Research Institute for Earth Sciences

Earth Sciences for Sustainable Development

2024

2024

Research Institute for Earth Sciences

MINISTRY OF INDUSTRY, MINE AND TRADE

GEOLOGICAL SURVEY OF IRAN

MINISTRY OF SCIENSE, RESERCH AND TECHNOLOGY

Research Institute for Earth Sciences

Email: info@ries.ac.ir **Website:** ries.ac.ir

Address: RIES, Azadi sq, Meraj Blvd, Geological Survey of Iran, Tehran, Iran

Post Code: 1387835841 **Tel:** +98 21 64592301 **Fax:** +98 21 66070511

TABLE OF CONTENTS

Designer: M. Poursaeed

Editors: Dr. M. Ghorashi & Dr. M.R. Ghassemi

Some photos are from: A. Amri-Kazemi

1 INTRODUCTION

1.1. Establishment of RIES

The Research Institute for Earth Sciences (RIES) was established in 1994 with the permission of the Council for the Development of Higher Education as a research institute, under the supervision of the Ministry of Science, Research and Technology. The main motivation for establishing the RIES was to promote the knowledge of the acting governmental and non-governmental organizations in all different applied fields of Earth Sciences. Since its establishment, the RIES has become actively involved in exchanging the research achievements with national and international academic institutions, as well as the private sectors. The RIES is officially affiliated to the Geological Survey of Iran, meanwhile it follows the regulations and rules of the Ministry of Science, Research and Technology.

1.2. Tasks of the RIES

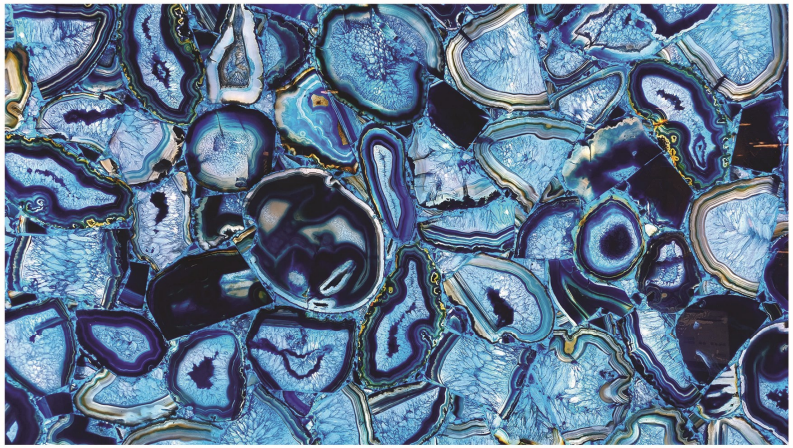
After its establishment in 1994, the major tasks of the RIES have been as follows:

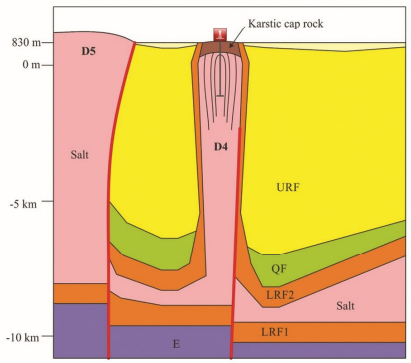
- Conducting independent research projects in different disciplines of Earth Sciences as well as collaboration with the academic institutions to promote the applied geological research.
- Performing applied scientific studies in different fields of Earth sciences based on the national and international demands.
- Educating post-graduate students in major disciplines of Earth sciences.
- International collaborations with global geological committees, institutions and universities.

- Proposing, preparing and implementing the consulting-based research and scientific services for governmental and private sectors.
- Creation of scientific and technical databases from the reliable national and international data sources for conducting the research projects.
- Conducting research projects to promote the sustainable development of the country.

1.3. Areas of activity

The RIES acts to develop applied research in Earth Sciences, including applied geology, mineral exploration, energy resources, water resources, natural hazards, climate change and environmental geology.





1.4. Mission

- Providing an active, equipped and up-to-date environment for the researchers to conduct the dynamic science-based projects.
- Carrying out basic and applied scientific researches in various fields of geoscience according to the scientific, economic and technical needs of the country, and major strategies of the Geological Survey of Iran.

2 RESEARCH GROUPS

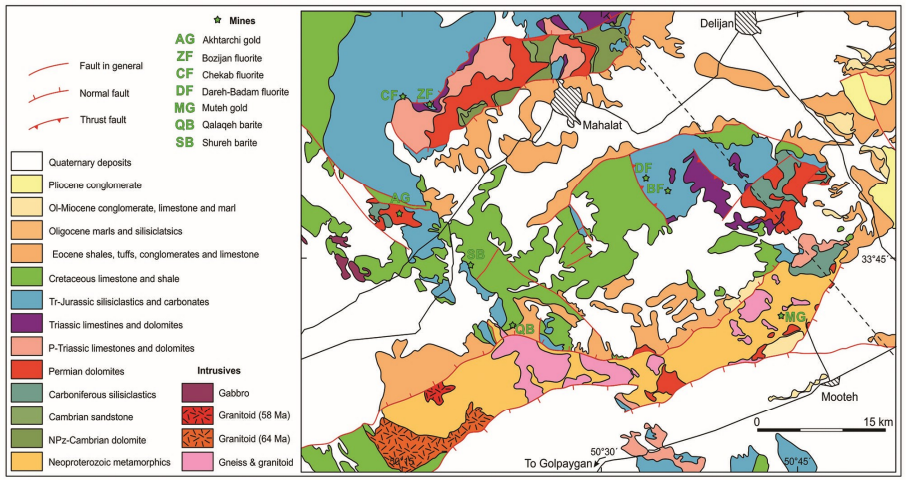
The acting research groups of the RIES are as follows:

- Mineralogy and mineral exploration research group
- Stratigraphy and sedimentology research group
- Applied geology research group
- Modern applied research group

2.1. Mineralogy and mineral exploration Research Group

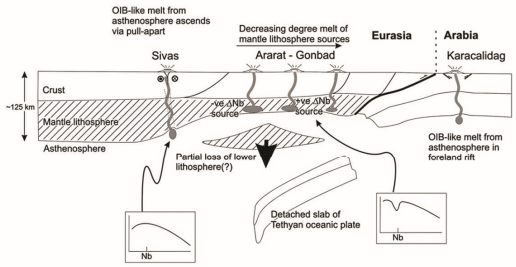
Major tasks

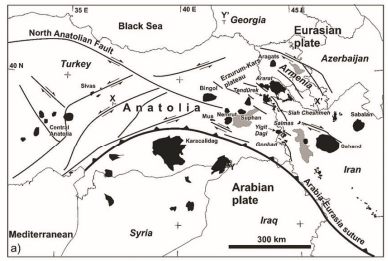
- Study of petrogenesis and geodynamic setting of magmatism and metamorphism in Iran
- Research on the processes of volcanism in the Iranian plateau, with special emphasis on the young volcanoes and their bearing on geological and environmental hazards
- Understanding the controlling geological factors in forming different types of mineralization (metallic and non-metallic)
- Compilation of the strategies for exploration of the minerals in relation to the mining and mineral industry



Selected Research Projects of the Mineralogy and Mineral Exploration Research Group

- Quaternary syn-collision magmatism from the Iran/Turkey borderland (Kheirkhah et al., 2009)



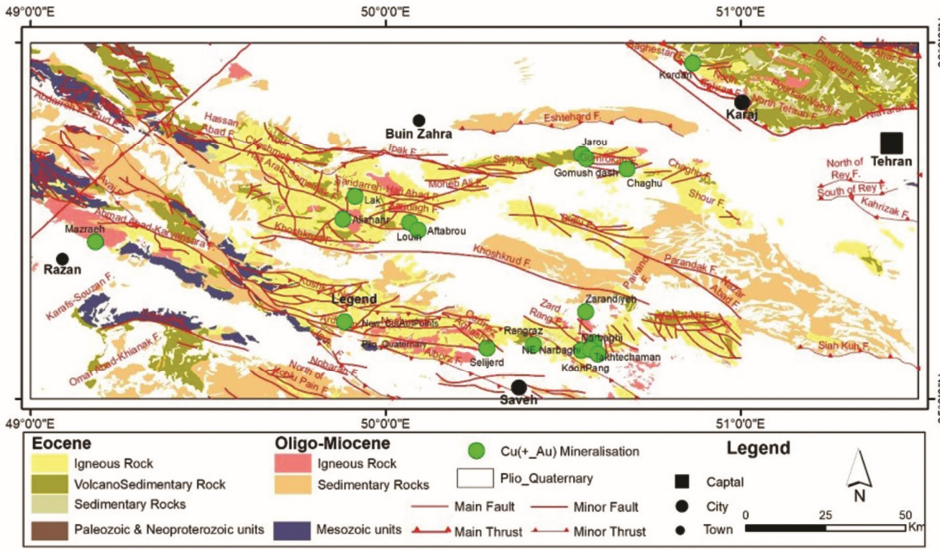


Selected Research Projects of the Mineralogy and Mineral Exploration Research Group

- NERC Project partner "Orogenic plateau magmatism" (Kheirkhah and Allen, in progress)

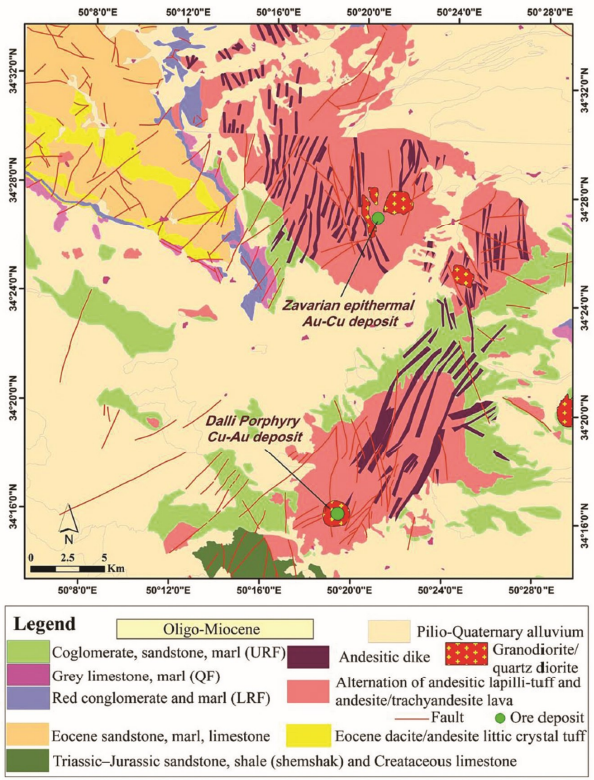
Selected Research Projects of the Mineralogy and Mineral Exploration Research Group

