abolfazlrezaei64@gmail.com](mailto:abolfazlrezaei64@gmail.com)  
Tel: +98-24-3315 3779  
Box 45195-1159  
ResearchGate link: <https://www.researchgate.net/profile/Abolfazl-Rezaei-3>  
Orcid link: <https://orcid.org/0000-0001-8619-2442>  
Google scholar link: <https://scholar.google.com/citations?user=OV4fKiQAAAAJ&hl=en>

#### Academic Qualifications:

- 2021-present **Associate Prof.** in Hydrogeology  
Faculty of Earth Sciences  
Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran
- 2015-2021 **Assistant Prof.** in Hydrogeology  
Faculty of Earth Sciences  
Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran
- 2010-2014 **Ph.D.** in Hydrogeology  
Department of Earth Sciences  
Shiraz University, Iran  
**Dissertation title:** "Solute transport investigation in aquifer-aquitard systems"
- 2007-2010 **M.Sc.** in Hydrogeology  
Department of Earth Sciences  
Shiraz University, Iran  
**Dissertation title:** "Hydrology and hydrogeology of Kaftar Lake, Fars Province, Iran"
- 2003-2007 **B.Sc.** in Geology  
Paradise of Geology  
Tehran University, Iran  
**Dissertation title:** "Geology of Mil-Dochah Mountain of Qom, Iran"

**Honors:**

- 2024 Iran Distinguished Researcher in Basic Sciences (winner of Abureyhan Prize - Iran Academy of Science).
- 2023 Distinguished Researcher in Basic Sciences in Zanjan Province, Iran (<https://www.znu.ac.ir/pr/news/22839>).
- 2010 First rank in Shiraz University Entrance Exam for Ph.D. in hydrogeology (total No of applicants about 60).
- 2010 Second rank as a M.Sc. graduate student of geology (total No 18), Shiraz University.
- 2007 7<sup>th</sup> rank in Iranian University Entrance Exam for M.Sc in hydrogeology and 11<sup>th</sup> rank in Iranian University Entrance Exam for MS in tectonics.
- 2007 Third rank as a B.Sc. graduate student of geology (total No 25), Tehran University.
- 2003 586<sup>th</sup> rank in Iranian University Entrance Exam of Science (total No of applicants in about 800000).

**Languages:**

- Kurdish (native language)
- Farsi (Iranian formal language, fluent)
- English (fluent)

**Teaching:****Records of Courses Taught:****For B.Sc. Students:**

- 2017-2018 **Groundwater Hydrology**
- 2008-2011 **Surveying**

**For M.Sc. Students:**

- 2018-2019 **Groundwater Hydraulics and modeling**
- 2018 **Hydrogeochemistry**
- 2017 **Exploration using Electromagnetics**
- 2016-2023 **Engineering Mathematics**
- 2015-2021 **Goelectric**

**For Ph.D Students:**

- 2018 **Physical Geology**

## **Former and Present Graduate Students (as Chairs and Co-chairs):**

### **Ph.D. Students:**

- Shahab Ebrahimi, "Aquifer subsidence mechanism using numerical modeling and InSAR technique", 2022-Present, IASBS. Co-advising with Dr. Zahra Mousavi, IASBS.
- Faezeh Mirzaei, "Iran's drought modeling using atmosphere-ocean oscillations and its linkage with central Zagros seismicity", 2022-Present, IASBS. Co-advising with Dr. Mahdi Vasighi, IASBS

