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Position

- Current: Assistant Professor, Geology Department, Tarbiat Modares University, Tehran, Iran, Since 2021
- Previous: Assistant Professor, Department of Earth Sciences, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, 2015–2021

Education

- Ph.D. Structural Geology and Tectonics (2009–2014), Tarbiat Modares University, Iran, in collaboration with Geociencias Barcelona-CSIC, Spain
- M.Sc. Structural Geology (2007–2010), Tarbiat Modarres University, Iran
- B.Sc. Geology (2003–2007), Shiraz University, Iran

Research Interest

- Tectonics, Structural Geology, Sedimentary Basins, Salt Diapirism
- Reconstruction of mountain building processes through tectonics-stratigraphy and sedimentary provenance analysis
- 2D and 3D geometry and kinematics of folds and faults in fold-thrust belts and accretionary wedges by combining field and seismic data
- Foreland basin systems, absolute dating of syntectonic successions by Magnetostratigraphy, detrital zircons and Strontium isotopes

Teaching

- Tectonics
- Advanced and Applied Structural Geology
- Tectonics and Sedimentation
- Geochronology
- Seismic Stratigraphy
- Diapirism

Languages

- English (Fluent), Persian (Native), Azerbaijani (Conversational), Spanish (Basic)

2022

- Etemad-Saeed, N., **Najafi, M.**, Nasirizadeh, N., 2022. Oligocene–late Miocene basin evolution in the Yengejeh syncline in Central Iranian Basin in response to the Arabia-Eurasia orogeny. **Journal of Sedimentary Research**, 92 (9): 836–857. <https://doi.org/10.2110/jsr.2021.140>
- Tavakolian, I., Yassaghi, A. and **Najafi, M.** 2022, Structural style in the south Dezful Embayment, SW Iran: combined influence of the Zagros frontal fault system and the detachment in the Miocene Gachsaran Formation. **Journal of Petroleum Geology**, 45: 303-323. <https://doi.org/10.1111/jpg.12821>

2021

- **Najafi, M.**, Beamud, E., Ruh, J., Mouthereau, F., Tahmasbi, A., Bernaola, G., Yassaghi, A., Motamedi, H., Sherkati, S., Goodarzi, M.G.H. and Vergés, J., 2021. Pliocene growth of the Dowlatabad syncline in Frontal Fars arc: Folding propagation across the Zagros Fold Belt, Iran. **GSA Bulletin**, 133(7-8), pp.1381-1403. <https://doi.org/10.1130/B35748.1>
- Etemad-Saeed, N., Knoll, A.H., **Najafi, M.**, Bergmann, K.D., Haseley, N. and Karimi, S., 2021. Carbon isotope chemostratigraphy of a Gondwanan Ediacaran–Cambrian transition, Soltanieh Mountains, northern Iran. **Gondwana Research**, 99, pp.163-177. <https://doi.org/10.1016/j.gr.2021.07.001>
- Mohammadnia, M., **Najafi, M.** and Mousavi, Z., 2021. InSAR constraints on the active deformation of salt diapirs in the Kalut basin, Central Iran. **Tectonophysics**, 810, p.228860. <https://doi.org/10.1016/j.tecto.2021.228860>
- Jamalreyhani, M., Pousse-Beltran, L., Büyükkapınar, P., Cesca, S., Nissen, E., Ghods, A., López-Comino, J.Á., Rezapour, M. and **Najafi, M.**, 2021. The 2019–2020 Khalili (Iran) earthquake sequence—anthropogenic seismicity in the Zagros Simply Folded Belt?. **Journal of Geophysical Research: Solid Earth**, p.e2021JB022797. <https://doi.org/10.1029/2021JB022797>