- Geology, structure and mineralization of Cu (±Au) hydrothermal-magmatic deposits of Saveh-Razan region (Heidari et al., 2022)



Selected Research Projects of the Mineralogy and Mineral Exploration Research Group

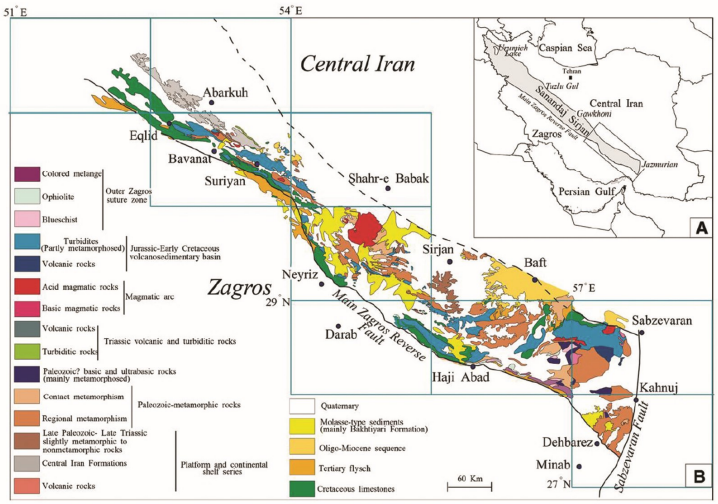
- Miocene tectono-magmatic events and gold/poly-metal mineralizations in the Takab-Delijan belt, NW Iran (Heidari et al., 2022)



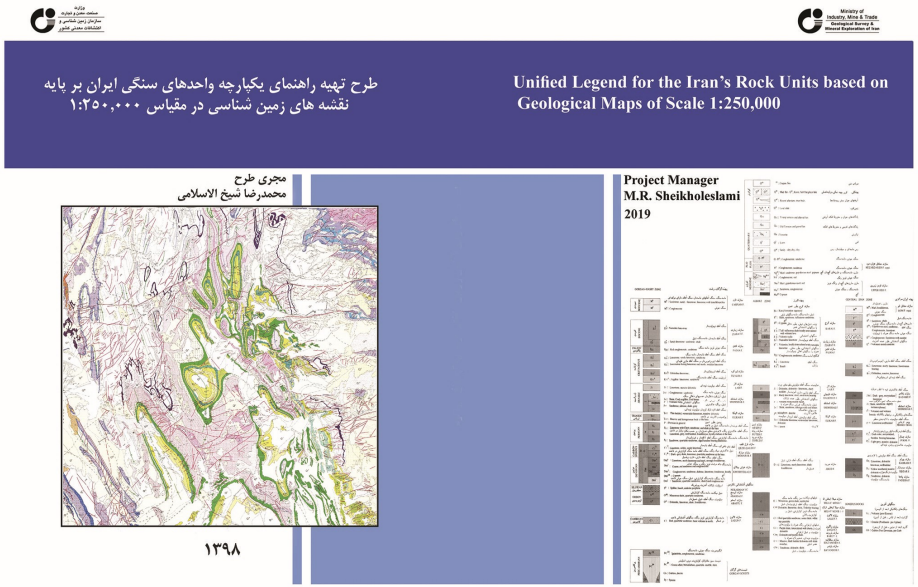
2.2. Stratigraphy and Sedimentology Research Group

Major tasks

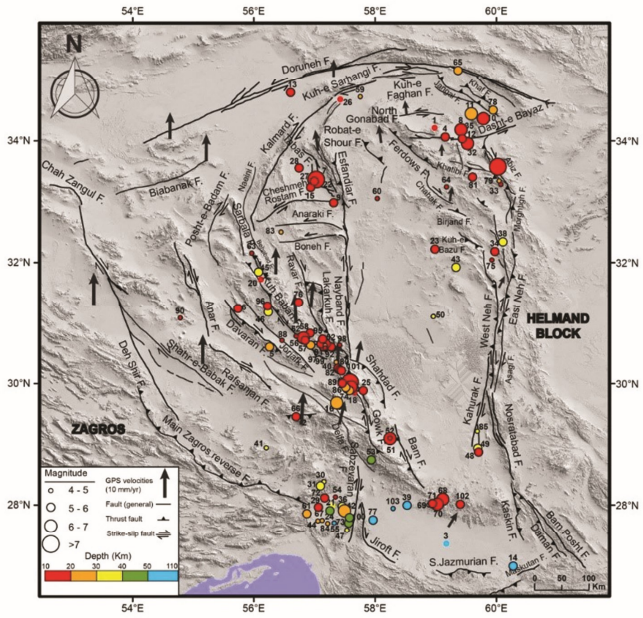
- Lithostratigraphic and biostratigraphic study of the rock units and Formations, understanding their sedimentary environment, evolution of sedimentary basins, and finding relationship between the basins and tectonic processes
- Study of marine sediments, lakes and coastal environments
- Preparation and revision of the regional geological and thematic maps on different scales
- The role of stratigraphy, Sedimentology and tectonic processes in development of the metallic and non-metallic ore deposits



- Unified legend for the Iranian rock units, based on the geological maps, scale 1:250,000.

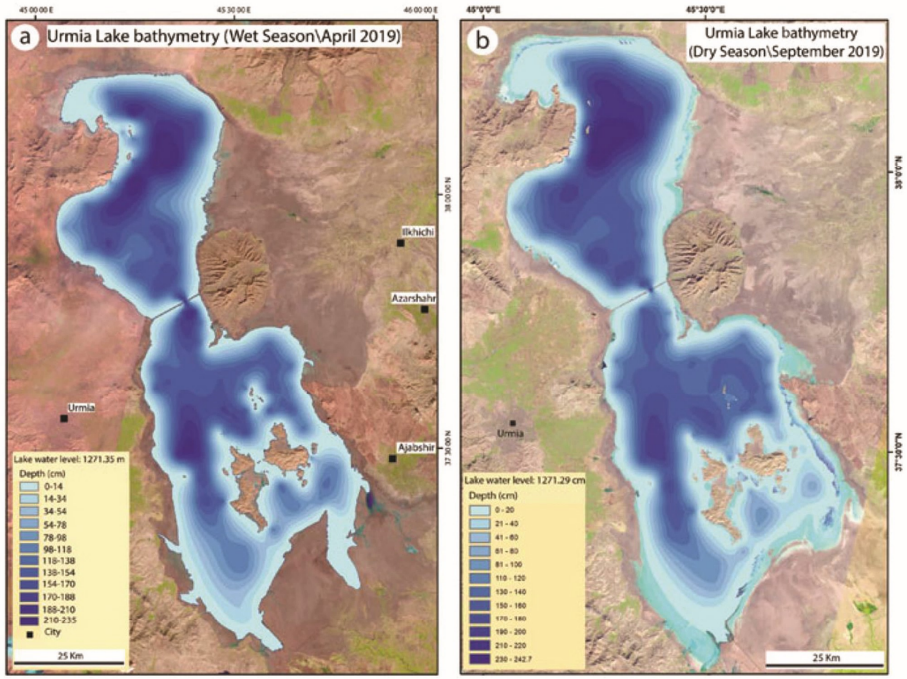


- Stress field and tectonic regime of Central Iran from inversion of the earthquake focal mechanisms (Sheikholeslami et al., 2021)



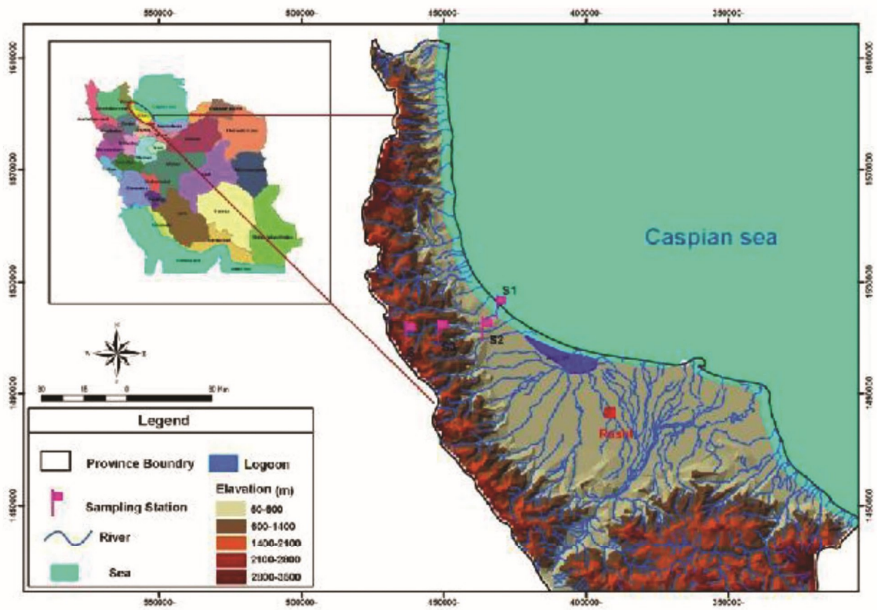
Selected Research Projects of the Stratigraphy and Sedimentology Research Group

Lake Urmia Brine Evolution from 2007 to 2019 (Lak et al., 2022)



