



## Mehdi Razavifar

### Assistant Professor of Petroleum Engineering

Faculty of Chemical & Petroleum Engineering  
University of Tabriz, P.O. Box: 51666-16471  
Tabriz, IRAN



**M.razavifar@tabrizu.ac.ir**  
Mahdi.razavifar@gmail.com



+98-4133392509



<https://scholar.google.com/citations?user=vCz-OSIAAAAJ&hl=en>



<https://www.linkedin.com/in/mahdirazavifar>



[https://www.researchgate.net/profile/Mahdi\\_Razavifar](https://www.researchgate.net/profile/Mahdi_Razavifar)



<https://orcid.org/0000-0001-8474-5314>

Date of birth: 1992/07/06  
Marital status: Married  
Nationality: Iranian  
Tabriz - Iran



### Education

Postdoc	Petroleum Engineering	Shiraz University, Iran	2022-2023
		Hakim Sabzevari University, Iran	2022-2023
Ph.D.	Petroleum Engineering	Shiraz University, Iran	2017-2022
		Skoltech University, Russia (Visiting Student)	
M.Sc.	Petroleum Engineering	Shahid Bahonar University, Iran	2015-2017
B.Sc.	Petroleum Engineering	Sharif University of Technology, Iran	2010-2014

Pre-University and Diploma in Physics and Mathematics



## Awards and honors

---

- Winner of the Alborz Foundation Award (*Iranian Nobel*)  
*Selected as a top scientific elite, Iran – 2021*
- Exemplary and top student of Shiraz University, Iran – 2022
- Silver medal winner  
*Khayyam International Innovation and Invention Festival – 2020*
- Exemplary and top researcher of Fars Province, Iran- 2020



## Research Interests

---

- ✓ Improved Oil Recovery (IOR) Methods
- ✓ Ultrasonic Wave Irradiation (Well Stimulation Method)
- ✓ Smart Water Injection (EOR)
- ✓ Nano Particle (EOR)
- ✓ Gas Storage in Underground Structures (CO<sub>2</sub> and H<sub>2</sub> Storage)
- ✓ Renewable Energies



## Work Experiences

---

### • Lecturer

*Tehran University, Fouman Faculty of Engineering, Iran* (2022 - 2023)

*Shiraz University, Shiraz, Iran* (2018 - 2022)

### • Managing Director

*Karafarinan Iranian Company, Iran* (2021 - 2023)

### • Mentor of R&D Team

*World Petroleum Council (WPC), Iran* (2020 - 2022)

### • R & D Manager

*Petro Bamdad Kish (PBK) Company, Iran* (2014 - 2016)



## Patents

---

- 1- Transparent Porous Medium set-up with Radiation Capability of Ultrasonic and Magnetic Waves  
*Razavifar.M, Qajar.J, Riazi.M - Acceptance number: 99155, Iran Patent Center.*
  
- 2- Transparent Porous Medium set-up with the Capability of Adjusting the Temperature of Injection Fluid and the Fluid within the Model  
*Razavifar, Riazi.M, Qajar.J - Acceptance number: 99596, Iran Patent Center.*
  
- 3- Three-dimensional transparent Porous Medium set-up  
*Acceptance number: 100364, Iran Patent Center.*
  
- 4- Transparent Porous Medium set-up with Capability of Pressure Measurement  
*Acceptance number: 102772, Iran Patent Center.*
  
- 5- Ultrasonic Transducer to improve oil recovery  
*Razavifar.M, Qajar.J, Riazi.M - Acceptance number: 105686, Iran Patent Center.*



## Articles

---

- 1- Qajar, Jafar, Mehdi Razavifar, and Masoud Riazi. "A mechanistic study of the synergistic and counter effects of ultrasonic and solvent treatment on the rheology and asphaltene structure of heavy crude oil." *Chemical Engineering and Processing-Process Intensification* (2023): 109619.  
<https://doi.org/10.1016/j.cep.2023.109619>
  
- 2- Rahimi, A., Abedi, S., Baneh, S. S., Roozbahani, A., & Razavifar, M. (2023). Evaluation of a Novel Nanoclay-Surfactant-Stabilized CO<sub>2</sub> Foam for EOR Applications. *Arabian Journal for Science and Engineering*, 1-11.  
<https://doi.org/10.1007/s13369-023-07875-w>
  