### **M.Sc. Students:**

- Nahid Azizi, "Modeling the subsidence of the Gorgan Plain to fill spatial gaps of InSAR results in dense vegetation coverage", 2023-present, IASBS. Co-advising with Dr. Zahra Mousavi, IASBS.
- Zeinab Toosheh, "Zanjanrood confined aquifer characteristics and its possible application for drinking and industrial activities", 2021-2023, IASBS. Co-advising with Dr. Zahra Mousavi, IASBS.
- Morteza Kazemi, "Petrological and geoelectrical studies of lead and zinc deposit of the Qeydar, southeast of Zanjan", 2020-2023. Co-advising with Dr. Iman Monsef, IASBS.
- Freshteh Soleimani, "Aquifer physical properties characterization using geoelectrical data through PFA, circumventing the need for classical inversion", 2020-2022, IASBS.
- Maryeh Cheraghi, "Capturing the contaminant plume of a 2D source from inverse modeling of geoelectrical data in an aquifer system", 2019-2022, IASBS.
- Farnaz Shahriari, "Capturing the contaminant plume of a point source from inverse modeling of geoelectrical data in an aquifer system", 2019-2021, IASBS.
- Shahab Ebrahimi, "Investigation of land deformation in the Dehloran Region, Iran, resulted from exploitation of water and hydrocarbon, from InSAR", 2018-2020. Co-advising with Dr. Zahra Mousavi, IASBS.
- Farzaneh Imanian, "Impact of structure, hydrology of Shaho and Chal Abad mountains and Kamyaran Plain in western Iran", 2018-2020. Co-advising with Dr. Esmail Shabanian, IASBS.

- Saeideh Shahbazi, "Characterization of hydraulic head measurements and aquifer properties in the Salmas Plain, Iran, from InSAR observations", 2017-2019. Co-advising with Dr. Zahra Mousavi, IASBS.
- Mohammad Pirvand, "Reactive solute transport in a multi-layer groundwater system: semi-analytical models", 2017-2019. IASBS.
- Somayeh Karami, "Tectonics and hydrogeology of the Zarivar Lake, Kurdistan Iran", 2017-present. Co-advising with Dr. Esmail Shabanian, IASBS.
- Rashin Hamidi, "Tectonic effects on the hydrogeology of springs in Sarvabad area, Iran", 2017-2019. Co-advising with Dr. Esmail Shabanian, IASBS.
- Salahodin Sharifinia, "Hydrogeophysical Investigation of Leakage Potential Kinehvars Dam, Zanjan" 2017-2019. Co-advising with Dr. Mostafa Naderi, IASBS.
- Rana Hasanpor, "Heating mechanism of geothermal system in the north Zanjan, Iran: hydrogeophysics and stable isotopes", 2017-2019. Co-advising with Dr. Mostafa Naderi, IASBS.
- Hadi Javadi, "Tectonic structures effects on the hydrogeology of thermal springs in Abgarm-Avaj region, Iran", 2016-2018. Co-advising with Dr. Mahnaz Rezaian, IASBS.
- Soghra Barani, "Tectonic structure controls on karst springs in Gheidar Mountains, Iran", 2016-2018. Co-advising with Dr. Mahnaz Rezaian, IASBS.
- Marzieh Shabani, "Assessment of groundwater potential in Zanjanrood catchment and Tarom region using RS and GIS", 2016-2018. Co-advising with Dr. Zohre Masoumi, IASBS.

## **Publications:**

### **1. Peer-Reviewed Journal Articles:**

#### **a. Published in International Journals:**

**Rezaei, A.,** Karami, K., Tilmes, S., & Moore, J. C. (2024). Future water storage changes over the Mediterranean, Middle East, and North Africa in response to global warming and stratospheric aerosol intervention. *Earth System Dynamics*, 2024, 15(1): 91-108, ***Published as highlight paper***

(<https://www.earth-system-dynamics.net/>). DOI: <https://doi.org/10.5194/esd-15-91-2024>

Mousavi, S. V., Karami, K., Tilmes, S., Muri, H., Xia, L., & **Rezaei, A.** (2023). Future dust concentration over the Middle East and North Africa region under global warming and stratospheric aerosol intervention scenarios. *Atmospheric Chemistry and Physics*, 23(18), 10677-10695. <https://doi.org/10.5194/acp-23-10677-2023>

Sabeti, H., Pourmina, A., **Rezaei, A.**, Tayfehrostami, A., Einlou, F., & Nankali, H. (2023). Discovering confined zones and land deformation characteristics across an aquifer system in Iran using GNSS and InSAR techniques. *Hydrogeology Journal*, 31 (8): 2061-2076. <https://doi.org/10.1007/s10040-023-02704-8>

Hussain, A., Hussain, I., Ali, S., Ullah, W., **Rezaei, A.**, Ullah, S., ... & Cao, J. (2023). Ocean-atmosphere circulation coherences associated with temperature increase in Pakistan. *Environmental Research Letters*, 18(9), 094028. <https://doi.org/10.1088/1748-9326/acce99>