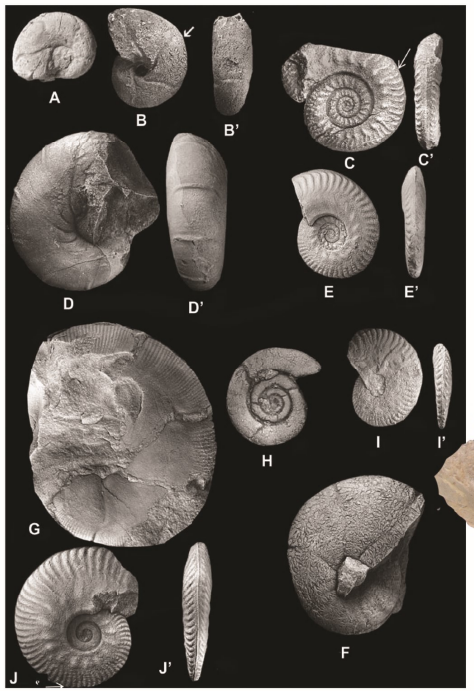
Selected Research Projects of the Stratigraphy and Sedimentology Research Group

Heavy Metals Distribution in Fractioned River Sediments - Case Study: Shafaroud River-South West of Caspian Sea (Lak et al., 2022)



Selected Research Projects of the Stratigraphy and Sedimentology Research Group

- Callovian ammonites from northeastern Iran (Majidifard, 2018)



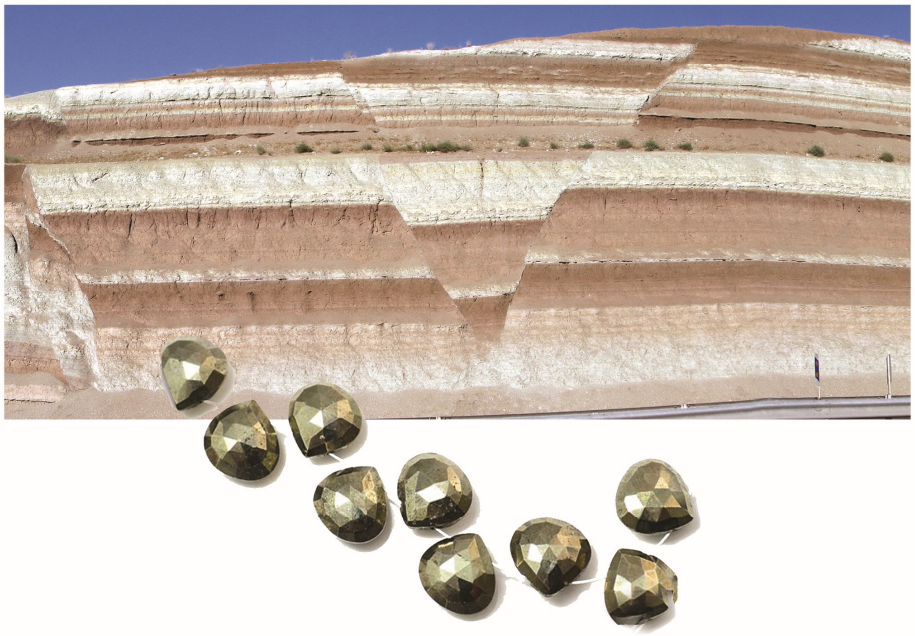
Selected Research Projects of the Stratigraphy and Sedimentology Research Group

- Lower Tithonian ammonites from the Chaman-Bid Formation in northeastern Iran, Koppeh-Dagh Basin

2.3. Applied Geology Research Group

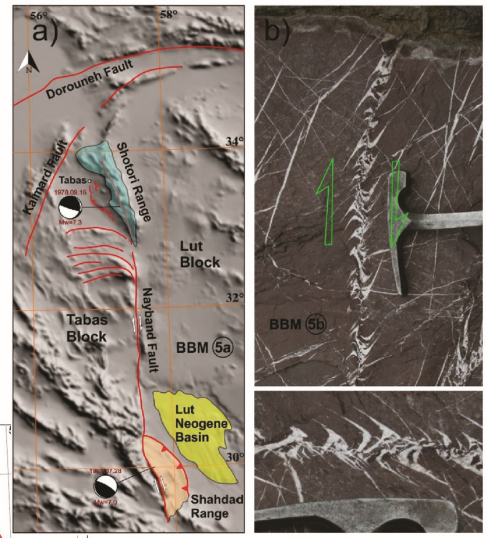
Major tasks

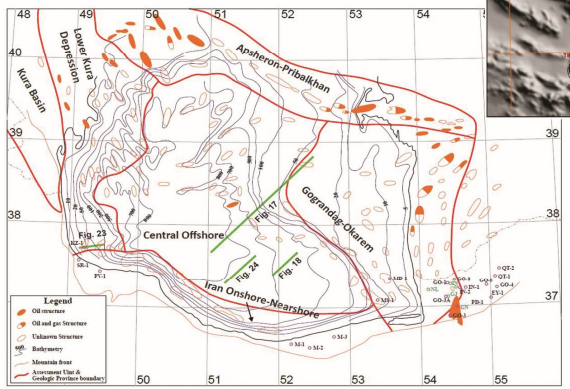
- Geological hazard studies (earthquake, tsunami, landslide, flood, volcanism and land subsidence)
- Tectonic studies for optimization of the mineral exploration
- Studies for exploration and sustainable development of groundwater resources
- Assisting civil development plans and projects using geological problem-solving approaches



Selected Research Projects of the Applied Geology Research Group

- Block rotation, kinematic relations, and block configurations: How do they work in nature? (Ghassemi et al., 2023)

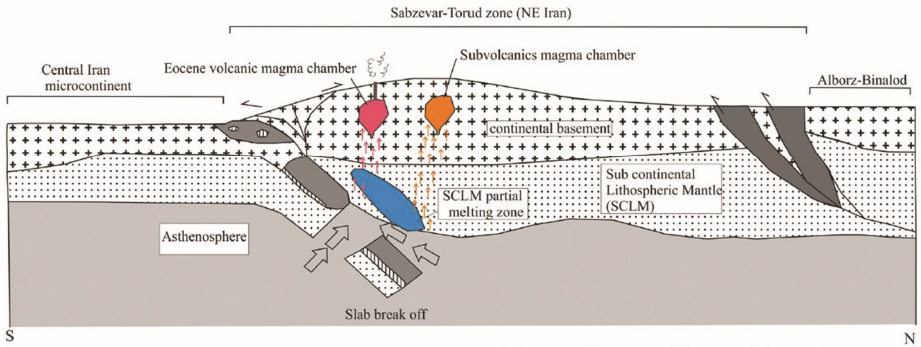




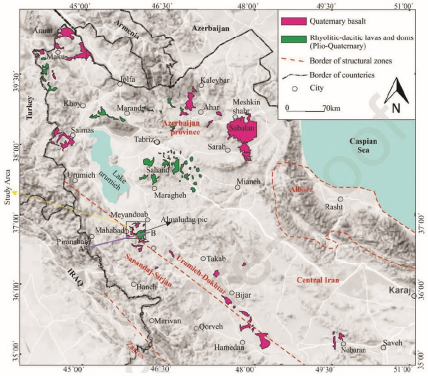
- A synthesis of the geology and petroleum geology of the Iranian portion of the South Caspian Basin and surrounding areas

Selected Research Projects of the Applied Geology Research Group

U-Pb geochronology and geochemistry of the Torud igneous rocks: Implications for post-collision Eocene magmatism in northeast Iran (Khalatbari-Jafari et al., 2022)

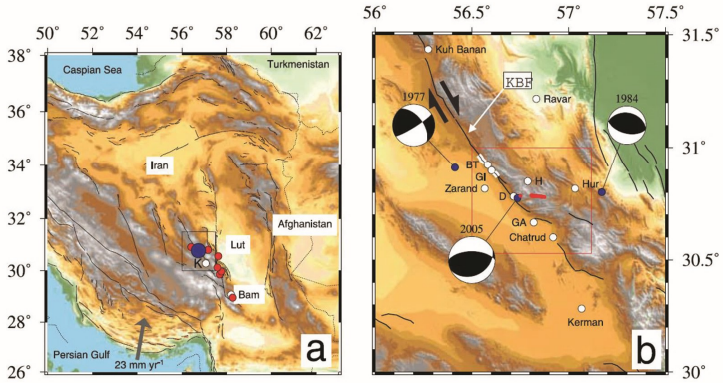


Late Cenozoic volcanism in the Almaludag region, Azerbaijan province, northwest Iran: Evidence for post-collisional extension (Khalatbari-Jafari, et al., 2020)

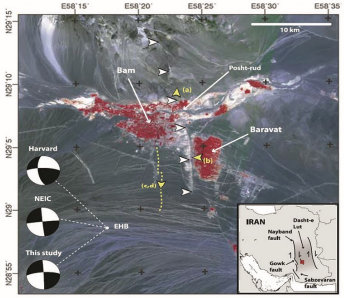


Selected Research Projects of the Applied Geology Research Group

The Dahuiyeh (Zarand) earthquake of 2005 February 22 in central Iran: reactivation of an intramountain reverse fault (Talebian et al., 2006)



The 2003 Bam (Iran) earthquake: Rupture of a blind strike-slip fault (Talebian et al., 2004).



