

E.ESMAEILNEZHAD RESUME

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Personal Details:

- **First and Surname:** Ehsan Esmailnezhad
- **Birth date:** Aug 14, 1985
- **Gender:** Male
- **Nationality:** Iranian
- **Marital status:** Married



Education:

- **B.Sc. degree** in mining engineering, 16.97 (out of 20), 2007, Mining Engineering Department, Shahid Bahonar University of Kerman. Iran.
- **B.Sc. Thesis:** New Methods for Reducing & Eliminating Adverse Environmental Effect of Oil & Gas - Supervisor: Prof. Abbas Sam. , (19.75/20).
- **M.Sc. degree** in petroleum engineering, 18.56 (out of 20), 2009, Petroleum Engineering Department, Shahid Bahonar University of Kerman. Iran.
- **M.Sc. Thesis:** Estimation of In Situ Combustion Potential for Recovery of Medium and Heavy Oil Using Intelligent System (Case Study: Soroosh Oil Field), Supervisor: Prof. Mohammad Ranjbar., (19.75/20).
- **Ph.D. degree** in petroleum engineering, 17.54 (out of 20), Petroleum Engineering Department, Shahid Bahonar University of Kerman. Iran.
- **Ph.D. Thesis:** The Evaluation of Magnetic Nanoparticles Application Potential In Improved Oil Recovery Operations, Supervisors: Prof. Dr. Mohammad Ranjbar., Prof. Dr. Mahin Schaffie., and Prof. Dr. Mostafa Gholizadeh, (20/20).

Professional Experiences:

- Collaboration with Research & Development department at IOOC (Iranian Offshore Oil Company) as a team member, developing an EOR selection model.
- Collaboration with petroleum department at Shahid Bahonar University as a team member on a national project "Feasibility Study of Underground Storage Construction for Crude Oil in Iran".
- Working at Hakim Sabzevari University as an academic staff (2010-2014, Awarded a scholarship to pursue postgraduate education leading to Ph.D. degree.

- Working at department of polymer science and engineering, Inha University, Incheon, South Korea as a visiting student (November 2016-July 2017, 9 months) and as a visiting professor (June 2018-August 2018, 3 months) supervisors: Prof. Hyoung Jin Choi (hjchoi@inha.ac.kr) .
- Assistant professor at Hakim Sabzevari University from 2018 until now.

Honors:

- Kharazmi Youth Festival award, 2003, Iran.
- B.Sc. Degree (16.97/ 20), 2007, the first rank.
- M.Sc. Degree (18.56/ 20), 2009, the first rank.
- Ph.D. Degree (17.54/ 20), 2017, the first rank.
- Membership in the Organization of Guiding the Brilliant Intellects in Shahid Bahonar University of Kerman, Iran.
- Achieving elite conditions from National Elites Foundation of Islamic Republic of Iran.
- The first researcher student in technical college of Shahid Bahonar University (2008).
- The first researcher in Faculty of Petroleum & Petrochemical Engineering, Hakim Sabzevari University (2012 & 2013).

Qualifications:

- Receiving GPS certificate from Kerman Industries and Mines Organization in 2005.
- The certificate of attending the training workshop under the title of “Internal Survey” in Tuv Irland Company, Kerman, Iran.
- Achieving three international certificates of technical skill from State Technical & Vocational Organization.
- 4 Weeks; Job Training; Oil & Gas Lab.; Kerman; Iran.

Publications (<https://orcid.org/0000-0002-0469-7533>)

Papers:

- Lu, Q., **Esmailnezhad E.**, Choi H.J, “*Magnetite-embedded poly (2-methylaniline) hybrid particles and their smart responses under magnetic and electric fields*” *Journal of Molecular Liquid*, 340, 2021, 117294.
- Saberi H., **Esmailnezhad E.**, Choi H.J, “*Artificial Neural Network to Forecast Enhanced Oil Recovery Using Hydrolyzed Polyacrylamide in Sandstone and Carbonate Reservoirs*” *Polymers*, 13, 2606, 2021.
- Shayan Nasr M., **Esmailnezhad E.**, Choi H.J, “*Effect of Carbon-Based and Metal-Based Nanoparticles on Enhanced Oil Recovery: A Review*” *Journal of Molecular Liquid*, 338, 2021, 116903.
- Saberi H., **Esmailnezhad E.**, Choi H.J, “*Application of Artificial Intelligence to Magnetite-Based Magnetorheological Fluid*”” *Journal of Industrial and Engineering Chemistry*, 100, 399-409, 2021.

