

University of Isfahan
Department of Geology

Research Group

**Sedimentary basin analysis of coal and hydrocarbon bearing basins of
central Iran and Zagros**

Assoc. Prof. Dr. Mohammad Ali Salehi (head)



Prof. Dr. Hossein Vaziri-Moghaddam (senior Prof.)



Assoc. Prof. Dr. Ali Bahrami



Assist. Prof. Dr. Meisam Tadayon



Assist. Prof. Dr. Amir Abbas Jahangard



Goal: Sedimentary basin analysis of central Iran and Zagros Basin for the tectono-stratigraphic evolution analysis and exploration of natural resources such as petroleum, coal, metals and ground water in sedimentary basins.

M.Sc. student members:

Kaveh Keyvanpour (2025) Provenance study and exploration of iron and Cr-spinel placer deposits in Ashin area, west of Anarak, central Iran. (Industry granted project) Supervisor: M.A. Salehi

Former M.Sc. student

Najmeh Mahdieh Najaf-Abadi (2023) Lithofacies and depositional environment of the Hojedk Formation (Middle Jurassic) in the Parvadeh coalfield, south of Tabas, central Iran. Supervisor: M.A. Salehi

Publications:

Mahdieh NajafAbadi, N., Salehi, M.A. and Yahya Sheibani, V., 2024. Facies, sedimentary environment and log facies of the Hojedk Formation (Middle Jurassic) in Parvadeh Tabas Coal Mine, South of Tabas. Journal of Stratigraphy and Sedimentology Researches, 92(2): 1-26.

PhD student members:

Reza Omid (link) (in progress) Stratigraphy of Saruk Formation in Abtimur Oilfield (southwest of Ahvaz) and Mish anticline (northeast of Gachsaran), Zagros Basin. Supervisor: H. Vaziri-Moghaddam

Zahra Tarash (link) (2025) Biostratigraphy of Gorpi and Pabde formations in Zagros Basin. Supervisor: H. Vaziri-Moghaddam; Advisor: M.A. Salehi

Hamideh Fakharinejad (in progress) Investigating the tectonic-stratigraphic evolution after the Permian of the Zafra Fault system. Supervisor: M. Tadayon.

Publications:

Tarash, Z. and Vaziri-Moghaddam, H., 2024. Biostratigraphy of the Upper Cretaceous Gurpi Formation: Enhancing correlation potential by identification of abundance events of planktonic foraminifera as auxiliary indicators. Journal of African Earth Sciences, 216: 105292.

PostDoc members:

Mahboubeh Omidvar (RG link) (in progress) Biostratigraphy of the Upper Cretaceous strata, SW Iran. Supervisor: A. Safari

Mehdi Jafarzadeh (in progress) Investigating the diagenesis processes and determining the diagenesis sequence in the reservoir sandstones of the Ziveh Formation in Moghan region. Supervisor: M.A. Salehi

Former PostDoc members:

Mehdi Hadi (link) (2023) Biostratigraphy of Eocene deposits in central Iran. Supervisor: A. Bahrami

Publications:

Hadi, M., Consorti, L., Bahrami, A., Parandavar, M. and Khorramdel, S., 2024. Stratigraphy of the Alveolina elliptica group from the Middle Eocene of Iran: Calibration with calcareous nannofossils biozones and description of Alveolina ozcani n. sp. Journal of Palaeogeography, 13(1): 54-79.

Hadi, M., Bahrami, A., Consorti, L. and Parandavar, M., S., 2024. Biostratigraphy of Eocene shallow water succession of the south Sabzevar area (central Iran) based on larger benthic foraminifera and calcareous nanofossils. Micropaleontology, 70(2): 171-196.

New Student members (starting from October 2024):

Somayeh Rostami PhD student

Ayda Safariyan MSc student

Recent publications from research group members:

Salehi, M.A., Wilmsen, M., Zamanian, E. and Heubeck, C., 2026. Cimmerian tectonostratigraphic events in east-central Iran revealed by a long drill core of the Shemshak Group (Upper Triassic–Middle Jurassic). Journal of Asian Earth Sciences, 297: 106895.

Eskandari, M., Khosravi, M., **Jahangard, A.A.**, Salehi, M.A. and Tabaei, M., 2026. Hydrocarbon-generation potential of Upper Triassic–Middle Jurassic coal-bearing strata in the Parvadeh Mine, Tabas, east-central Iran. Advanced Applied Geology. 16(1), 38-56. [in Persian with extended English abstract]

Jahangard, A., **Salehi, M.A.**, Zamanpour, A., Khodaei, N. and **Vaziri-Moghaddam, H.**, 2025. Correlation between sedimentological and petrophysical facies in the Upper Sarvak Formation at an oilfield in the Abadan Plain, southwestern Iran. Petroleum Research, 35(143), 51-69. [in Persian with extended English abstract]

Omidi, R., **Vaziri-Moghaddam, H.**, Kalanat, B. and Behdad, A., 2025. Stratigraphy of the Albian–Turonian Sarvak Formation in Mish Anticline, Zagros Basin (southwestern Iran), with emphasis on the OAE2 interval. Palaeoworld: 201029.