Mirzadeh, S.M.J., Jin, S., Chaussard, E., Burgmann, R., **Rezaei, A.**, Ghotbi, S. and Braun, A., (2023). Transition and Drivers of Elastic to Inelastic Deformation in the Abarkuh Plain from InSAR Multi-Sensor Time Series and Hydrogeological Data. *JGR Solid Earth*, 128(7), e2023JB026430. <https://doi.org/10.1029/2023JB026430>

Hussain, A., Hussain, I., Ali, S., Ullah, W., Khan, F., **Rezaei, A.**, Ullah, S., Abbas, H., Manzoor, A., Cao, J. and Zhou, J., (2023). Assessment of precipitation extremes and their association with NDVI, monsoon and oceanic indices over Pakistan. *Atmospheric Research*, p.106873. <https://doi.org/10.1016/j.atmosres.2023.106873>

**Rezaei, A.**, (2023). Teleconnections between ocean-atmosphere circulations and historical integrated drought in the Middle East and North Africa. *Environmental Monitoring and Assessment*, 195, 775. <https://doi.org/10.1007/s10661-023-11386-4>

**Rezaei, A.**, Karami, K., Tilmes, S., & Moore, J. C. (2023). Changes in global teleconnection patterns under global warming and stratospheric aerosol intervention scenarios. *Atmospheric Chemistry and Physics*, 23(10), 5835-5850. <https://doi.org/10.5194/acp-23-5835-2023>

Saatsaz, M., & **Rezaei, A.** (2023). The technology, management, and culture of water in ancient Iran from prehistoric times to the Islamic Golden

- Age. Humanities and Social Sciences Communications*, 10(1), 1-22.  
<https://doi.org/10.1057/s41599-023-01617-x>
- Hussain, A., Cao, J., Ali, Sh., Ullah, W., Muhammad, Sh., Hussain, I., **Rezaei, A.**, Hamal, K., Akhtar, M., Abbas, H., Wu, X., and Zhou, J. (2022). Variability in runoff and responses to land and oceanic parameters in the source region of the Indus River. *Ecology Indicators*, 140: 109014.  
<https://doi.org/10.1016/j.ecolind.2022.109014>.
- Rezaei, A.**, Pirvand M. (2022). Semi-Analytical Solution for Reactive Contaminant Transport in a Filled-Fractured System with Intervening Rock Matrices: Case Examples of Tritium and Uranium. *Journal of Hydrology*, 127642.  
<https://doi.org/10.1016/j.jhydrol.2022.127642>
- Shabani, M., Masoumi, Z., and **Rezaei, A.**, (2022). Assessment of groundwater potential using multi-criteria decision analysis and geoelectrical surveying. *Geo-spatial Information Science*.  
<https://doi.org/10.1080/10095020.2022.2069052>
- Shahbazi, S., Mousavi, Z., **Rezaei, A.** (2022). Constraints on the hydrogeological properties and land subsidence through a joint GNSS-well and InSAR-well measurements in Salmas Plain, northwest of Urmia Lake, Iran. *Hydrogeology Journal*. <https://doi.org/10.1007/s10040-021-02416-x>
- Rezaei, A.** (2022). Large-scale climate variability footprint in water levels of alluvial aquifers across Iran. *Theoretical and Applied Climatology*, 147: 1525–1543. <https://doi.org/10.1007/s00704-021-03920-6>
- Rezaei, A.** (2021). Ocean-atmosphere circulation controls on integrated meteorological and agricultural drought over Iran. *Journal of Hydrology*, 603: 126926. <https://doi.org/10.1016/j.jhydrol.2021.126928>
- Rezaei, A.**, Saatsaz, M. (2021). Large-scale climate indices teleconnections with hydrochemical and isotopic characteristics of a karst spring using wavelet analysis. *Environmental Earth Sciences*, 80, 335.  
<https://doi.org/10.1007/s12665-021-09636-0>
- Rezaei, A.** (2021). Chemistry of the karst Sarabkalan Spring, Iran, and controls of PDO and ENSO climate indices on it. *Groundwater*, 59 (2), 236-244,  
<https://doi.org/10.1111/gwat.13034>
- Rezaei, A.**, Gurdak, J.J., (2020). Large-scale climate variability controls on climate, vegetation coverage, lake and groundwater storage in the Lake Urmia watershed using SSA and wavelet. *Science of the Total Environment*, 724(2020), 138273. <https://doi.org/10.1016/j.scitotenv.2020.138273>

