

# Curriculum Vitae

## Aref Shamszadeh, Ph.D.

Structural Geologist/Geophysicist



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### Current Position:

**Assistant Professor of Structural Geology**

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### CAREER SUMMARY

Graduated in Ph.D. of Structural Geology and Tectonics with 7 years of experience in oil & gas and mining industries. Proven abilities in coordinating small- and large-scale complex projects, and various surface, subsurface and experimental data collection methods to provide innovation solution for petroleum system and sustainability energy. Skilled in performing seismic interpretation, structural geology, fracture analysis and modeling, 3D structural restoration, static modelling and reservoir characterization. Aref currently works as Assistant Professor at Tarbiat Modares University lecturing courses Seismic sequence, Salt Tectonics, geophysics and Analog Modelling for postgraduate students, and developing curricula, and supervising research. Committed to innovative teaching methods, student engagement, and continuous improvement in educational outcomes. Actively up-to-date towards future prospects of Energy transition (leading to net-zero carbon) by discovering and evaluation of subsurface structural/stratigraphical traps for sustainable storage, e.g., salt-related structures. My research works published in several high-impact peer-reviewed journals and successful presentations at international conferences, advancing new finding in petroleum system structures.

### AREA OF TECHNICAL EXPERTISE

3D Basin Analysis, Structural Geology, Seismic Interpretation, 2D and 3D Structural Restoration, Experimental Analog Modelling, Geodynamics, CO2 storage, Geomechanics, Geo-modelling, Field-based studies, Fault and Fracture Analysis, Geological mapping, Core studies and Image log interpretation

**Grants, Scholarships & Awards:** Member of Iran's National Elites Foundation; Ranked 3 in the Annual PHD Entrance Exam of Geology, 2016 (Among 250 participants); Ranked 1 among all graduated student in M.Sc. degree (2015, Shahid Beheshti university, department of earth science); Selected as the top-student of the Shahid Beheshti University, Faculty of Earth Sciences (2016);

### EDUCATION

- Postdoc Researcher in Structural Geology and Petroleum systems (2024-2026)  
Tarbiat Modares University, Tehran. Iran
- Ph.D. in Structural Geology and Tectonics (2016-2022)
  - Shiraz University, Shiraz, Iran
- Visiting researcher in Experimental Modeling and Basin analysis (2018-2019)
  - Barcelona University, Barcelona, Spain
- M.Sc. in Structural Geology and Tectonics (2013-2015)
  - Shahid Beheshti University of Tehran, Tehran, Iran
- BA in Applied Geology (2009-2013)
  - Damghan University of Basic Sciences, Damghan, Iran

## **EMPLOYMENT RECORDS**

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### ➤ **Work Experiences**

- **Assistant Professor in Structural Geology (January 2026-present)**
  - **Tarbiat Modares University**  
Location; Tehran/Iran
- **Senior Structural Geologist/Geophysicist (January 2023-January 2026)**
  - **Tehran Energy Consultants Co. (TEC)**  
Location; Tehran/Iran
- **Reservoir/ Structural Geologist (August 2021-October 2022)**
  - **CAPE Consultants Engineering Group**  
Location: Tehran/Iran
- **Structural Geologist/ Geophysicist (December 2018-August 2021)**
  - **Sahra Kav Consultant Engineering Co.**  
Location: Tehran/Iran
- **Lecturer, Teacher Assistant (2019-2021)**
  - **Shiraz University**  
Location: Shiraz, Iran

### ➤ **Main Responsibilities**

#### **Oil/gas industry:**

- Lead a geoscience team in performing analysis of structurally complex oil/gas fields
- Detailed analysis and prepared technical reports for following tasks:
  - Regional geological setting studies
  - 3D and 2D seismic interpretation
  - Structural geology
    - Fault geometry and dynamics analysis
    - Fracture studies and modeling
    - Fold geometry and balanced cross sections
    - 2D and 3D Structural Restoration
  - Reservoir characterization
  - Experimental Modelling
  - Core studies and Image log interpretation
  - Seismic Sequence Stratigraphy
  - Geological/Static Modeling
    - Structural framework modeling
    - Pillar Gridding

#### **Geotechnical engineering industry:**

- Collaborated with multidisciplinary team to develop cost-effective and innovative geotechnical solution
- Conducting geological maps at the scales of 1:25000 and 1:5000
- Mapping structures and lithology of excavated tunnels to be used in future re-enforcement and waterproofing maintenance

### ➤ **Projects**

#### **Oil and Gas industry Projects:**

- ✓ Development and Production Operations Plan (DPOP) of the Band-e-Karkheh Oil Field, 2D and 3D Seismic Structural Interpretation, 2025.
- ✓ Full Field Study and MDP Preparation for Shadegan Oil Field, North Dezful Embayment (NISOC), 2025.