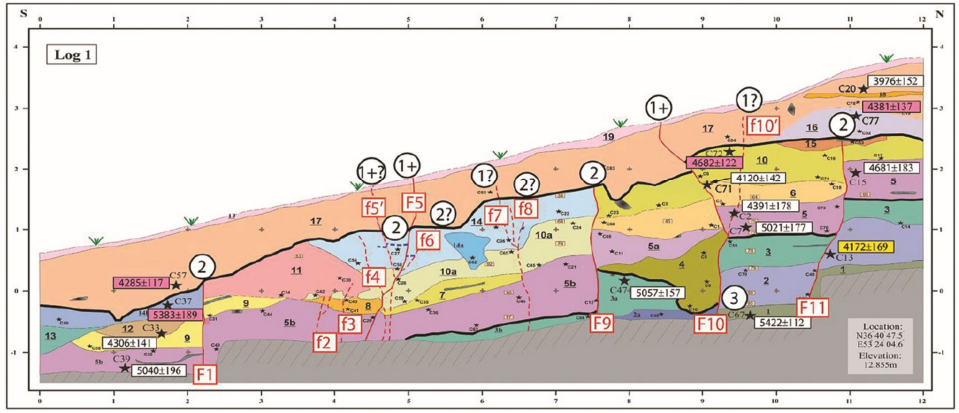
2.4. Modern Applied Research Group

Major tasks

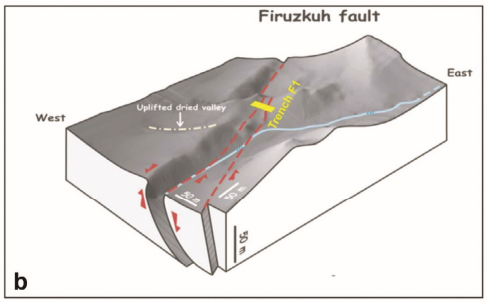
- The Server Based Unified Thematic Geological Mapping
- Innovation, design and application of new methods in interdisciplinary geological studies
- Development of a platform for international joint collaborations in the field of Earth sciences
- Implementation and design of workshops, periodic lectures and cooperation in national and international teaching and research programs

Selected Research Projects of the Modern Applied Research Group

- Active tectonics along the Khazar fault (Alborz, Iran) (Nazari et al., 2021)

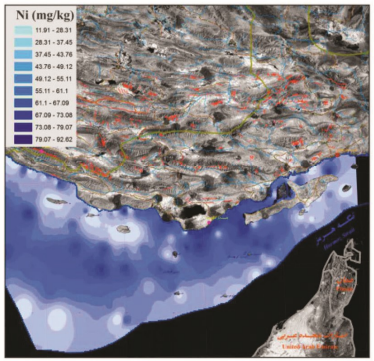


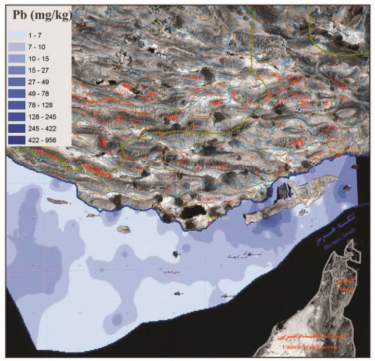
- Palaeoseismic evidence for a medieval earthquake, and preliminary estimate of late Pleistocene slip-rate, on the Firouzkuh strike-slip fault in the Central Alborz region of Iran (Nazari et al., 2014)



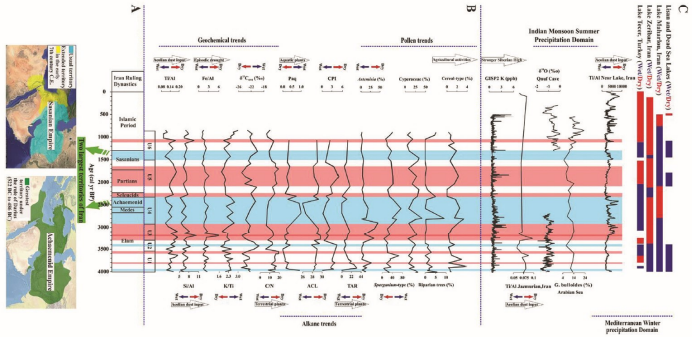
Selected Research Projects of the Modern Applied Research Group

Sediment Texture, Geochemical Variation, and Ecological Risk Assessment of Major Elements and Trace Metals in the Sediments of the Northeast Persian Gulf



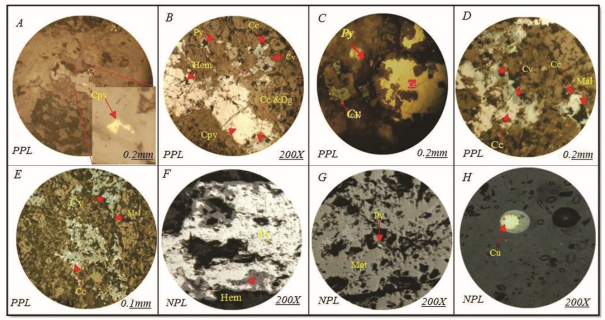


New multi-proxy record shows potential impacts of precipitation on the rise and ebb of Bronze Age and imperial Persian societies in southeastern Iran

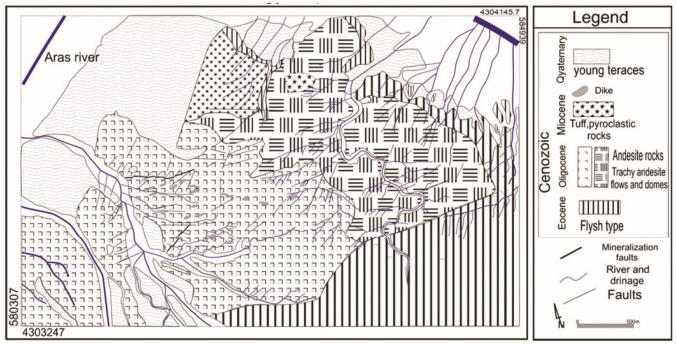


Selected Research Projects of the Modern Applied Research Group

Petrogenesis, geochemistry, fluid inclusions and the role of the subvolcanic intrusives in genesis of copper at Chah-Mora deposit, north of Torud, Semnan (Akbarpour et al., 2017)



Cluster and R-mode factor analyses on soil geochemical data of Masjed-Daghi exploration area, northwestern Iran (Akbarpour et al., 2012)



3 OUR ACHIEVEMENTS

3.1. Publications of the RIES

Apart from the applied research projects, the most distinguishable achievement of the RIES is publication of scientific na tional and international peer-reviewed papers and books. Faculty members of the RIES have published a total of 648 papers, having an average of 54 papers per member. The current average per member H-Index of the RIES is 14.5. The list of published papers and books are presented under the Academic staff and appendix 1 of this brochure.

3.2. Educational activities

- Graduation of more than 400 students in M.Sc. and Ph.D. degrees.
- Accomplishment of several national and international workshops and conferences.
- Accomplishment of several practical field and laboratory training courses.

3.3. Research activities

To supply the research necessities of the GSI, national industries and the society, the RIES had an effective role in the context of geology, exploration, natural hazards and environmental projects. Titles of the most important recent research agreements, are as follows:

1 Research projects with the Iranian Department of Environment

- Compilation of the environmental activity codes for the natural chemical accidents and mining activities
- Compilation of the environmental damage for the mining activities, and preparing the new codes and standards for environmental monitoring of the mines
- An investigation of the factors resulting in the explosion of the Maroon–Isfahan oil pipeline, and suggesting the pollution removal methods

2 Research projects with the iron minerals exploration and the steel industries

- Reconnaissance studies and research for iron mineral potential in Central Iran (Mobarakeh Steel Co. – 2020)
- Reconnaissance field studies for iron potential in the Tarom and Takab regions (Kavir Yazd Steel Co. – 2020)
- Research and prospect studies for iron and fluorine minerals in the Semnan Province (Isfahan Steel Co. – 2020)
- Geological study for determination of mineralization potential of the mining zones (Mobarakeh Steel Co. – 2021)

3 Research projects with the mineral exploration private sectors

- Geological environment and mineralization factors for gold, copper and iron exploration in the Sahl-Abad ophiolitic complex (Shahab-Sang Mineral industries Co. – 2021)
- Mineralization controlling factors in the Fath-Abad mineral zone; complementary exploration studies for iron, gold and baryte (Shahab-Sang Mineral Industries C0 – 2021)

4 Research projects with the National Iranian Oil Company

- Sedimentology of the Asmari Formation oil reservoir rocks (Qeshm Oil Industry and Energy Development)
- Investigation of land subsidence phenomenon and earthquake hazard feasibility study along the south Tehran oil pipelines (Iranian Oil Pipelines and Telecommunication Co.)

5 Research projects with the Geological Survey of Iran

- Preparing the protocol for the server-based unified thematic geological mapping
- Mapping of three geological sheets in the Tabas Block (scale 1:100,000)
- Mapping of three geological sheets in the Qatruieh region (scale 1:25,000)
- Mapping of two geological sheets in the Lut region (scale 1:50,000)
- Scientific consulting for the petrological and structural geological studies of the geological maps in the Birjand area (scale: 1:50,000)
- Preparing a Holocene paleoclimate database
- Detailed active fault studies for five major cities of Iran
- Facies analysis and age of the Quaternary deposits in the Bushehr coast of the Persian Gulf

6 National applied geological research projects

- Economic potential and ecological recovery studies of the Lake Urmia
- Caspian Sea level fluctuation in Holocene
- Marine Geological investigations in the Persian Gulf and Makran Sea region

- Marine geophysical studies in the Cha-Bahar gulf, Tangeh-e-Khuran, and South Caspian regions
- Hydrochemical and paleoclimate studies of the Maharloo Lake
- Geophysical study of the Iranian crustal structure
- Geological and seismotectonic studies of the Bushehr Region
- Investigation of the paleoclimate in Iran, using the core sediment samples from the lakes and playas
- Paleoenvironmental and paleoclimatic changes of the ancient Jiroft area since the last 4,000 years
- An investigation on the Caspian's sturgeon diversity and its environmental and climatic challenges and opportunities

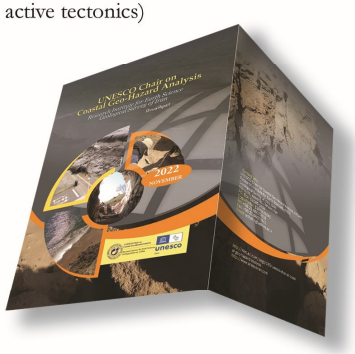
7 Projects of the UNESCO Chair on the Coastal Geo-Hazard Analysis (UCCGHA)

- The transition from hunter gathering to the farming societies in the southern coasts of the Caspian Sea, human and environment interaction
- Geoarcheology and paleoclimatology in southeast of the Caspian Sea
- The history of the paleolakes in the Central Iranian Plateau
- Introduction to the Desert Kite, State of the Art
- Reconstruction of the Holocene environment, climate and geography of Gomishan coastal zone, SE Caspian
- The physical and chemical characteristics, and sedimentation rate changes in the Miankala peninsula, and its effect on the death of the birds, SE Caspian Sea
- Monitoring of hydrogeochemistry and brine evolution of the Lake Urmia
- Structural evolution of the Miankala Peninsula, SE Caspian
- Iranian Earthquake Hazard Map (IEHM)
- Paleoseismological studies and structural evolution of the North Tabriz Fault
- Collection of geophysical data by high-resolution shallow seismic method in the Tombak region (Bushehr province)