- Rezaei, A.,** Mousavi, Z., Khorrami, F., Nankali, H., (2020). Inelastic and elastic storage properties and daily hydraulic head estimates from continuous global positioning system (GPS) measurements in northern Iran. *Hydrogeology Journal*, 28(2), 657-672. <https://link.springer.com/article/10.1007/s10040-019-02092-y>.
- Rezaei, A.,** Mousavi, Z., (2019). Characterization of land deformation, hydraulic head, and aquifer properties of the Gorgan confined aquifer, Iran, from InSAR observations. *Journal of Hydrology*, 579: 124196. <https://doi.org/10.1016/j.jhydrol.2019.124196>.
- Rezaei, A.,** Rezaeian, M., Porkhial, S., (2019). The hydrogeochemistry and geothermometry of the thermal waters in the Mouil graben, Sabalan volcano, NW Iran. *Geothermics*, 78: 9-27.
- Masoumi, Z., **Rezaei, A.,** Maleki, J., (2019). Improvement of water table interpolation and groundwater storage volume using fuzzy computations. *Environmental Monitoring and Assessment*, 191: 401. <https://doi.org/10.1007/s10661-019-7513-1>.
- Rezaei, A.,** (2018). "Comments on "Quantifying groundwater exploitation induced subsidence in the Rafsanjan plain, southeastern Iran, using InSAR time-series and in situ measurements" by Motagh, M., Shamshiri, R., Haghghi, M. H., Wetzell, H. U., Akbari, B., Nahavandchi, H., ... & Arabi, S. [Engineering Geology, 218 (2017), 134-151]". *Engineering Geology*, Vol. 246: 417-419.
- Karimi, H., Raeisi, E., **Rezaei, A.,** (2018). Determination of karst aquifer characteristics using physicochemical parameters (A case study from west of Iran). *Geopersia*, Vol 8(2): 293-305.
- Rezaei, A.,** Javadi, H., Rezaeian, M., Barani, S., (2018). Heating mechanism of the Abgarm-Avaj geothermal system observed with hydrochemistry, geothermometry and stable isotopes of thermal spring waters, Iran., *Environmental Earth Sciences*, 77: 635. <https://doi.org/10.1007/s12665-018-7828-1>.
- Rezaei, A.,** Mohammadi, Z., (2017). Annual Safe Groundwater Yield by Combination of Water Balance Equation and Water Table Fluctuation. *Journal of African Earth Sciences*, 134:241-248. DOI: 10.1016/j.jafrearsci.2017.06.029
- Rezaei, A.,** Karimi, H., Zhan, H., (2017). The importance of understanding the hydrogeology and geochemistry of Karst terrains for safely siting dams. *Journal of Cave and Karst Studies*, 79(1): 48-58. DOI: 10.4311/2016/ES0121.

- Rezaei, A., Zare, M. and Zhan, H. (2016),** Aquitard Horizontal Dispersion on Reactive Solute Transport in an Aquifer-Aquitard System. *Transport in Porous Media*, 113(3): 695-716. DOI: 10.1007/s11242-016-0719-6.
- Rezaei, A., Zhan, H., and Zare, M. (2013).** Impact of thin aquitards on two-dimensional solute transport in an aquifer. *Journal of Contaminant Hydrology*, 152 (9): 117-136. DOI: <http://dx.doi.org/10.1016/j.jconhyd.2013.06.008>
- Rezaei, A., Zare, M., Raeisi, E. and Ghanbari, R. N. (2013).** Interaction of a Fresh Water Lake and a Karstic Spring via a Syncline Fold. *Ground Water*, 51: 305-312. DOI: 10.1111/j.1745-6584.2012.00977.x