- ✓ Complementary Subsurface Studies of the Azadegan Field, SW of Zagros Foreland Basin, Onshore, 2022-2024.
- ✓ Development and Production Operations Plan (DPOP) of the Azadegan Oil Field, (NIOC), Carbonate and Siliciclastic reservoirs, 2023.
- ✓ Complementary Subsurface Studies of the Parsi Field, SW of Zagros Foreland Basin, Onshore, 2021-2022.
- ✓ Integrated Reservoir Study and Master Development Plan (MDP) of Reshadat Field, Offshore, 2022-2024.
- ✓ Integrated Reservoir Study and Master Development Plan (MDP) of Bahregansar Field, Offshore, 2021-2023.
- ✓ Integrated Reservoir Study and Master Development Plan (MDP) of Foroozan Field, Offshore, 2020-2021.
- ✓ Integrated Reservoir Study and Master Development Plan (MDP) of Hendijan Field, Offshore, 2019-2021.
- ✓ Integrated Reservoir Study and Master Development Plan (MDP) of Aboozar Field, Offshore, 2019-2020.

**Academic-industry joint project:**

- ✓ Participation in a project entitled “Geometry and evolution of structures in the South Dezful Embayment based on balanced cross-section construction and stepwise restoration” as a Postdoc. Researcher.
- ✓ Participation in hydrocarbon exploration project of the South Dezful Embayment, Gachsaran oilfield, and adjacent area with National Iranian South Oil Company (NISOC) as a Ph.D. student.
- ✓ Participation in the hydrocarbon exploration project of the central part of Lorestan province, Babahabib Oilfield, and the neighboring area, with the National Iranian Oil Company Exploration Direction as an MSc student.

**Geotechnical and mining engineering projects:**

- ✓ Geotechnical and structural analysis of the Pardis Technology Tunnel, East Tehran (2023)
- ✓ Comprehensive exploration study and mineral resource of the Khanjar mine, South of the Damghan (2019)

**ACADEMIC EXPERIENCES**

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- Lecturer of Seismic Sequence Stratigraphy and Salt Tectonics courses for Ph.D. students at Tarbiat Modares University (2024-2025)
- Teacher Assistant (TA) at the University of Shiraz (2019-2021). Provided courses: Experimental modeling, Quaternary Geology, and Field Geology for undergraduate and postgraduate students.
- Research visitor at the Department of Earth Sciences of Barcelona University for one year as a Ph.D. sabbatical. (September 2018- August 2019).
- Master's thesis advisor at the University of Bu-Ali Sina with Title "Structural Analysis of the Sarkan Anticline". (2017)
- Master's thesis advisor at the University of Bu-Ali Sina with Title "Structural Analysis of the Dareh Baneh Anticline, Lorestan Province. (2017)

**Teaching Courses**

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|------------------------------------------|-------|
| • Seismic Sequence stratigraphy          | Ph.D. |
| • Salt Tectonics (Diapirism)             | Ph.D  |
| • Application of Geophysics in Tectonics | Ms.c  |

## **PUBLICATIONS**

1. **Shamszadeh**, A., Sarkarinejad, K., Ferrer, O., Mukherjee, S., & Seraj, M. (2022). Interaction of inherited structures and contractional deformation in the South Dezful Embayment: Insights from the Gachsaran oilfield, SW Iran. *Marine and Petroleum Geology*, 105871.
2. **Shamszadeh**, A., Sarkarinejad, K., Ferrer, O., Mukherjee, S., & Seraj, M. (2022). Effect of inherited structural highs on the structure and kinematics of the South Dezful Embayment, SW Iran. *Geological Magazine*, 1-23.
3. Jamalreyhani, M., Pousse-Beltran, L., Hassanzadeh, M., Arabi, S. S., Bergman, E. A., **Shamszadeh**, A., ... & Songhori, A. (2023). Co-seismic slip of the 18 April 2021 Mw 5.9 Genaveh earthquake in the South Dezful Embayment of Zagros (Iran) and its aftershock sequence. *Seismica*, 2(1).
4. **Shamszadeh**, A., Alavi, A., Tavakoli, M., Valinejad, M., (2017). Folding Style and Structural Complexities in Central Lurestan Subzone, *Magazine Exploration and Production, NIOC*, 144, 48-53 (In Persian).
5. **Shamszadeh**, A., Alavi, A., Tavakoli, M., Valinejad, M., (2016). The effect of detachment surfaces on folding geometries in Babahabib and Sarkan oilfields (Central Lurestan region, Northwest Zagros), A case study one of the oil fields areas, *Scientific Quarterly Journal, GEOSCIENCES*, Vol. 25, No.98 (In Persian).
6. Alipoor, R., Rahmanian, N., **Shamszadeh**, A., (2018). Detachment folding and role of detachment levels on the structural style of the Sargelan anticline, Lurestan zone, NW Zagros (2017), The 5th conference of Tectonic and structural geology of Iran, Iran, Tehran (In Persian).
7. Alipoor, R., Rahmanian, N., **Shamszadeh**, A., (2017). The Study of Structural Geometry and Detachment Levels in the East Darreh-Baneh Anticline, Lurestan zone, West Zagros, (2018), *Kharazmi Journal of Earth Sciences*, Vol.4, No.1 (In Persian).
8. Alipoor, R., Sadr, A.M, Shahmoradi, A., **Shamszadeh**, A., (2020). Geometric and kinematic analysis of the Sarkan anticline, Lurestan, west of Iran, *Quarterly Iranian Journal of Geology*, Vol, 14, No., 55, PP, 1-16 (In Persian).