Jahangard, A., **Salehi, M.A.**, Zamanpour, A., Khodaei, N. and Vaziri-Moghaddam, H., (accepted). Correlation between sedimentological and petrophysical facies in the Upper Sarvak Formation at an oilfield in the Abadan Plain, southwestern Iran. Journal of Petroleum Research, [in Persian with extended English abstract]

Salehi, M.A., Wilmsen, M., Yahya Sheibani, V., Zamanian, E. and **Keyvanpoor, K.**, 2024. Stratigraphy, depositional environments and provenance of the Shemshak Group (Upper Triassic–lower Middle Jurassic) on the northern Tabas Block; evidence for the emergent Cimmerian ridge in Central Iran. Marine and Petroleum Geology, 167: 106980.

Salehi, M.A., Wilmsen, M., Zamanian, E., Baniasad, A. and Heubeck, C., 2023. Depositional and thermal history of a continental, coal-bearing Middle Jurassic succession from Iran: Hojedd Formation, northern Tabas Block. Geological Magazine, 160(2): 235-259.

Salehi, M.A., Heubeck, C. and Kiefer, S., 2023. Chemical composition of detrital chrome spinel and clinopyroxene from the Middle Eocene to lowermost Oligocene sandstones of central Iran (Nain area): Constraints on ophiolite provenance. Geochemistry, 83(3): 125983.

Salehi, M.A., Mallah, M. and **Jafarzadeh, M., 2023.** Provenance and tectonic setting of the Middle Eocene lower Akhoreh Formation, Nain area, Central Iran, assessed using petrography and geochemistry. *Geological Quarterly*, 67(14): 1-19.

Salehi, M.A., Sobhani, J., Mehrabi, H. and Kazem Shiroudi, S., 2023. Rock typing determination of the Dariyan Formation for reservoir evaluation in the framework of depositional sequences in an oilfield in the eastern Persian Gulf. *Journal of Petroleum Research*, 33(1402-1): 20-39.

Sattari, E., **Bahrani, A., Vaziri-Moghaddam, H.,** Taheri, A. and Boncheva, I., 2023. Biostratigraphy, Microfacies, Sedimentary Environments and Sequence Stratigraphy of the Late Devonian–Carboniferous Deposits at the Anarak Section, Central Iran. *Acta Geologica Sinica - English Edition*, 97(4): 1038-1057.

Tadayon, M., Rashid, H., **Salehi, M.A.** and Aslani, A., 2022. Post-Cretaceous structural reconstruction of the west Central Iranian micro-plate: Insights from structural and magnetic fabrics (AMS) constraints. *Journal of Structural Geology*, 160: 104601.

Mallah, M., **Salehi, M.A., Jafarzadeh, M.** and Mazroei Sebdani, Z., 2022. Facies and sedimentary environment of the lower Akhoreh Fm (Middle Miocene), Shurab section, north of Nain. *Applied Sedimentology*, 10(19): 169-185.

Mousavi, S.A., **Salehi, M.A., Vaziri-Moghaddam, H.,** Shabafrooz, R. and Ghanavati, K., 2023. Reservoir Quality Evaluation of the Asmari Formation by Integrating Diagenesis and Different Rock Typing Methods in Mansurabad Oilfield. *Journal of Petroleum Research*, 33(1402-5): 63-80.

Mousavi, S.A., **Vaziri-Moghaddam, H., Salehi, M.A.,** Shabafrooz, R. and Ghanavati, K., 2022. Biostratigraphy and microfacies of the Asmari Formation in the Mansourabad Oilfield, southwest of Iran. *Applied Sedimentology*, 10(20): 194-209.

Research Group Journal published by University of Isfahan:

Journal of Stratigraphy and Sedimentology Research (indexed by Scopus),
([link](#))

Equipment:

Thin section preparation laboratory

[Petrography of sedimentary rocks lab](#)

[Macro and micro-Paleontology lab](#)

Cold [CL Microscopy](#).

Epi-fluorescence Microscopy

Magnetic heavy mineral separator

Sample preparation lab for [geochronology/fission Track analysis](#)





Scientific collaboration: University of Jena, Germany, Senckenberg Natural History Collections Dresden, Germany, Tabas UNESCO Global Geopark, Mobarakkeh Steel Co. (MSC), Water Research Institute (Karst Center), NISOC.



Yearly field trips and fieldwork for last semester BSc and MSc students in coal bearing basins of east-central Iran.



Subsurface data available to research group members from the coal bearing basins of east-central Iran.