- Shayan Nasr M., **Esmailnezhad E.**, Choi H.J, “*Effect of Silicon-Based Nanoparticles on Enhanced Oil Recovery: Review*” Journal of the Taiwan Institute of Chemical Engineers, 122, 241-259, 2021.
- Shayan Nasr M., **Esmailnezhad E.**, Allahbakhsh A., Choi H.J, “*Nitrogen-doped Graphene Quantum Dot Nanofluids to improve Oil Recovery from Carbonate and Sandstone Oil Reservoirs*” Journal of Molecular Liquid, 330, 115715, 2021.
- Dong Y. Z., **Esmailnezhad E.**, Choi H.J, “*Core-shell structured magnetite-poly(diphenylamine) microspheres and their tunable dual response under magnetic and electric fields*” Langmuir, 37, 2298–2311, 2021.
- Shayan Nasr M., Shayan Nasr H., Karimian M., **Esmailnezhad E.** “*Applying Artificial Intelligence for Prediction of Enhanced Oil Recovery Using Silica Nanofluids*” Journal of Natural Resources Research, 30, 2529–2542, 2021.
- Hajiabadi S.H., Aghaei H., Ghabdian M., Kalateh-Aghamohammadi M., **Esmailnezhad E.**, Choi H.J, “*On the attributes of invert-emulsion drilling fluids modified with graphene oxide/inorganic complexes*” Journal of Industrial and Engineering Chemistry, 93: 290-301, 2021.
- Maleki B., **Esmailnezhad E.**, Choi H.J., Koushki E., Rahnamaye H.A., Esmaili M., “*Glutathione-capped core-shell structured magnetite nanoparticles: Fabrication and their nonlinear optical characteristics*” Current Applied physics, 20: 822-827, 2020.
- **Esmailnezhad E.**, Hajiabadi S.H., Choi H.J, “*Effect of medium viscosity on rheological characteristics of magnetite-based magnetorheological fluids*” Journal of Industrial and Engineering Chemistry, 85: 197-204, 2019.
- **Esmailnezhad E.**, Choi H.J, “*Polyindole nanoparticle-based electrorheological fluid and its green and clean future potential conformance control technique to oil fields*” Journal of Cleaner Production, 231: 1218-1225, 2019.
- **Esmailnezhad E.**, Choi H.J, Schaffie M., Gholizadeh M., Ranjbar M. “*Characteristics and Applications of Magnetized Water as a Green Technology*” Journal of Cleaner Production, 161: 908-921, 2017.
- **Esmailnezhad E.**, Choi H.J, Schaffie M., Gholizadeh M., Ranjbar M., Kwon S.H. “*Rheological Analysis of Magnetite Added Carbonyl Iron Based Magnetorheological Fluid*” Journal of Magnetism and Magnetic Material, 444: 161-167, 2017.
- **Esmailnezhad E.**, Le Van S., Chon B.H., Choi H.J, Schaffie M., Gholizadeh M., Ranjbar M. “*An Experimental Study on Enhanced Oil Recovery Utilizing Nanoparticle Ferrofluid through the Application of a Magnetic Field*” Journal of Industrial and Engineering Chemistry, 58: 319-327, 2018.
- **Esmailnezhad E.**, Choi H.J, Schaffie M., Gholizadeh M., Ranjbar M. “*Polymer Coated Magnetite Based Magnetorheological Fluid and Its Potential for Oil Production Clean Procedure*” Journal of Cleaner Production, 171: 45-56, 2018.
- **Esmailnezhad E.**, Le Van S., Choi H.J, Chon B.H., Schaffie M., Gholizadeh M., Ranjbar M. “*Conformance control in oil reservoir based on magnetorheological behavior of nanoparticle suspension*” Journal of Environmental management, 231: 1127-1134, 2019.