**b. Published in National Journals:**

- Rezaei, A., Shahriari, F., Cheraghi, M. (2021).** Detecting saline water plume in a heterogeneous synthetic aquifer through a combination of POD and geoelectrical surveys. *Hydrogeology*, 6(2): 42-51 (In Persian with English Abstract).
- Rezaei, A., Soleimani, F. (2021).** Contaminant plume modeling in aquifers through prediction-focused approach and geoelectrical data. *Iranian Journal of Geophysics*, 15 (2), 137-148 (In Persian with English Abstract). DOI: [10.30499/IJG.2021.279238.1322](https://doi.org/10.30499/IJG.2021.279238.1322).
- Shabani, M., **Rezaei, A.,** Masoumi, Z. (2020) Assessment of groundwater potential in Zanjanrood catchment area using spatial analysis and geoelectrical investigations. *Scientific Quarterly Journal, GEOSCIENCES* 29, 287-307 (In Persian with English Abstract).
- Hajeb, Z., Mousavi, Z., Masoumi, Z., **Rezaei, A.** (2020) Investigation of Qom plain subsidence using synthetic aperture radar Interferometry and aquifer hydrogeological characterization. *GEOSCIENCES* 29, 251-258 (In Persian with English Abstract).
- Amiraslani, M., Masoumi, Z., **Rezaei, A.,** (2018). Urban Land use allocation using MCDMs and GIS, Case study: Znanjan City. *Journal of Remote Sensing & GIS (ISC)*, Vol. 9 (3) (In Persian with English Abstract).
- Rezaei, A., (2017).** Impact of Fractured Aquitards on Solute Transport in an Aquifer-Aquitard System. *Journal of Advanced Applied Geology (ISC)*. 23(7): 95-104 (In Persian with English Abstract).

**2. Conference Papers:**



- Ashgari, JafarAli, **Rezaei, A.**, Karami, Kh. (2024). Stratosphere aerosol intervention (geoengineering) effects on climate and hydrology in Iran, Middle East, Mediterranean and North Africa. 9<sup>th</sup> Regional Conference on Climate Change and Global Warming, 15-16 May, 2024, IASBS, Zanjan, Iran.
- Rezaei, A.** (2022). reactive-contaminant-transport-modeling-in-a-filled-fractured-system-with-intervening-rock-matrices-case-examples-of-tritium-and-ranium. *Global Conference on Geology and Earth Science*, 19-20 September, 2022, Online Conference.
- Rezaei, A.** (2022). Climate variability controls on drought across Iran. 7<sup>th</sup> Regional Conference on Climate Change and Global Warming, 3-4 March, 2022, IASBS, Zanjan, Iran.
- Rezaei, A.** (2021). Atlantic and Pacific ocean-atmosphere circulations imprint on climate and lake- and groundwater-storage variations in the Lake Urmia basin. 6<sup>th</sup> Regional Conference on Climate Change and Global Warming, 4-5 March, 2021, IASBS, Zanjan, Iran.
- Rezaei, A.**, Mousavi, Z., (2019). AQUIFER STORATIVITY AND HYDRAULIC HEAD ESTIMATION FROM InSAR. 3<sup>rd</sup>, TRIGGER International Conference, 8-10 October 2019, IASBS, Zanjan, Iran.
- Pirvand, M., **Rezaei, A.**, (2018). Semi-analytical Reactive Contaminant Transport in a Fractured Groundwater System. 14<sup>th</sup> International Seminar on Differential Equations, Dynamical Systems and Applications, July 17–19, 2018, IASBS, Zanjan, Iran.
- Shabani, M., Masoumi, Z., **Rezaei, A.**, (2018). “Assessment of groundwater potential using spatial analysis.”, 18<sup>th</sup> Iranian Geophysical Conference, 8-10 May 2018, Development of knowledge, Research and technology in Geophysics, Tehran, Iran.
- Hajeb, Z., Masoumi, Z., Mousavi, Z., **Rezaei, A.**, (2017). “Detecting land subsidence of Qom plain (Central Iran) with SAR interferometry and investigation hazards”, European Space Agency (ESA), fringe, 08 June 2017, Aalto University, Helsinki, Finland.
- Rezaei, A.**, Mousavi, Z., Khorrami, F., Nankali, H.R., (2017). Confined aquifer Stotrage coefficients from GPS data: The Gorgan confined aquifer. 35<sup>st</sup> National Geosciences Congress, 19-21 Feb 2017, Tehran, Iran (In Farsi).