- Morphotectonic aspects on the Gavaraget fault west of Grand Sevan
- Paleoseismological studies in northeast of the Sevan
- A review of paleoseismological studies of the Astaneh fault system, eastern Alborz
- The server-based integrated and homogeneous thematic mapping in the Makran zone: Artificial Intelligence and Deep Machine Learning
- Preparing an integrated geological map of the Bushehr Province
- Paleolimnological study, a key point for the future climate prediction, a case study in SE Iran
- Seismotectonics and geodynamics of the South Caspian and adjacent areas
- Coastal geomorphological map of Cha-Bahar, 1:100,000, SE Iran, Makran Sea
- Young deformation and geodynamics of the north central Alborz - south Caspian
- Investigation of coastal tectonic movements in Makran-Cha-Bahar region by combining field observation and shallow marine seismic data, SE Iran, Makran Sea
- Facies analysis and timing of the Quaternary deposits in the Bushehr peninsula, S Iran, Persian Gulf

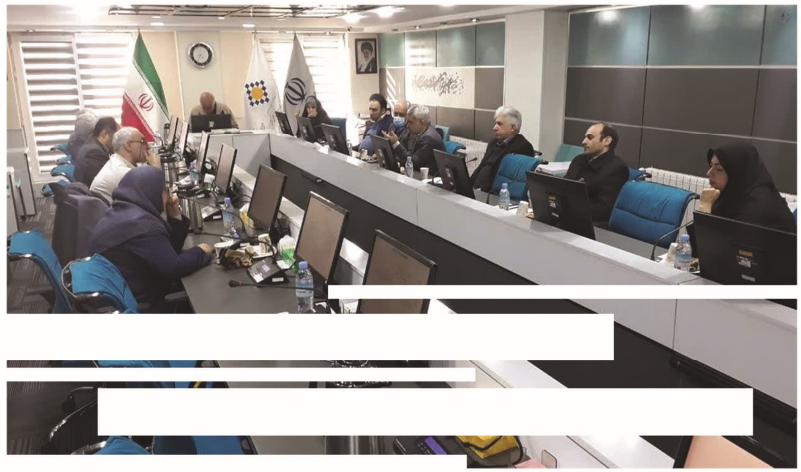
4 INTERNATIONAL MEMORANDUMS & COLLABORATIONS

- Linköping University, Sweden, Department of Thematic Studies-Environmental change
- Uppsala University, Sweden (on salt tectonics)
- Tokyo University, Department of Geology (on stratigraphy)
- Potsdam University, Germany (on sedimentology and structural geology of the north Iranian plateau)
- Technische Universität Bergakademie Freiberg (on ancient mining)
- Paris and Montpellier Universities (on paleoseismological studies in Iran and Tajikistan)
- Berkely University, USA (on seismic hazard map of Iran)
- Chinese Academy of Sciences (on crustal structure investigations)
- Cambridge University, Geosciences Department (on active faults and earthquakes in Iran)
- Durham University, Geosciences Department (on magmatism and geodynamics of the Iran-Turkey plateaus
- National University of Taiwan (on geochemistry, magmatism and active tectonics)
- Sorbonne University of France (on PERSTECT project, and TRICLASS training course)
- Institute of Geophysics, Hamburg University, Germany (on geophysical investigations in Iran)
- Belarus Geological Research Center (on mining and exploration)
- German Archeological Institute (on paleoclimate, archeoseismology and paleoseismology)
- Geological and Mining Survey of Syria (on geological and exploration projects)
- Swiss Institute of Technology, Zurich (on magmatism and structural geology)
- Chinese Academy of Sciences (on geophysical and geological investigations: the CIGSIP project)



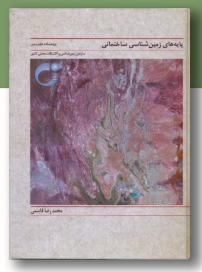
5 RESPONSIBILITIES & MEMBERSHIPS

- Member of the ATF Council for Industries and mines (Ministry of Science, Research and Technology)
- Member of the Oceanography Supreme Council
- Member of the editorial board of the Quaternary Quarterly Journal
- Member of the advisory group of Environmental Organization of Iran
- Chairman of the board of directors of Quaternary Society of Iran
- Member of the strategic committee for revival of the Urmia Lake
- Member of the Iranian Building Code Committee (2800 code)

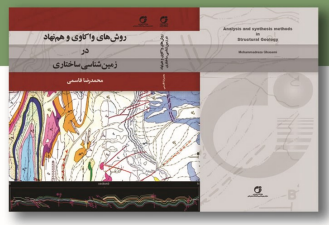


6 BOOKS PUBLISHED BY THE RIES

• Fundamentals of Structural Geology
Mohammad R. Ghassemi

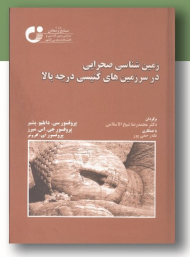


• Analysis and Synthesis Methods in Structural Geology
Mohammad R. Ghassemi

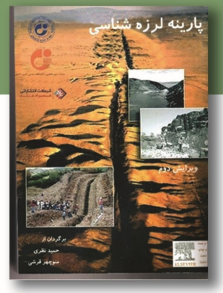


• Iran's Fault Encyclopedia
(Mohammad R. Sheikholeslami et al.)

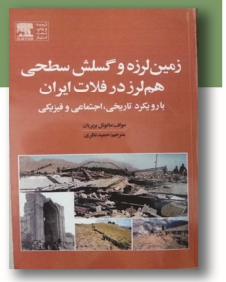
• Field Geology of High-Grade Gneiss Terrains (translation)
(Mohammad R. Sheikholeslami)



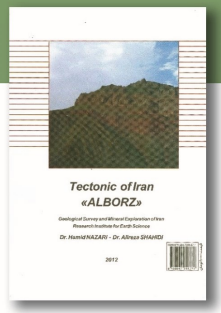
• Paleoseismology (translation)
(Hamid Nazari and Manouchehr Ghorashi)



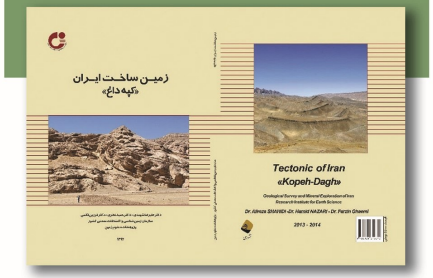
• Earthquake and Coseismic Surface Faulting on the Iranian Plateau (translation)
(Hamid Nazari)



• Tectonics of Iran (Alborz)
(Hamid Nazari and Alireza Shahidi)



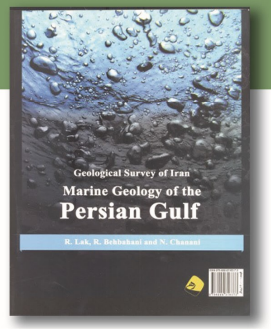
• Tectonics of Iran (Kopeh-Dagh)
(Alireza Shahidi et al.)



• Geology of Earthquakes (translation)
(Manouchehr Ghorashi)

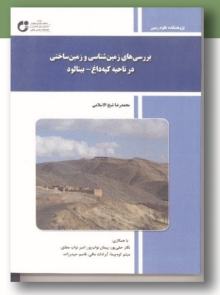
• Encyclopedia of Granitoid Plutons of Iran
(Jalil Ghalamghash)

• Marine Geology of the Persian Gulf
(Razyeh Lak et al.)



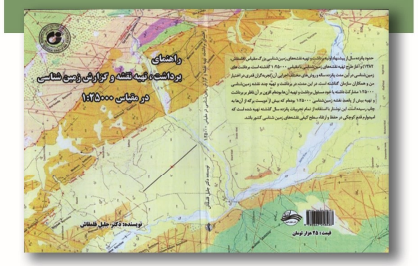
• Metamorphic Petrology, Concepts and Terms (Including an Atlas of microscopic images)
(Morteza Khalatbari-Jafari)

• Geological and Structural Investigations in the Kopeh-Dagh and Binalud Regions
(Mohammad R. Sheikholeslami et al.)

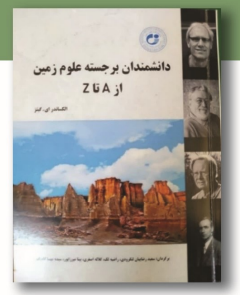


• Characteristic of clay minerals in the Persian Gulf sediments
(Reza Behbahani and Razyeh Lak)

• Guidebook for field investigation, geological mapping and report production; scale 1:25,000
(Jalil Ghalamghash)



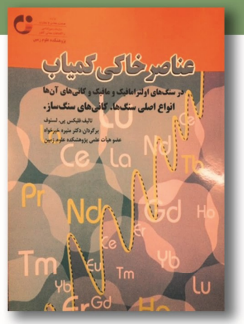
• Earth Science Scientists of the World (A to Z) (translation)
(Said Rezaeian et al.)



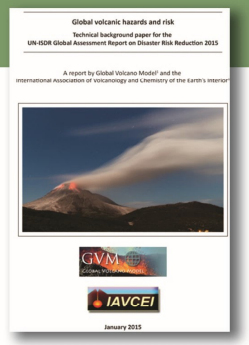
• Resources and applications of Rare Earth Elements
(Jalil Ghalamghash et al.)

• A practical guide to rock microstructure (translation)
(Monireh Kheirkhah)

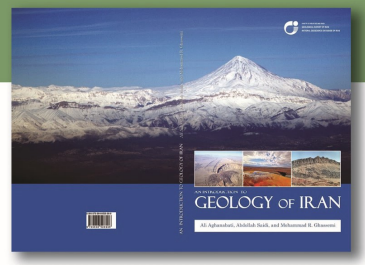
• Rare Earth Elements in ultramafic and mafic rocks and their Minerals (translation)
(Monireh Kheirkhah)

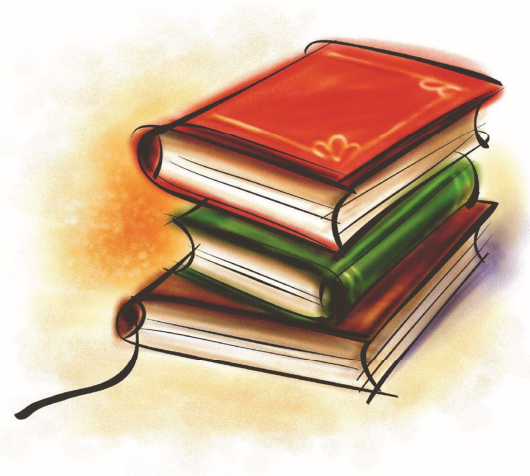


• Global volcanic hazards and risk
(Monireh Kheirkhah)



• Geology of Iran
(Ahanabati et al.)