- **Esmailnezhad E.**, Karimian M., Choi H.J., “*Synthesis and Thermal Analysis of Hydrophobic Iron Oxide Nanoparticles for Improving In-situ Combustion Efficiency of Heavy Oils*” Journal of Industrial and Engineering Chemistry, 71: 402-409, 2019.
- Maleki B., Baghayeri M., Ghanei M., Mohammadi F., Amiri A., Hajizadeh F., Hosseinifar A., **Esmailnezhad E.**, “*Polyamidoamine dendrimer functionalized iron oxide nanoparticles for simultaneous electrochemical detection of Pb^{2+} and Cd^{2+} ions in environmental waters*” Measurement, 140: 81-88, 2019.
- Maleki B., Reiser O., **Esmailnezhad E.**, Choi H.J., “ *SO_3H -dendrimer functionalized magnetic nanoparticles ($Fe_3O_4@D_NH_ (CH_2)_4_SO_3H$): Synthesis, characterization and its application as a novel and heterogeneous catalyst for the one-pot synthesis of polyfunctionalized pyrans and polyhydroquinolines*” polyhedron, 162: 129-141, 2019.
- **Esmailnezhad E.**, Ranjbar M., Nezam Abadi H., Shoaie Fard Khamseh F. “*Prediction of the Best EOR Method by Artificial Intelligence*” Petroleum Science and Technology Journal, 31:1647–1654, 2013.
- Hajiabadi S.H., **Esmailnezhad E.**, Sanati A. “*Experimental Investigation of the Filtration Properties of Drilling Muds Formulated with Magnetic Water*” International Journal of Petroleum and Geoscience Engineering Volume 03, Issue 01, Pages 9-16, 2015.

Book:

- **Esmailnezhad E.**, "Hydrocarbon storage in salt caverns" Published in Persian language by National Iranian Oil Company & Hakim Sabzevari University, Iran, 2012.

Innovation:

- **Esmailnezhad E** (75%), Shoaie Fard Khamseh F (25%), "Evaluation & Simulation Procedure in Order to Choose the Best Enhanced Oil Recovery Method for Oil Fields" Declaration Registration No. and Date: 390030932-June 20, 2011., Invention Registration No. and Date:71890-Oct. 11, 2011.
- **Esmailnezhad E.**, "Hydrocarbon Injection Simulation Procedure in Order to Enhance Oil Recovery" Declaration Registration No. and Date: 389090919-Dec 20, 2010. Invention Registration No. and Date: 68324-Jan. 10, 2010.
- **Esmailnezhad E.**, "Steam Injection Simulation Procedure in Order to Enhance Oil Recovery" Declaration Registration No. and Date: 389090920-Dec 20, 2010. Invention Registration No. and Date: 68321-Jan. 10, 2010.
- **Esmailnezhad E.**, "CO₂ Injection Simulation Procedure in Order to Enhance Oil Recovery" Declaration Registration No. and Date: 389090918-Dec 20, 2010. Invention Registration No. and Date: 68322-Jan. 10, 2010.
- **Esmailnezhad E** (50%), Chaghalvand Hamed (50%), " Rheometer for Rheological Properties Measurement of Fluids Specially Oil Drilling Mud" Declaration Registration No. and Date: 1391501400030-Nov 11, 2012., Invention Registration No. and Date: 77748-Dec. 12, 2012.

The Most Important International and National Conference Papers:

- **Esmailnezhad E.,** Ranjbar M., “*The Study of Rheological Properties of the Most Applicable Polymers in Polymer Flooding of Oil Reservoirs*” 14th International Seminar on Polymer Science and Technology (ISPST 2020), Tehran/Iran, 9-12 November, 2020.
- **Esmailnezhad E.,** Ranjbar M., “*Rheological Properties Investigation of Polymer Solutions Regard to Concentration and Salinity for Enhanced Oil Recovery*” 14th International Seminar on Polymer Science and Technology (ISPST 2020), Tehran/Iran, 9-12 November, 2020.
- **Esmailnezhad E.,** Ranjbar M., “*The Feasibility Study of Polymer Flooding in the High-Temperature Oil Reservoirs*” 14th International Seminar on Polymer Science and Technology (ISPST 2020), Tehran/Iran, 9-12 November, 2020.**Esmailnezhad E.,** Ranjbar M.,
- Shayan M, **Esmailnezhad E.,** “*Improve oil well cements performance by commercial nano additive*” 5th National and 1th International Conference On Cement Industry and Oncoming Horizon, Tehran/Iran 10-11 November 2019.
- Shayan M, **Esmailnezhad E.,** “*Investigating the effect of different salts on rheological properties of oil well cements*” 5th National and 1th International Conference on Cement Industry and Oncoming Horizon, Tehran/Iran 10-11 November 2019.
- Shayan M, **Esmailnezhad E.,** “*Utilizing commercial water-based nanofluid for wettability alteration of carbonate rocks and its application for enhanced gas recovery*” The 11th International Chemical Engineering Congress & Exhibition (IChEC 2020), Fouman, Iran, 15-17 April, 2020.
- Borzoli S, **Esmailnezhad E.,** “*Effect of super microsilica gel on rheological characteristics of drilling mud*” The 11th International Chemical Engineering Congress & Exhibition (IChEC 2020), Fouman, Iran, 15-17 April, 2020.
- Navaei F, **Esmailnezhad E.,** “*Applicability evaluation of a natural surfactant on the wettability alteration of oil reservoirs' rocks*” The 11th International Chemical Engineering Congress & Exhibition (IChEC 2020), Fouman, Iran, 15-17 April, 2020.
- **Esmailnezhad E.,** Ranjbar M., Nezam Abadi H., Shoaie Fard Khamseh F. “*Application of Artificial Intelligence to Evaluate CO₂ Flooding Profits for an Iranian Oil Field*” 6th International Chemical Engineering Congress & Exhibition, Kish, Iran (Dec. 2009).
- **Esmailnezhad E.,** Ranjbar M., Nezam Abadi H., Shoaie Fard Khamseh F. “*Application of Artificial Intelligence to Predict Best Enhanced Oil Recovery Method*” First International E-Conference on Artificial Intelligence Applications in Chemical Engineering (AIACE), Razi University, Kermanshah, Iran (July 2009).
- **Esmailnezhad E.,** Delshad M., Rahimpour Gh., "Geochemical data analysis of Songoon cooper ore" in the fifth National Mining Engineering Student Conference in 2006, Isfahan, Iran.

- **Esmailnezhad E.**, Hajiabadi H., Kamali Gh., "GIS station application in quantitative and qualitative analysis of ground water" in the first Iran Applied Geology Congress in 2007, Mashhad, Iran.
- **Esmailnezhad E.**, Jalalyfar H., " The way how oil pollutants spread in ground water and presenting some methods for reducing and removing these pollutants" in the ninth Nation Seminar on Irrigation and Evaporation Reduction in 2007, Kerman, Iran.
- **Esmailnezhad E.**, Jalalyfar H., "New methods of decreasing mud volume and removing residues in drilling operation" in the first National Oil, Gas and Petro-chemistry Congress in 2008, Gachsaran, Iran.
- **Esmailnezhad E.**, Rajabi M., Jalalyfar H., "Prevention, Control and Removal of Environmental Contaminants Duo to Preparation, maintenance and Transportation Activities of Oil Products" in the first National Congress on Oil Preparation, Maintenance and Transportation Activities of Oil Products in 2009, Tehran, Iran.
- **Esmailnezhad E.**, Hajiabadi H., "Disposing Water waste produced by oil and energy industrial in salt cavern" in the first national congress on Water Waste Management in Oil and Energy Industrial in 2010, Tehran, Iran.
- **Esmailnezhad E.**, Hajiabadi H., "The New Methods for Protecting Oil Well Casing" in the first national congress on Inspection and Safety in Oil and Energy Industrial in 2010, Tehran, Iran.
- Ghanizadeh M., Darvishi H., **Esmailnezhad E.**, "Mechanical Model for Drilling Pipes in Horizontal Drilling" in the first National Conference of Novel Technologies in Oil & Gas Industries in 2011, Omidiyeh, Iran.
- **Esmailnezhad E.**, Rajabi M., "Natural Gas Storing in Salt Formation" in the first National Conference of Novel Technologies in Oil & Gas Industries in 2011, Omidiyeh, Iran
- Rajabi M., **Esmailnezhad E.**, "Natural Gas storing in Aquifers" in the first National Conference of Novel Technologies in Oil & Gas Industries in 2011, Omidiyeh, Iran.
- **Esmailnezhad E.**, Hajiabadi H., "Selecting the Best Method for Underground Gas Storage in Razavi Khorasan" in the first Iranian Web Conference on Underground Storage of Hydrocarbons in 2011, Shahrood, Iran.
- **Esmailnezhad E.**, Hajiabadi H., "Selecting the Best Site for Underground Gas Storage in Razavi Khorasan" in the first Iranian Web Conference on Underground Storage of Hydrocarbons in 2011, Shahrood, Iran.
- **Esmailnezhad E.**, Rajabi M., "Effective Parameters In Salt Cavern Design For Gas Storage" in the first Iranian Web Conference on Underground Storage of Hydrocarbons in 2011, Shahrood, Iran.
- Rajabi M., Safari M., **Esmailnezhad E.**, "Identifying Suitable Site for Underground Natural Gas Storage in South Khorasan Using Fuzzy Technique for order Performance by Similarity to Ideal