- 3- Amraeiniya, A., Rahimi, A., Nikpour, N., Baneh, S. S., Arabzadeh, F., & Razavifar, M. (2023). Inhibition of asphaltene deposition by Al<sub>2</sub>O<sub>3</sub> nanoparticles during CO<sub>2</sub> injection. *Petroleum Research*.  
<https://doi.org/10.1016/j.ptlrs.2023.03.001>
  
- 4- Razavifar, M., Almasiyan, P., & Rezaei, A. (2023). EOR potentials in the poststeam-injected heavy oil reservoirs. In *Thermal Methods* (pp. 355-384). Gulf Professional Publishing.  
<https://doi.org/10.1016/B978-0-12-821933-1.00005-7>

- 5- Razavifar, M., Qajar, J., & Riazi, M. (2022). Experimental study on pore-scale mechanisms of ultrasonic-assisted heavy oil recovery with solvent effects. *Journal of Petroleum Science and Engineering*, 110553.  
<https://doi.org/10.1016/j.petrol.2022.110553>
- 6- Razavifar. M, Mukhametdinova, A., Nikooee, E. et al. Rock Porous Structure Characterization: A Critical Assessment of Various State-of-the-Art Techniques. *Transp Porous Med* 136, 431–456 (2021).  
<https://doi.org/10.1007/s11242-020-01518-6>
- 7- Rezaie.M, Khodabakhsi.M, Esmaeli.A, Razavifar.M, Effects of Initial Wettability and Different Surfactant-Silica Nanoparticles Flooding Scenarios on Oil-Recovery from Carbonate Rocks. *Petroleum journal*. (2021).  
<https://doi.org/10.1016/j.petlm.2021.03.009>
- 8- Razavifar. M, and Qajar. J. “Synergistic effects of ultrasonic irradiation and  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanoparticles on the viscosity and thermal properties of an asphaltenic crude oil and their application to in-situ combustion EOR”. *Ultrasonics* (2021).  
<https://doi.org/10.1016/j.ultras.2021.106655>
- 9- Hatami. M... Razavifar. M, “Effects of Initial Wettability and Different Surfactant-Silica Nanoparticles Flooding Scenarios on Oil-Recovery from Carbonate Rocks”. *Petroleum journal*. (2021).  
<https://doi.org/10.1016/j.petlm.2021.09.002>
- 10- Razavifar. M, and Qajar. J. "Experimental investigation of the ultrasonic wave effects on the viscosity and thermal behaviour of an asphaltenic crude oil." *Chemical Engineering and Processing-Process Intensification* 153 (2020): 107964.  
<https://doi.org/10.1016/j.cep.2020.107964>
- 11- Razavifar. M, Malayeri.M. (2019). Investigating effective factors in asphaltene deposition along with the results of case studies in oil reservoirs in southern Iran. *Journal of Oil & Gas Exploration & Production, Iran* (164).
- 12- Razavifar. M, Qajar. J. (2019). Investigating the mechanisms of improving oil recovery in low salinity water injection using the digital rock physics (DRP) method. *Journal of Oil & Gas Exploration & Production, Iran* (167).
- 13- Razavifar. M, Nikooee. E, Qajar. J (2018). Application of Nuclear Magnetic Resonance (NMR) in the Petroleum Industry. *Journal of Oil & Gas Exploration & Production, Iran* (158).
- 14- Razavifar. M, Qajar. J (2018). A Review on the Smart and Low Salinity Water Injection in Carbonate Rocks. *Journal of Oil & Gas Exploration & Production, Iran* (153).
- 15- Razavifar. M (2017). A Review on the Applications of Ultrasonic Waves on the Oil Industry. *Journal of Oil & Gas Exploration & Production, Iran*. (145).