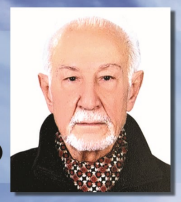




7

EMERITUS FACULTY MEMBERS

Late Dr. Mahmoud Ahmadzadeh-Heravi (Stratigraphy and paleontology)



Dr. Manouchehr Ghorashi (Seismotectonics)

Dr. Ali Aghanabati (Stratigraphy and paleontology)

Dr. Mohammad Hashem Emami (Petrology)

Dr. Mahmoud Mehrparto (Economic geology)

Late Dr. Bahaodin Hamdi (Stratigraphy and paleontology)

Late Dr. Fereydoun Rezaie (Engineering geology)

Dr. Mohammad Lotfi (Economic geology)

Dr. Fereydoun Sahabi (Petroleum geology)

Dr. Abdolah Saidi (Tectonics)

8 ACADEMIC STAFF

Dr. Razyeh Lak

Dean of the Research Institute for Earth Sciences, Associate the professor of Sedimentlogy

Contact Information:

Tel: 98 21 66070518

Fax: 98 2166070511

Email: Lak_ir@yahoo.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D: Kharazmi University, Department of Geology Faculty of Science (2000-2007)

M.Sc: Islamic Azad University, North Tehran Branch (1998-2000)

B.Sc.: Kharazmi University, Faculty of Science (1985-1989)

Selected Papers:

1. Vaezi A, Lak, R*., Sediment Texture, Geochemical Variation, and Ecological Risk Assessment of Major Elements and Trace Metals in the Sediments of the Northeast Persian Gulf. Minerals, 2023; 13(7):850. https://doi.org/10.3390/min13070850

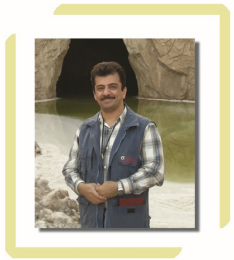
2. Vaezi, A., Shahbazi, R., Lak, R*., Ahmadi, N., Sheikh, M., Mohammadi Gol, A, 2023, Assessment of Potentially Toxic Elements in Atmospheric Dust and Associated Health Risks in Zahedan City, Iran. Environmental Geochemistry and Health.

3. Lak, R*., Mohammadi, Ali, Darvishi khatooni, J, Lake Urmia Brine Evolution from 2007 to 2019, 2021, in: Nooran, Yakushev, Nøst and Bruggeman (eds.), "The handbook of Environmental chemistry", Lake Urmia: A Hypersaline Waterbody in a Drying Climate, Springer Nature Switzerland, 1-23

4. Mohammadi, A, Lak, A., Schwamborn, G., Kaveh-Firouz, A., Çiner, A., Khatouni, JD., 2021, Depositional environments and salt-thickness variations in Urmia Lake (NW Iran): Insight from sediment-core studies,- Journal of Sedimentary Research 91 (3), 296-316

5. Jalalian,T, Lak, R*., Taghian, Darvishikhatooni, J, 2021, Evolution of sedimentary environments and geography of the Gavkhouni Playa during the Late Quaternary, International Journal of Environmental Science and Technology

Dr. Mahmoud Reza Majidifard



Deputy director of the Research Institute for Earth Sciences, Associate Professor of stratigraphy and paleontology

Contact Information:

Tel: 98 21 66070518

Fax: 98 21 66070511

E-Mail ; m_majidifard@yahoo.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Jalius – Meximilians Wuerzburg, Germany (2000 -2004)

MSc.: Islamic Azad University Shahroud Branch, Iran (1992 – 1995)

BSc.: Islamic Azad University Shahroud Branch, Iran (1984 -1988)

Selected Papers:

1. Bohme, M., Spitsov, N., Majidifard, M.R., Gartner, A., Kirschner, U., Marks, M., Dietzel, C., Uhlig, G., El Atfy, H., Begun, D.R. and Winklhofer, M. (2021): Neogene hyperaridity in Arabia drove the directions of mammalian dispersal between Africa and Eurasia, Nature, Vol. 2, 1-13

2. Vaziri, S.H., Majidifard, M.R., Darroch, S., Laflamme, M. (2021): Ediacaran diversity and paleoecology from central Iran, Journal of Paleontology, Vol. 95 (2), 236-251

3. Zhang, Z., Xiao, W., Ji, W., Majidifard, M.R., Rezaeian, M., Talebian, M., Xiang, D., Chen, L., Wan, B., Ao, S., Esmaeili, R. (2019): Corrigendum to "Geochemistry, zircon U-Pb and Hf isotope for granitoids, NW Sanandaj-Sirjan zone, Iran: Implications for Mesozoic-Cenozoic episodic magmatism during Neo-Tethyan, Gondwana Research, 62, 227–245.

4. Vaziri, S.H., Majidifard, M.R. & Lafamme, M. (2018): Diverse Assemblage of Ediacaran fossils from Central Iran, Nature, Scientific Reports

5. Wilmsen, M., Storm, M., Fürsich, F.T., Majidifard, M.R. (2018): The mid-Cretaceous Debarsu Formation (Upper Albian–Middle Turonian) of Central Iran: depositional environment, palaeogeography, and sequence stratigraphic significance, Facies.

Dr. Mohammad Reza Ghassemi

Professor of tectonics and structural geology

Contact Information:

Tel: 98 21 64592476

Fax: 98 21 66070511

Email: ghassemi.m.r@gmail .com

Address: RIES, Azadi Sq., Maraj Blvd.,

Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Ottawa, Canada: (1992 - 1996)

M.Sc.: University of Tehran: (1985 - 1989)

B.Sc.: University of Tehran, Faculty Sciences: (1979 - 1984)

Selected Papers:

1. Ghassemi, M.R., Fattahi, M., Landgraf, A., Ahmadi, M., Ballato, P., and Tabatabaei, S.H., 2014. Kinematic links between the Eastern Mosha Fault and the North Tehran Fault, Alborz range, northern Iran. Tectonophysics v. 622, p. 81–95. 21 May 2014

2. Ghassemi, M.R. and Nayeb, S., 2015. Active surface cracking in Aghajari Formation of the Azar oil field, Zagros, western Iran. Marine and Petroleum Geology, 68, 498-508. (online on Dec. 17, 2015

3. Ghassemi, M.R., 2016. Surface ruptures of the Iranian earthquakes 1900–2014: Insights for earthquake fault rupture hazards and empirical relationships. Earth Science Reviews, 156, 1-13.

4. Ghassemi, M.R. and Garzanti, E., 2019. Geology and geomorphology of Turkmenistan: A review. Geopersia 9 (1), pp. 125-140. (online: 21-5-2019)

5. Ghassemi, M.R. and Roustaei, M., 2021. Salt extrusion kinematics: insights from existing data, morphology and InSAR modelling of the active emergent Anguru diapir in the Zagros fold and thrust belt, Iran. Journal of the Geological Society, 15 p. June 8, 2021, https:

//doi.org/10.1144/jgs2020-136 (Impact factor: 3.100 5yr IF: 3.556)

Dr. Morteza Talebian

Associate Professor of seismotectonic

Contact Information:

Tel: 98 21 64592404

Fax: 98 21 66070511

E-mail: talebian@ries.ac.ir , morteza.talebian@gmail.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Cambridge, Cambridge, UK in Seismotectonic, (2000-2003)

Post Graduate Diploma in Seismology, The International Institute of Seismology and Earthquake Engineering, Tsukuba, Japan (1994 – 1995)

M.Sc.: University of Shahid Beheshti, Tehran, Iran (1990-1993)

B.Sc.: University of Kerman , Kerman (1984-1988)

Selected Papers:

1.Talebian M., A. C. Copley, M. Fattahi, M. Ghoraishi, J. A. Jackson, H. Nazari, R. A. Sloan, R. T. Walker, Active faulting within a megacity: the geometry and slip rate of the Pardisan thrust in central Tehran, Iran, Geophysical Journal International, 2016

2.Talebian, M., Bolourchi, M., Copley A., Ghorashi M., Hollingworth J., Jackson J., Nissen E., and Priestley K., The Dahuiyeh (Zarand) earthquake of 22 February 2005 in central Iran: reactivation of an intra-mountain thrust, Geophys. J. Int., 164, 137–148, 2005.

3.Talebian M., Fielding E. J., Funning G. J., Ghorashi M., Jackson J., Nazari H., Parsons B., Priestley K., Rosen P. R., Walker R. and Wright T. J., The 2003 Bam (Iran) earthquake: rupture of a blind strike-slip Fault, Geophysical Research letter, doi: 10.1029/2004GL020058, 2004.

4.Talebian M. and Jackson J.A., A reappraisal of earthquake focal mechanism and active shortening in the Zagros mountains of Iran, Geophys. J. Int., 156, 506-526, 2004.

5.Talebian M. and J.A. Jackson, Offset on the main recent fault of NW Iran and implications for the late Cenozoic tectonics of the Arabia--Eurasia collision zone, Geophys. J. Int., 150, 422-439, 2002.

Dr. Hamid Nazari

Associate Professor of paleoseismology

Contact Information:

Tel: 98 21 64592427

Fax : 98 21 66070511

Email: h.nazari@gsi.ir, h.nazari@riec.ac.ir, uchair.cgha@ries.ac.ir

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Post Doctorate (HDR): University of Montpellier II, Montpellier-France (2005-2015)

Ph.D.: University of Montpellier II, Montpellier-France (2001 – 2006)

M.Sc.: Azad Islamic University, North Tehran Branch, Iran (1994 – 1996)

B.Sc.: University of Esfahan, Esfahan, Iran (1986 – 1991)

Selected Papers:

1. Nazari H., Ritz J-F., Burg J-B., Shokri M., Haghipour N., Mohammadi Vizhehd M., Avagyan A., Fazeli Nashli H., Ensani M., (2021). Active tectonics along the Khazar fault (Alborz, Iran), JAES, V. 219, 104893, https://doi.org/10.1016/j.jseaes.2021.104893.