- Rezaei, A.**, (2016). Sampling methods for geothermal fluids. 1<sup>st</sup> International Con. On Environmental Pollutants Sampling and Monitoring (EPSM-2016), 1-3 may 2016, Tehran, Iran.
- Masoumi, Z., **Rezaei, A.**, Maleki, J., (2016), Estimation of Representative groundwater hydrograph using fuzzy calculations and Kriging algorithm. International Conference on Mathematics of Fuzziness, 27-29 April 2016, IASBS, Zanjan, Iran.
- Rezaei, A.**, Karimi, H., Shabanian, E., (2016). Importance of Karstic Area Hydrogeology on Dam site selection: Kangir Dam, Ilam. 34<sup>th</sup> National & 2<sup>nd</sup> International Geosciences Congress, 22-24 Feb 2016, Tehran, Iran.
- Rezaei, A.**, Karimi, H., Masoumi, Z., (2016). Destruction effect of Gachsaran Evaporate Formation on Water Quality in Kangir Dam Catchment, Ilam. 34<sup>th</sup> National & 2<sup>nd</sup> International Geosciences Congress, 22-24 Feb 2016, Tehran, Iran.
- Masoumi, Z., **Rezaei, A.**, (2016). Thiessen Polygon or Interpolation Techniques: Groundwater Unit Hydrograph. 34<sup>th</sup> National & 2<sup>nd</sup> International Geosciences Congress, 22-24 Feb 2016, Tehran, Iran.
- Sadeghi-Bagherabadi, A., **Rezaei, A.**, Jalilli, S., (2016). Time-Lag Responses of Groundwater to Precipitation in Zanjan Plain. 34<sup>th</sup> National & 2<sup>nd</sup> International Geosciences Congress, 22-24 Feb 2016, Tehran, Iran.
- Rezaei, A.**, Zare, M., (2014). Estimation of annual direct runoff coefficient using RS and GIS (Namdan watershed). 32<sup>th</sup> National & 1<sup>nd</sup> International Geosciences Congress, 16-19 Feb 2016, Shiraz, Iran.

### **Professional Memberships:**

- 2015-present Center for Research in Climate Change and Global Warming (CRCC)
- 2018 Organizing committee chairman, 4<sup>th</sup> Regional Conference on Climate Change & Global Warming during March 7<sup>th</sup> to March 8<sup>th</sup>, 2018, at Institute for Advance Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 2018 A member of scientific committee, 4<sup>th</sup> Regional Conference on Climate Change & Global Warming during March 7<sup>th</sup> to March 8<sup>th</sup>, 2018, at Institute for Advance Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 2019 A member of scientific committee, 5<sup>th</sup> Regional Conference on Climate Change & Global Warming during March 6<sup>th</sup> to March 7<sup>th</sup>, 2019, at Institute for Advance Studies in Basic Sciences (IASBS), Zanjan, Iran.
- 2021 A member of scientific committee, 6<sup>th</sup> Regional Conference on Climate Change & Global Warming during March 4<sup>th</sup> to March 5<sup>th</sup>, 2021, at Institute for Advance Studies in Basic Sciences (IASBS), Zanjan, Iran.

- 2021-present A member of International Association of Hydrogeologists (IAH).
- 2021-present Co-Principal Investigator (PI) of Iran's team in the Degrees Initiative for SRM (<https://www.degrees.ngo/degrees-research-funds/the-projects/iran/>)