- 1- Mehdi Razavifar, Qajar, Jafar, and Masoud Riazi. "The Effect of Simultaneous Use of Ultrasonic Waves and Solvents on the Crude Oil Viscosity", International DICLE Scientific Reserach and Innovation Congress, Turkey (2023).
- 2- Khodarahmi.S, Razavifar.M, Mohammadzade Shirazi. M. (2022). "The effect of well locations on the efficiency of water injection in one of the oil reservoirs in south of Iran". The 6th International Conference on Applied Research in Science and Engineering, Aachen, Germany.
- 3- Khodadahi. M, Razavifar.M. (2021). "Application of polymer injection for enhanced oil recovery". 9th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 4- Behmanesh Zad .M, Razavifar.M. (2021). "Review on chemical enhanced oil recovery methods". 9th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 5- Tayyebi.A, Razavifar.M. (2020)." The Effect of Emulsion Formation on Production of Oil Reservoirs". 6th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 6- Naghiei.A, Riahi.Sh, Razavifar.M. (2020). "Investigation and evaluation of Enhanced oil Recovery by Smart Water Injection in Carbonate Reservoirs". 7th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 7- Ebrahimi. M, Mousavi.M, Zare.A, Razavifar.M. (2020). "Application of Artificial Intelligence in Oil Industry". 13th international Conference on Engineering and Technology. Norway.
- 8- Mohammadi.A, Farahi.M, Razavifar.M. (2020). "Gas Hydrates and Prevention Methods". 13th International Conference on Engineering and Technology. Norway.
- 9- Razavifar.M. (2020). "Application of Magnetic Waves to Improve Production of Oil Reservoirs". 13th International Conference on Engineering and Technology. Norway.
- 10- EbayHasani.P, Razavifar.M. (2020). "Application Of Transparent Porous Medium in The Oil Industry". 2nd International Congress on Science and Engineering. Paris (France).
- 11- Taam.S, Razavifar.M. (2020). "Factors Affecting the VAPEX Process in Heavy Oil Reservoirs". 5th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 12- Zare.A, Mousavi.M, Ebrahimi.M, Razavifar.M. (2020). "The Application of Carbon Dioxide Injection to Enhanced Oil Recovery". 13th International Conference on Engineering and Technology. Norway.
- 13- Hayatizadeh.E, Razavifar.M. (2020). "Evaluation and Analysis of the Type of Damage in the Oil Reservoirs". 13th International Conference on Engineering and Technology. Norway.
- 14- Farahi. M, Mohammadi.A, Razavifar.M. (2020). "Sand Production Control Methods in the Oil Fields". 13th International Conference on Engineering and Technology. Norway.
- 15- M. Farahi, A. Rahimian, Razavifar. M. (2019). "Application of Nanomaterials in Improving Properties of Drilling Mud". 4th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 16- Mohammadi. A, Konani. O, Razavifar. M. (2019). "Application of Magnetic Waves to Improve Production from Oil Reservoirs". 4th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 17- Sisakht M, Razavifar. M. (2019). "Investigation and Evaluation of Well Stimulation Methods in Oil Reservoirs". 4th International Conference on Innovation and Research in Engineering Sciences.

- 18- Kalteh. Sh, Razavifar. M, (2019). "Determination of reservoir rock properties by the imaging method". 4th International Conference on Innovation and Research in Engineering Sciences. Georgia.
- 19- Razavifar. M, Hatamizadeh.A, Qajar.J. (2019). "The application of ultrasonic waves assisted with other enhancing oil recovery methods". The 8<sup>th</sup> International Conference on Oil,Gas, Refining & petrochemical with focus relationship between government, university and industry, Shiraz, Iran.
- 20- Razavifar. M, Mahdiyar. H (2018). "Investigation of High Temperature Water Injection to Enhance the Oil Recovery with Simulation by MATLAB and ECLIPSE". The 8<sup>th</sup> International Conference on Oil,Gas, Refining & petrochemical with focus relationship between government, university and industry, Shiraz, Iran.
- 21- Razavifar. M, Jafari. S (2017). "Experimental Evaluation on the Effect of Ultrasonic on the Viscosity of Maroon Oil". The 4th international conference on Oil, Gas and petrochemical, Tehran University, Iran.
- 22- Razavifar. M, Ranjbar. M, Schaffie. M (2017). "Influence of Ultrasonic and Nano Catalysts on the Crude Oil Thermal Behavior in Relation to Thermal Oil Recovery". The 4<sup>th</sup> National conference on Oil, Gas and petrochemical, Kerman University, Iran. (ISC)
- 23- Razavifar. M, Ranjbar. M, schaffie. M (2017). "Influence of Nano catalysts and ultrasonic on the Viscosity of Maroon oil". The 5<sup>th</sup> international conference on Oil, Gas, Refining & petrochemical with focus relationship between government, university and industry, Iran.
- 24- Razavifar. M, Ranjbar. M, Schaffie. M (2017). "Effect of Ultrasonic Frequency and Power on the Viscosity of Maroon oil". The 1<sup>th</sup> National conference on Iranian Chemical and Chemical Engineering, Kish, Iran.
- 25- Mousavi. M, Razvavifar. M, Ranjbar. M. Schaffie. M (2017). "Influence of Ultrasonic and Nano Catalysts on the Water – Oil Emulsion Stability:.". The 4<sup>th</sup> National conference on Oil, Gas and petrochemical, Kerman University, Iran. (ISC)
- 26- Mousavi. M, Razvavifar. (2017). "Experimental investigation of the effect of ultrasonic Waves on the production of crude oil in the transparent micro-model". 1st International Conference on Oil, Gas, Petrochemical and HSE. Jun 14, 2017.