2. Nazari H., Ritz J.-F., Walker R.T., Salamati R., Rizza M., Patnaik R., Hollingsworth J., Alimohammadian H., Jalali A., Kaveh Firouz A., Shahidi A., (2014). Palaeoseismic evidence for a medieval earthquake, and preliminary estimate of late Pleistocene slip-rate, on the Firouzkuh Strike-slip fault in the central Alborz Region of Iran. Journal of Asian Earth Science, No.82, P.124-135.

3. Ritz J.-F., Nazari H., Balescu S., Lamothe M., Salamati R., Ghassemi A., Shafei A., Ghorashi M., Saidi A. (2012), Paleoearthquakes of the past 30000 years along the North Tehran Fault, Iran, Journal of Geophysical Research, Vol 117, doi: 10.1029/2012JB009147, pp 1-15.

4. Nazari H., Ritz J.-F., Salamati R., Shahidi A., Habibi H., Ghorashi M., Karimi Bavandpur A., (2010). Distinguishing between fault scarps and shorelines: the question of the nature of the Kahrizak, North Rey and South Rey features in Tehran plain (Iran) Terra Nova, doi: 10.1111/j.1365-3121.2010. 00938.x.

5. Nazari H., Ritz J.-F., Salamati R., Shafei A., Ghassemi A., Michelot J-L. , Massault M., Ghorashi M., (2009), Morphological and Paleoseismological analysis along the Taleghan Fault (Central Alborz, Iran), GJI ,Volume 178 Issue 2, PP. 1028 -1041 , doi: 10.1111/j.1365-246X.2009.04173.x

Dr. Morteza Khalatbari Jafari

Associate Professor of petrology, geochemistry, geochronology

Contact Information:

Tel: 98 21 64592474

Fax: 98 21 66070511

E-mail: ; Khalat1965@gmail.com

Address: RIES, Azadi sq., Maraj Blvd.,

Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: Institut Universitaire Européan de la Mer. IUEM, Brest, France (1999-2002)

M.Sc.: University of Shahid Beheshti, Tehran, Iran (1989-1992)

B.Sc.: University of Theran, Collage of Science (1984-1988)

Selected Papers:

1. Khalatbari Jafari., M., Babaie, H.A. (2016). The geodynamic signifi cance of the correlation of the Khoy ophiolites in northwest Iran with ophiolites in southeast Turkey. The Geological Society of America Special Paper 525. doi:10.1130/2016.2525(08).

2. Khalatbari Jafari., M., Babaie, H.A., Moslempour, M.E. (2016). Mid-ocean-ridge to suprasubduction geochemical transition in the hypabyssal and extrusive sequences of major Upper Cretaceous ophiolites of Iran. The Geological Society of America Special Paper 525

3. Khalatbari Jafari., M., Sepehr, H., Mobasher, K. (2015). Tectonomagmatic evolution of the South Dehshir Ophiolite, Central Iran, Geological Magazine, doi:10.1017/S0016756815000618, 1-21.

4. Morteza Khalatbari Jafari, Nafiseh Salehi Siavashani, Hassan A. Babaie, Wenjiao Xiao, Mohammad Faridi, Songjian Ao. 2020. Late Cenozoic volcanism in the Almaludag region, Azerbaijan province, northwest Iran: Evidence for post-collisional extension. Journal of Geodynamics, 141-142, 101779; https://doi.org/10.1016/j.jog.2020.101779.

5. Morteza Khalatbari Jafari,, Babaie, H.A., Ao, S. and Xiao, W., 2022. U-Pb geochronology and geochemistry of the Torud igneous rocks: Implications for post-collision Eocene magmatism in northeast Iran. Journal of Geodynamics, 153, p.101942.

Dr. Mohammad Reza Sheikholeslami

Associate Professor of structural Geology

Contact Information:

Tel: 98(21) 64592476

Fax: 98(21) 66070511

Email: rezasheikholeslami@yahoo.com

Address: RIES, Azadi sq., Maraj Blvd.,
Geological Survey of Iran, Tehran, Iran.

EDUCATION:

Ph.D.: Université de Bretagne Occidentale, France (1998- 2002)

M.Sc.: Islamic Azad University, North Tehran Branch, Iran (1992-1994)

B.Sc.: Islamic Azad University, Shahroud Branch, Iran (1986 -1990)

Selected Papers:

1. Sheikholeslami, M.R., 2015. Deformations of Palaeozoic and Mesozoic rocks in southern Sirjan, Sanandaj–Sirjan Zone, Iran. Journal of Asian Earth Sciences, 106, 130-149

2. Sheikholeslami, M.R., 2016. Tectono-stratigraphic evidence for the opening and closure of the Neotethys Ocean in the southern Sanandaj-Sirjan zone, Iran.

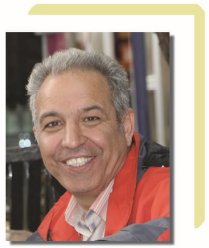
3. Sheikholeslami, M.R., Oberhänsli, O., Ghassemi, M.R. 2019. Transpression tectonics in the eastern Binalud Mountains, northeast Iran; Insight from finite strain analysis, vorticity and 40Ar/ 39Ar dating. Journal of Asian Earth Sciences 179, 219–237

4. Sheikholeslami, M.R., Ghassemi, M.R., Hassanzadeh, J., 2019. Tectonic evolution of the hinterland of the Zagros Orogen revealed from the deformation of the Golpaygan Metamorphic Complex, Iran, Journal of Asian Earth Sciences 182, 103929

5. Sheikholeslami, M.R., Mobayen, P., Javadi, H,R., Ghassemi, M,R., 2021. Stress field and tectonic regime of Central Iran from inversion of the earthquake focal mechanisms, Tectonophysics 813, 228931

Dr. Jalil Ghalamghash

Associate Professor of petrology



Contact Information:

Tel: 98 21 64592364

Fax: 98 21 66070511

Email: Ghalamghash@yahoo.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: Shahid Beheshti University, Tehran-Iran & University, Toulouse, France (1996 – 2002)

M.Sc.: Shahid Beheshti University, Tehran, Iran (1985 – 1989)

B.Sc.: Shahid Beheshti University (1980-1984)

Selected Papers:

1. Babazadeh, S., Ghalamghash, J., T. Furman, T., 2021. The Avaj Oligocene volcanic-plutonic complex is part of extensive Cenozoic magmatic

activity within the Urumieh-Dokhtar magmatic arc of Iran. We use whole rock geochemistry.

2. Chaharlang, R., Mihai N. Ducea, Ghalamghash, J., 2020. Geochemical evidences for quantifying crustal thickness over time in the Urumieh-Dokhtar magmatic arc (Iran), Lithos 105723, 374–375.

3. Ghalamghash, J., Schmitt, A. K., Chaharlang, R., 2019. Age and compositional evolution of Sahand volcano in the context of post-collisional magmatism in northwestern Iran: Evidence for time-transgressive magmatism away from the collisional suture, Lithos 344–345, 265–279.

4. Ghalamghash, J., Schmitt, A. K., 2019. magmatic evolution of the Tethyan orogeny in NW Iran: from subduction to collision, International workshop of continental crust in a jaw of subduction channel, Earth Sciences Faculty, Shahid Behshti university, Tehran, Iran.

5. Ghalamghash, J., Mousavi, Z., Hassanzadeh, J., and Schmitt A.K., 2016. Geology Zircon Geochronology and petrogenesis of Sabalan Volcano: northwest Iran, Journal of Volcanology and geothermal research, 327,192-207.

Dr. Monireh Kheirkhah

Associate Professor of petrology

Contact Information:

Tel: 98 21 64592475

Fax: 98 21 66070511

kheirkhah.monireh1@gmail.com

Address: RIES, Azadi sq., Maraj Blvd. Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: Islamic Azad University, Science and Research Branch, Tehran, Iran. (2003-2006)

M.Sc.: University of Tehran, Faculty of Science (1993 – 1998)

B.Sc.: University of Tehran, Faculty of Science, Tehran (1977-1984)

Selected Papers:

1. Kheirkhah, M., Allen, M.B. & Emami, M. (2009). "Quaternary syn-collision magmatism from the Iran/Turkey borderlands". Journal of Volcanology and Geothermal Researches, 182, 1-12.

2. Monireh. Kheirkhah, Iain Neill, M.B. Allen, K. Ajdari, (2013). "Small-volume melts of thick lithospheric mantle during continental collision, late Cenozoic lavas of Mahabad, NW Iran". Journal of Asian Earth Sciences. 74, 37–49. http://dx.doi.org/10.1016/j.jseaes.2013.06.002

3. Allen, M.B., Kheirkhah, M., Emami, M.H. & Jones, S.J., (2011). Right-lateral shear across Iran and kinematic change in the Arabia–Eurasia collision zone. Geophysical Journal International, 184, 555-574, Doi: 10.1111/j.1365-246X.2010.04874. x.

4. M. Kheirkhah, I. Neill, M.B. Allen, (2015). " Petrogenesis of OIB-like basaltic volcanic rocks in a continental collision zone: Late Cenozoic magmatism of Eastern Iran" Journal of Asian Earth Sciences. Journal of Asian Earth Sciences Volume: 106 Pages: 19-33. DOI: 10.1016/j.jseaes.2015.02.027.

5. Monireh Kheirkhah, Iain Neill, Mark B. Allen, Mohammad H. Emami, Ali Shahraki Ghadimi (2020)"Distinct sources for High-K and adakitic magmatism in SE Iran". Journal of Asian Earth Sciences.