Solution (FTOPSIS)" in the first Iranian Web Conference on Underground Storage of Hydrocarbons in 2011, Shahrood, Iran.

- Sadeghi N., **Esmailnezhad E.**, "The New Methods for disposing Nuclear Waste" in the fifth national conference on Environmental Engineering in 2011, Tehran, Iran.
- **Esmailnezhad E.**, Ranjbar M., "Introduction, Rheological properties study and performance analysis of useful polymer in oil industry" in the 3th national conference on oil and gas conference in 2015, Kerman, Iran.
- **Esmailnezhad E.**, Ranjbar M., "Studying and performance analysis of modeling methods for polymer rheological behavior" in the 3th national conference on oil and gas conference in 2015, Kerman, Iran.

Projects:

- **Esmailnezhad E.**, Hajiabadi H., "Selecting the Best Site for Underground Gas Storage in Razavi Khorasan", Hakim Sabzevari University.
- **Esmailnezhad E.**, Hajiabadi H., "Selecting the Best Method for Underground Gas Storage in Razavi Khorasan", Hakim Sabzevari University.
- **Esmailnezhad E.**, Chaghalvand H., "Making a Rotational Viscometer", Hakim Sabzevari University.
- Hajiabadi H., **Esmailnezhad E.**, "Making an API Filter Press Apparatus", Hakim Sabzevari University.
- Hajiabadi H., **Esmailnezhad E.**, "Crude Oil Desalting by Magnetic Water", Hakim Sabzevari University.
- **Esmailnezhad E.**, Chaghalvand H., "Designing and Making a New Rheometer", Iranian Petrochemical Research and Technology Company.
- **Esmailnezhad E.**, Shayannezhad A., "Design and manufacture of glass micromodel", Hakim Sabzevari University.
- **Esmailnezhad E.**, Rezaei H., Moradi S., "Pure component vapor-pressure measurement apparatus", Hakim Sabzevari University.
- **Esmailnezhad E.**, Khadiri K., "Manufacture of Marsh funnel for measuring the viscosity of drilling fluids", Hakim Sabzevari University.
- **Esmailnezhad E.**, Momeni M., "Design and manufacture of Sand Pack for providing the artificial core of reservoir rock", Hakim Sabzevari University.

References:

- **Hyoung Jin Choi**, Professor, Department of Polymer Science and Engineering, Inha University, Incheon, Korea, Email: hjchoi@inha.ac.kr.
- **Mostafa Gholizadeh**, Professor, Chemistry department, Faculty of science, Ferdowsi university of Mashhad, Mashhad, Iran, Email: m_gholizadeh@um.ac.ir

- **Mahin Schaffie**, Professor, Petroleum Engineering Department, Shahid Bahonar University of Kerman, Iran, Email: m.schaffie@uk.ac.ir
- **Mohammad Ranjbar**, Professor, Petroleum Engineering Department, Shahid Bahonar University of Kerman, Iran, Email: m.ranjbar@uk.ac.ir