- 1- EOR potentials in the poststeam-injected heavy oil reservoirs.  
*Razavifar, M., Almasiyan, P., & Rezaei, A. (2023).*  
*In Thermal Methods (pp. 355-384). Gulf Professional Publishing.*  
<https://doi.org/10.1016/B978-0-12-821933-1.00005-7>
- 2- Geostatistical Analysis of Hydrocarbon Reservoirs  
*Jul 24, 2019 - Nebeshteh Publication – Iran.*
- 3- Application of Ultrasonic Waves to Improve Hydrocarbon Recovery  
*Jul 30, 2019 - Nebeshteh Publication – Iran .*
- 4- Chemical Enhanced Oil Recovery Methods  
*Jan 22, 2021 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 5- *Proper Management of Flare Gas in Iran*  
*Jul 8, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 6- Application of Nanotechnology in the Oil Industry  
*Jun 17, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 7- Application of Transparent Porous Media in the Oil Industry  
*May 5, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 8- Fundamental of Fluid Flow and Geomechanics Modeling and Simulation in Porous Media  
*Apr 11, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 9- Application of Imaging Methods in the Identification of Rock Properties  
*Apr 6, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 10- *Production improvement methods in oil reservoirs*  
*Dec 5, 2020 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 11- Step-by-step PVTi software Learning  
*2021- Department of Petroleum Engineering - Iran.*
- 12- Step-by-step Saphir software Learning  
*2021- Department of Petroleum Engineering - Iran.*
- 13- Wellhead and Christmas tree Technology  
*Jan 20, 2022 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 14- Well Stimulation Methods  
*May 2, 2022 - IOI WPC (Iran Oil Industry World Petroleum Council) – Iran.*
- 15- The World of Petroleum Engineering  
*2022- Department of Petroleum Engineering- Iran.*



## Language Proficiency

---

English: Fluent  
Turkish: Fluent  
Persian: Native  
Azerbaijani: Native



## International Associations and Memberships

---



World  
Petroleum  
Council

- ✓ Mentor of R&D (Project) Team - Iran (2020 – 2022)
- ✓ **Key Speaker** At the WPC Expert Workshop on HC Increasing Recovery Efficiency in the Mature Fields: Methods & Technology for Cooperation (Bucharest, **Romania**- 21 & 22 October 2019)



Society of Petroleum Engineers

*Member ID:5091805*

# EAGE

EUROPEAN  
ASSOCIATION OF  
GEOSCIENTISTS &  
ENGINEERS

*Member ID:M2022-104633*





## Teaching Experiences

---

- *Production Engineering*
- *Reservoir Simulation*
- *Enhanced Oil Recovery Methods*
- *Well Test*
- *Reservoir Engineering*
- *Reservoir Rock Properties*
- *Reservoir Fluid Properties*
- *Fluid Flow in Porous Media*
- *Engineering mathematics*
- *Fundamentals of Petroleum Engineering*