Dr. Seyed Mehran Heidari

Assistant professor of Economic Geology

Contact Information:

Tel: 98 21 64592475

Fax: 98 21 66070511

E-Mail: sm.heidari@gmail.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Tarbiat Modaress, Tehran-Iran (2002 – 2013)

M.Sc.: University of Tarbiat Modaress, Tehran-Iran (2000 – 2004)

B.Sc.: Esfahan University (1996 – 2000)

Selected Papers:

1. Heidari, SM. Afzal,P and Sadeghi,B 2023 Miocene tectono – magmatic events and gold/ poly- metal mineralization's in the takab – delijan belt NW iran Geochemistry , V83 Ch(1-28)

2. SM. Heidari, P Afzal, M Ghaderi, B Sadeghi - Ore Geology Reviews, 2021 - ElsevierThe objective of this paper is to detect various gold and copper mineralization stages

according to surface lithogeochemical data utilizing zonality index and spectrum-area (SA)

multifractal modeling along with geological data in the Au-(Cu) intrusion-related Gouzal-

Bolagh deposit, northwestern Iran

3. Afzal P., Heidari S.M., Ghaderi M., Yasrebi A.B., 2017. Determination Of mineralization stages using correlation between geochemical fractal modeling and geological data in Arabshah sedimentary rock-hosted epithermal gold deposit, NW Iran. Ore Geology Reviews. 91, 278-295.

4. Heidari, SM Moosavi Makooi, M Mirzakhanian, F Rasoli… - Eurasian …, 2016 - researchgate.net

5. Heidari S.M., Daliran F., Paquette J.L., Gasquet D., 2015. Geology, timing and genesis of the high sulfidation Au (–Cu) deposit of Touzlar, NW Iran. Ore Geology Reviews. 65, 460-486.

Dr. Alireza Vaezi

Assistant professor of Environmental Engineering

Contact Information:

Tel: 98 21 64592372

Fax: 98 21 66070511

E-Mail: al.vaezi@yahoo.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Tehran, Iran (2013 – 2018)

M.Sc.: University of Tehran, Iran (2011 – 2013)

B.Sc.: Esfahan University of Technology, Iran (2006 – 2010)

Selected Pepars:

Selected Papers:

1.Vaezi, A., Shahbazi, R., Lak, R., Ahmadi, N., Sheikh, M., Mohammadi Gol, A. (2023). Assessment of Potentially Toxic Elements in Atmospheric Dust and Associated Health Risks in Zahedan City, Iran. Environmental Geochemistry and Health. (Q1, IF: 5.0).

2.Vaezi, A., Lak, R. (2023). Sediment Texture, Geochemical Variation, and Ecological Risk Assessment of Major Elements and Trace Metals in the Sediments of the Northeast Persian Gulf. Minerals, 13 (7), 850. https://doi.org/10.3390/min13070850 (Q2, IF: 2.8).

3.Vaezi, A., Routh, J., Djamali, M., Gurjazkaite, K., Beni, A.N., Tavakoli, V., Roberts, P. (2022). New Multi-proxy Record Shows Potential Impacts of Precipitation on the Rise and Ebb of Bronze Age and Imperial Persian Societies in Southeastern Iran. Quaternary Science Reviews, 298. https://doi.org/10.1016/j.quascirev.2022.107855 (Q1, IF: 4.5).

4.Vaezi, A., Ghazban, F., Tavakoli, V., Routh, J., Beni, A.N., Bianchi, T., Curtis, C., Kylin, H. (2019). A late Pleistocene-Holocene multi-proxy record of climate variability in the Jazmurian playa, southeastern Iran. Palaeogeography, Palaeoclimatology, Palaeoecology, 514, 754-767. https://doi.org/10.1016/j.palaeo.2018.09.026 (Q1, IF: 3.6).

5.Vaezi, A. R., Karbassi, A. R., & Fakhraee, M. (2015). Assessing the trace metal pollution in the sediments of Mahshahr Bay, Persian Gulf, via a novel pollution index. Environmental Monitoring and Assessment, 187 (10), 613. https://doi.org/10.1007/s10661-015-4833-7 (Q2, IF: 3.4).

Dr. Afshin Akbarpour

Assistant professor of economic Geology

Contact Information:

Tel: 98 21 64592351

Fax: 98 21 64592237

E-Mail: afshinakbarpour@gmail.com

Address: RIES, Azadi sq., Maraj Blvd., Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: Economic Geology, Azad University, Tehran Science and Research Branch, (1997-2003).

M.Sc.: Economic Geology, Azad University, North Tehran Branch (1992-1995).

B.Sc.: Geology, Isfahan University (1988-1992).

Selected Papers:

1. Akbarpour, A., Gholami, N., Azizi, H., Torab, F.M., (2012), Cluster and R-mode factor analyses on soil geochemical data of Masjed-Daghi exploration area, northwestern Iran and R-mode factor analyses on soil data of Masjed-Daghi exploration area, northwestern Iran, Arabian journal, 2012.

2. Moinevaziri, H., Akbarpour, A., Azizi, H., (2014), Mesozoic magmatism in the northwestern Sanandaj-Sirjan zone as an evidence for active continental margin, Arabian journal, 2014.

3. Akbarpour, A., (2021) Geochemistry and mineralization magnetite in Mimoun Abad (SW Dehgolan Kurdistan), Quarterly Journal Researches in Earth Sciences, (Shahid Beheshti university) Vol 44, winter 2021(87-108).

4. Akbarpour, A., Kalatbari, M., (2021) Petrography and geochemistry of Ebrahim-Abad iron ore deposit, northwest Divandere, Kurdistan Province, Quarterly Journal Petrology (Isfahan university), Petrology, No. 44, Winter 2021.

5. Salami, P. Akbarpour, A. Lotfi, M. Gourabjiri, A. Mineralography, geochemistry and Sulfur isotope study in 16B magnetite mineralization anomaly, Bafgh, Yazd, Kharazmi journal earthscience, 2021, 7(1): 97-120.

Dr. Majid Pourkerman

Research Institute for Earth Sciences, Associate professor of Physical geography

Contact Information:

Tel: 98 21 66070518
Fax: 98 21 66070511
Email: pourkerman@yahoo.com
Address: RIES, Azadi sq., Maraj Blvd.,
Geological Survey of Iran, Tehran, Iran.

Education:

Postdoctoral: Iranian's National Elites Foundation with co-operation Iranian National Institute for Oceanography and Atmospheric sciences (INIO-AS), Iran (2021-2023).

Ph.D.: Aix-Marseille Université, Centre Européen de Recherche et d'Enseignement des Géosciences de l'Environnement (CEREGE), France (2017-2020)

M.Sc.: Kharazmi University, Iran (2008-2011)

B.Sc.: Urmia University, Iran (2004-2008)

Selected Papers:

1. Pourkerman, M*., Marriner, N., Amjadi, S., Lak, R., Hamzeh, M., Mohammadpor, G., ... & Shah-Hosseini, M. (2023). The impacts of Persian Gulf water and ocean-atmosphere interactions on tropical cyclone intensification in the Arabian Sea. Marine Pollution Bulletin, 188, 114553. https://doi.org/10.1016/j.marpolbul.2022.114553

2. Pourkerman, M*., Marriner, N., Hamzeh, M. A., Lahijani, H., Morhange, C., Amjadi, S., ... & Afarin, M. (2022). Socioeconomic impacts of environmental risks in the western Makran zone (Chabahar, Iran). Natural Hazards, 112(2), 1823-1849. https://doi.org/10.1007/s11069-022-05230-0

3. Pourkerman, M*., Marriner, N., Morhange, C., Djamali, M., Lahijani, H., Amjadi, S., ... & Beni, A. N. (2021). Late Holocene relative sea□ level fluctuations and crustal mobility at Bataneh (Najirum) archaeological site, Persian Gulf, Iran. Geoarchaeology, 36(5), 740-754. https://-doi.org/10.1002/gea.21860

4. Pourkerman, M., Marriner, N., Morhange, C., Djamali, M., Spada, G., Amjadi, S., ... & Beni, A. N. (2020). Geoarchaeology as a tool to understand ancient navigation in the northern Persian Gulf and the harbour history of Siraf. Journal of Archaeological Science: Reports, 33, 102539.https://-doi.org/10.1016/j.jasrep.2020.102539

5. Pourkerman, M., Marriner, N., Morhange, C., Djamali, M., Amjadi, S., Lahijani, H., ... & Shah-Hoesseini, M. (2018). Tracking shoreline erosion of "at risk" coastal archaeology: The example of ancient Siraf (Iran, Persian Gulf). Applied Geography, 101, 45-55. https://doi.org/10.1016/j.ap-geog.2018.10.008

Dr. Mehdi Mohammadi Vizheh

Assistant professor of geophysics

Contact Information:

Tel: 98 21 64592331

Fax: 98 21 66070511

Email: mmvizheh@gmail.com

Address: RIES, Azadi sq., Maraj Blvd.,
Geological Survey of Iran, Tehran, Iran.

Education:

Ph.D.: University of Tehran, Institute of Geophysics (2013-2019)

M.Sc.: Shahrood University of Technology, School of Mining, Petroleum and Geophysics (2005-2008)

B.Sc.: University of Kurdistan, Faculty of Science (2000-2005)

Selected Papers:

1. Mohammadi Vizheh, M., M. Bastani, T. Kalscheuer, B. Oskooi, G. Schwarz, and C. Juhlin, 2023, Constrained 2D inversion of radio-magnetotelluric and controlled-source audio-magnetotelluric data using high-resolution reflection seismic data: An example in groundwater surveying from Heby, Sweden: Geophysics, 88, no. 2, B79-B90. http://dx.doi.org/10.1190/geo2021-0835.1.

2. Varfinezhad, R., Parnow, S., Florio, G., Fedi, M., Mohammdi Vizheh, M., 2022, DC resistivity inversion constrained by the magnetic method through sequential inversion, Acta Geophysica, https://doi.org/10.1007/s11600-022-00909-1

3. Mohammdi Vizheh, M., Oskooi, B., Bastani, M., Kalscheuer, T., 2020, Using GPR data as constraints in RMT data inversion for water content estimation: a case study in Heby, Sweden, Pure Appl. Geophys. 177, 2903–2929. https://-doi.org/10.1007/s00024-019-02391-1.

4. Mohammdi Vizheh, M., Oskooi, B., Bastani, M., Kalscheuer, T., 2019, Constrained inversion of RMT data using GPR sections versus joint interpretation of their result in an aquifer investigation, Journal of Research and Applied Geophysics, 5 (2), 253-267. https://-doi.org/10.22044/jrag.2018.6877.1188.

5. Mohammadi-Vizheh, M., Kamkar Rouhani, A. Gh., 2014, Detection of subsurface installations and analysis of GPR pulse characteristics, Iranian Journal of Geophysics, 7 (4). 117-133. http://www.ijgeophysics.ir/article_39551.html?lang=en