## **Conferences**

1. **Shamszadeh**, A., Adhamian, A., Jamalian, M., AbdollahieFard, I., Asaad, A., Soltani, B., (2024). Effect of deep-seated structural elements in the basin evolution and petroleum system of the Mesopotamian Zagros Foreland basin, *GEOKURDISTAN VI*, (No: GK6-111).
2. **Shamszadeh**, A., Lotfpour, M., Ferrer, O., Adhamian, A., & Asaadi, A. (2024). New insight into salt-related structure in the Onshore Zagros foreland basin, a prospect into the deep gas reservoirs (No. EGU24-603). *Copernicus Meetings*
3. Soltani, B., Mousavi-Haramib, R., Rabbani, A., Asaadi, A., **Shamszadeh**, A., (2024). Identification of Sequence Stratigraphic Surfaces Using Petrophysical Logs: Implication for Petroleum System Elements; Case Studies from Siliciclastic and Carbonate Oil/Gas Reservoirs in Iran, *GEOKURDISTAN VI*, (No: GK6-111).
4. Asaadi, A., Honarmand, J., Lotfpour, M., Immandoust, A., **Shamszadeh**, A., Soltani, B., (2024), The discrimination of paleo-exposure surfaces at the Sarvak Formation in the Abadan plain oil fields: An integrated approach
5. Alipoor, R., Sadr, A.M, Shahmoradi, A., **Shamszadeh**, A., (2018). Geometrical and kinematical analysis of the Sarkan anticline, Zagros belt, West Iran (2018), The 36th national and 3rd international geosciences congress, Tehran, Iran (In Persian).
6. Alipoor, R., Rahmanian, N., **Shamszadeh**, A., (2018). Structural and Geometrical analysis of the Eastern Darreh Baneh anticline in the Lurestan zone, West Zagros belt (2018), The 36th national and 3rd international geosciences congress, Tehran, Iran (In Persian).
7. **Shamszadeh**, A., Alavi, A., Tavakoli, M., Valinejad, M., (2017). Evaluation of Surface and Subsurface Structures in the Amiran foreland Basin, NW of Zagros fold and thrust belt, the 5th conference of Tectonic and structural geology of Iran, Tehran, Iran (In Persian).

## **COMPUTER SOFTWARE SKILLS**

I am quite familiar with the following general and specific software:

- **GENERAL**

AutoCAD, Word, Excel, PowerPoint, Adobe Acrobat, PhotoShop, Corel Draw, Illustrator...

- **SPECIFIC**

Petrel, 2D & 3D Move, Arc GIS, Geolog, ENVI, Global Mapper, Geomatica, Stereonet

## **LANGUAGE**

<i>Language</i>	<i>Reading</i>	<i>Speaking</i>	<i>Writing</i>
<i>English</i>	Good	Good	Good
<i>Spanish</i>	Low to Moderate	Low to Moderate	Low to Moderate
<i>Farsi</i>	Native	Native	Native

## **GENERAL INFORMATION**

**Interests:** outdoor activities – Professional Taekwondo Player and coach, running, Swimming, Mountain climbing and hiking, Futsal (Championship at the provincial level); Love adventure trips in the heart of nature, traditional music

**Professional training:** Drilling and completion fluid design (Sep. 2024, TEC Co., Tehran, Mr. Sheykhi); Geological Static Modelling (CAPE Group, Feb. 2022, M. Seyed Ali); Facies Rock Typing: Connecting Geoscience to RSM (TEC Co., Aug 2024, Mr. Mirzaei); GIS (Technical and Professional Organization of Iran, Jun 2011); The First Aid and Emergency Medicine (Aug 2023, Red Crescent Society of Iran)