2020

- **Najafi, M.** and Lajmorak, S., 2020. Contractional salt-tectonic system in the south Dezful embayment, Zagros. **Journal of Structural Geology**, p.104204. <https://doi.org/10.1016/j.jsg.2020.104204>
- Etemad-Saeed, N., **Najafi, M.**, and Vergés, J., 2020, Provenance evolution of Oligocene–Pliocene foreland deposits in the Dezful embayment to constrain Central Zagros exhumation history: **Journal of the Geological Society**, v. 177, p. 799–817. <https://doi.org/10.1144/jgs2019-206>
- Lashgari, M.R. Hayhat, J. Vergés, E. Beamud, **M. Najafi**, M.M. Khatib, H.R. Karimnejad. 2020. Age of synorogenic deposits and timing of folding in Dezful embayment, SW Zagros Fold Belt, **Marine and Petroleum Geology**, 104148, ISSN 0264-8172, <https://doi.org/10.1016/j.marpetgeo.2019.104148>
- Dashti, F., Lucente, F.P., Motaghi, K., Bianchi, I., **Najafi, M.**, Govoni, A. and Shabanian, E. 2020. Crustal scale imaging of the Arabia–Central Iran collision boundary across the Zagros suture zone, west of Iran. **Geophysical Research Letters**. <https://doi.org/10.1029/2019GL085921>

2019

- Etemad-Saeed, N. and **Najafi, M.**, 2019. Provenance and geochemical variations across the Ediacaran–Cambrian transition in the Soltanieh Formation, Alborz Mountains, Iran. **Geological Magazine**, 156(7), pp.1157-1174. <https://doi.org/10.1017/S001675681800050X>

2018

- **Najafi, M.**, Vergés, J., Etemad-Saeed, N. and Karimnejad, H.R., 2018. Folding, thrusting and diapirism: Competing mechanisms for shaping the structure of the north Dezful Embayment, Zagros, Iran. **Basin Research**, 30(6), pp.1200-1229. <https://doi.org/10.1111/bre.12300>

2014

- **Najafi, M.**, Yassaghi, A., Bahroudi, A., Vergés, J., Sherkati, S. 2014. Impact of the Late Triassic Dashtak intermediate detachment horizon on anticline geometry in the Central Frontal Fars, SE Zagros Fold Belt, Iran. **Marine and Petroleum Geology**, Volume 54, June 2014, Pages 23–36. <https://doi.org/10.1016/j.marpetgeo.2014.02.010>

Conferences

- Vergés, J., **Najafi, M.**, Heydarzadeh, K., Etemad-Saeed, N., 2022. Role of Miocene syntectonic Gachsaran evaporites on building the Dezful embayment structure Zagros Fold Belt, Iran. AAPG Europe. Structural Styles and Hydrocarbon Prospectively in Thrust Belt Settings: A Global Perspective. At Barcelona. June 2022.
- Alimola, Z., Etemad-Saeed, N., **Najafi, M.**, Karimi, S., 2019. Provenance and Tectonic Setting of the Oligocene–Lower Miocene Syntectonic Deposits in the Mahneshan Area, Central Iranian Basin. 3rd TRIGGER International Conference, 8-10 October 2019, Zanjan, Iran.
- Aghdamirad, H., **Najafi, M.**, 2019. Fault kinematics and stress history in the Makran accretionary wedge, SE Iran. 3rd TRIGGER International Conference, 8-10 October 2019, Zanjan, Iran.
- Kheradmandi, M., Abbasi, M., **Najafi, M.**, Abbasi, M., 2019. Comparison of Different Data Processing Strategies for Precise GPS Observations across the Makran accretionary wedge, SE Iran. 3rd TRIGGER International Conference, 8-10 October 2019, Zanjan, Iran.
- Dashti, F., Lucente, F., Motaghi, K., **Najafi, M.**, Bianchi, I., Shabanian, E. and Ghods, A. 2019. Anisotropic Velocity Structure beneath the Arabia – Central Iran collision boundary (the Zagros suture zone). 3rd TRIGGER International Conference, 8-10 October 2019, Zanjan, Iran.
- Beamud, E., **Najafi, M.**, Vergés, J., Reza, A., Yassaghi, A., Sherkati, S., Mouthereau, F., Bahroudi, A., Goodarzi, H., Motamedi, H. (2014) - Magnetostratigraphic constraints on the timing of deformation in Frontal Fars Arc (Zagros Folded Belt, Iran). 14th Castle Meeting "New trends on Paleo, Rock and Environmental Magnetism", Evora (Portugal), 31 August - 6 September. Oral Presentation
- **Najafi, M.**, Beamud, E., Vergés, J., Yassaghi, A., Sherkati, S., Bahroudi, A. (2012). 3-D Structure of the Permian Reservoir and Timing of Deformation in Frontal Fars, Zagros Fold-Thrust Belt. Presented at Daryush Conference, Evolution of the Zagros-Makran Fold Belts, Institute of Earth Sciences 'Jaume Almera', ICTJA-CSIC, Barcelona, Spain, 14-15 May 2012. Oral Presentation
- **Najafi, M.**, Yassaghi, A., Bahroudi, A. (2010). How to Recognize Reverse and Strike-Slip Concealed Basement Faults in Zagros Fold-Thrust Belt. European Geosciences Union, General Assembly 2010, Vienna, Austria, 02 – 07 May 2010. Oral Presentation
- **Najafi, M.**, Yassaghi, A., Bahroudi, A. (2008). The Significance of basement faulting on fold style of cover sequence with median detachment in Zagros foreland fold-thrust belt: Analogue modeling and natural examples. European Geosciences Union, General Assembly 2008, Vienna, Austria, 13 – 18 April 2008. Oral Presentation