### **Funded Proposals:**

- 2022-2024 **Rezaei, A.**, Shahab Ebrahimi, "Assessment the aquifer hydraulic parameters of Qeidar aquifer using new approaches". Zanjan Regional Water Authority, Zanjan.
- Rezaei, A.**, Shahab Ebrahimi, "Identification of Aquifer Subsidence Mechanism using Numerical Models and InSAR Techniques". Proposal *4020711* Iran National Science Foundation (INSF), Tehran, Iran.
- 2021-2023 **Rezaei, A.**, Co-PI of the international project of "Extreme weather events and agricultural and meteorological droughts in the MENA region under the projected climate change scenarios". DECIMALS Projects, UNESCO-TWAS.
- 2021-2022 **Rezaei, A.**, Mousavi, Z., Tooshe, Z., Zanjanrood confined aquifer characteristics and its possible application for drinking and industrial activities. Zanjan Regional Water Authority, Zanjan.
- Masoumi, Z., **Rezaei, A.**, Gavazang stream flood hazard and its zoning inside Zanjan City. Zanjan Regional Water Authority, Zanjan.
- 2020-2021 **Rezaei, A.**, Hydro-climate events response in the Lake Urmia watershed to large-scale climate indices of ENSO, NAO, PDO, and AMO. *Proposal 98020325* Iran National Science Foundation (INSF), Tehran, Iran.
- 2018-2019 **Rezaei, A.**, Mousavi, Z., Characterization of aquifer properties and hydraulic head measurements in the Gorgan Plain, Iran, from CGPS and InSAR observations. *Proposal 96008728*, Iran National Science Foundation (INSF), Tehran, Iran.

- 2016-2018 **Rezaei, A.**, Preparation of the lithological log for new piezometers of the Zanjan Province. *Zanjan Regional Water Authority*.
- 2016-2017 **Rezaei, A.**, Geoelectrical exploration of fresh groundwater in Almalo-Chay valley, Mahneshan. *Zanjan Province Water and Wastewater Co, Iran*.
- 2016-2017 Rezaian, M., **Rezaei, A.**, Khaledzadeh, M., 3D modeling of fractures in the geothermal field of Sabalan. *SUNA, Iran*.
- 2014-2015 **Rezaei, A.**, Investigation of decreasing trend of Kangir River discharge into Kangir Dam Reservoir, Ilam. *Ilam Regional Water Authority, Iran*.
- 2013-2014 Cooperation with the project of "the degradation effect of geological formations on a sediment-producing process in Doviraj Dam catchment". *Ilam Regional Water Authority, Iran*.
- 2012-2013 Cooperation with the project of "Mathematical modeling of groundwater in Gol-Gohar Mine, Sirjan, Iran". *Golgohar Mining and Industrial Co., Iran*.
- 2010-2011 Cooperation with the project of "Saline Water production in Kangan Gas Field, Iran". *Pars Oil and Gas Co., Iran*.
- 2010-2011 Cooperation with the project of "Tracer test in Abolabas Dam, Iran". *Ahvaz Regional Water and Electricity Authority, Iran*.

### **Research Interests:**

1. Large-scale climate variability and climate geoengineering impacts on water resources
2. Subsidence in groundwater system
3. Hydrogeology and hydrochemistry of karstic aquifers
4. Analytical and numerical flow and solute transport modeling

### **Referee:**

I am the referee of the:

1. Advances in Water Resources
2. Journal of Hydrology
3. Ground Water
4. Science of the Total Environment
5. Hydrogeology Journal
6. Hydrological processes
7. Climate Change
8. Journal of Water Resources Management
9. Journal of Hydroinformatics
10. Journal of Earth Science

11. Iranian Journal of Science and Technology
12. Journal of Water Resource and Protection
13. Zanzan Regional Water Authority
14. Hamedan Regional Water Authority

### **Lab Preparing and Managing:**

2016-present Hydrochemistry lab, IASBS (we can determine the concentration of major ions, Li, Pb, Zn and Cu in our lab using standard methods of titration, flame-photometry and spectrophotometry methods).

### **Computer Skills:**

Matlab, Python, R, Res2DInve, GMS (Groundwater Modeling System), HEC-RAS, HEC\_HMS, ArcMap, AqQA, PhreeQC

### **References:**

- Dr. Mohammad Zare, professor at Hydrogeology in Department of Earth Sciences, Shiraz University, Shiraz, Iran; [zare@susc.ac.ir](mailto:zare@susc.ac.ir).
- Dr. Ezzatollah Raeisi, professor at Hydrogeology in Department of Earth Sciences, Shiraz University, Shiraz, Iran; [e\\_raeisi@yahoo.com](mailto:e_raeisi@yahoo.com).
- Dr. Hongbin Zhan, professor at Department of Geology and Geophysics, Texas A&M University, College Station, TX 77843-3115, USA [zhan@geos.tamu.edu](mailto:zhan@geos.tamu.edu).

***Last Update: June 2024***

*Abolhasan Raeisi*