Professional Experience

Since 2021

- Assistant Professor at the Department of Geology, Tarbiat Modares University, Tehran, Iran

2015–2021

- Assistant Professor at the Department of Earth Sciences, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran

2012–2015

- Geological mapping and structural and cross-section construction projects, including:
- Geological mapping of two 1: 50,000 sheets in Eastern Zagros (Nesa and Farmanan sheets)
- Cooperation in geological mapping of a 1: 50,000 sheets in SE Zagros (Kunar-Takhteh sheet)
- Cooperation in geological mapping of a 1: 50,000 sheets in SW Zagros (Murmuri sheet)
- Cooperation in 1: 25,000 geological mapping and cross-section construction across the Central Alborz Mountains
- 1: 50,000 regional cross-section constructions across Torbat-Jam block, Eastern Iran

2010–2012, Petrokav-Zagros consulting engineers. Projects:

- Effect of intermediate evaporitic detachment levels on gas exploration well planning in the Fars Paleo-high, SE Zagros
- Mapping of transvers regional scale faults in SE Zagros

2007–2009, Parskani consulting engineers. Projects:

- Geological mapping of Kangan area, SE Zagros, at the scale of 1: 25,000
- Landslide risk micro-zonation of Kangan area, SE Zagros
- Geological mapping of Talmesi and Godar-Berenji areas, central Iran, at the scales of 1: 1,000 and 1: 2,500
- Fault and joint studies in the Talmesi and Godar-Berenji areas, central Iran
- Fault and fracture mapping of the Syah-Madan mining area, central Iran

2006–2007, Abvarzan consulting engineers. Projects:

- Geological and geotechnical investigation and site selection for the Tuba concrete dam, Hamadan, Iran

Software Skills

- Structural Modeling: Midland Valley 2DMove and 3DMove; Schlumberger Petrel; Paradigm GOCAD; AutoCAD Map 3D; RockWare Rock work
- Mapping and Satellite Image Processing: Arc GIS; Global Mapper; MapSource; Surfer; GeoSetter
- Fault Dynamics: Fault kin; Tectonics FP; Dips; Yamaji
- General Application: Microsoft Office (Excel, Word, PowerPoint, MS project); Mendeley
- Graphics: CorelDRAW, Canvas GIS; Adobe Photoshop; Adobe Illustrator