# AHMAD RAMEZANZADEH, PH.D.

Senior Geomechanics Engineer – Undeground Technologies

Years of Experience 29 (consultancy+ academic research)

**Residence** Iran, Languages Persian, English, French



# Education

- PhD, Rock Mechanics and hard rock TBM tunnelling, INSA of Lyon, France, 2005
- MSc. Rock Mechanics, Tarbiat Modares University, Tehran, Iran, 1997
- BSc Mining Engineering, Shahid Bahonar University, Kerman, Iran, 1994
- High school diploma in mathematics and physics, Jafari Eslami High School, 1989

## **Professional Affiliations**

- Member of Iranian Petroleum Geomechanics Association
- Member of Iranian Tunnelling Association
- Member of Iranian Rock Mechanics
- Member of Iranian Tunnelling Association

# **Honours and Awards**

- High honour in nationwide (Iran) examination and subsequently awarded an abroad scholarship to pursue postgraduate study in France (2001-2005)
- Financial support from Herrenknecht AG to perform research on hard rock TBM performance
- Visiting Norwegian University of Science and technology (NTNU), Norway, as a research scholar for a total period of 6 months (spring 2003 and 2004) to explore their extensive TBM/rock mass data base
- Chairman of the first Iranian virtual conference on underground storage of hydrocarbons, 2011
- Chairman of the first national conference on Petroleum Geomechanics, 2015
- Chairman of the second national conference on Petroleum Goemechanics 2017
- Chairman of the third national conference on Petroleum Goemechanics 2019

## **Fields of expertise**

- Mechanical rock cutting, drilling
- Petroleum Geomechanics (wellbore stability and hydraulic fracturing)
- Geomechanical modelling (1D and 3D) in hydrocarbon reservoirs
- Experimental and numerical studies of mechanical rock fragmentation process
- Design underground spaces in hard and soft formations includes
  - Hard rock and salt cavern spaces for storage crude oil, oil-productions and natural gas
  - Underground power plant spaces
  - Water supply tunnels
  - Subway tunnels

# **Current/previous involvements**

- Full professor in Mining, Petroleum and geophysics faculty, Shahrood University of Technology, Shahrood, since 2008.
- Managing director and member of the board, Asia Geo Petro Tech co., since 2020
- President and Head of the board of the Iranian Petroleum Geomechanics Association 2012-2021
- Co-Founder of Iranian Petroleum Geomechanics Association (2012)
- Managing director and member of the board, MASNA Consulting Engineers co., 2012-2020
- Member of the board of PSM Consulting Engineers co., since 2009-2020
- Director in chief and member of editorial boards, scientific journal of Tunnelling & Underground Space Engineering (2012)
- Associate editor and member of editorial boards, scientific journal of Petroleum Geomechanics, since January 2017

# **Research projects**

- Senior Project leader, research agreement between Shahrood University of Technology and National Iranian Oil Company, Iran, since 2018
- Estimating of geomechanical and rock physical properties for southern Caspian Sea region and Gorgan plain using geomechanical modelling approach, Project manager, National Iranian Oil Company, Iran, since 2024
- Developing a software package to making semi-image logs from petrophysical logs in order to distinguishing natural/induced fractured and breakout zones and fracture density estimation Project manager, National Iranian South Oil Company, Iransince 2023
- Development of pore pressure estimation process to mitigate exploratory drilling risk in the selected Fields, Project manager, National Iranian Oil Company, Iran-2020-2023
- Developing Workflow of Safe Mud Weight Window Based on 1D Mechanical Earth Model, Project manager, National Iranian Oil Company, Iran-2020-2022
- Development of Geomechanical knowledge and Processes in Hydrocarbon Exploration Value Chain, Project manager, National Iranian Oil Company, Iran-2020-2021
- Roadmap of the development of geomechanics technologies, Project manager, National Iranian Oil Company, Iran-2018-2020
- Experimental laboratory testing program for several oil and gas wells in south of Iran, 2013-2016
- Basic design for crude oil storage in unlined rock caverns in south of Iran, Project Technical manager, National Iranian Oil Company, 2012.
- Design and construction of multi-purposes triaxial creep test apparatus, Iran, 2012.
- Guidelines for tunnelling in difficult ground condition, Iran, 2012.
- Iran's Tunnel Data base, Project manager, Iranian Tunneling Association, Iran, 2009.
- Oscillating Disc cutter, emerging rock cutting technology, Project manager, CRC Mining, Australia, 2008.
- Rapid Underground Mines Development, Project Manager, CRC Mining, Australia, 2007.

## **Courses taught:**

Undergraduate (Mining engineering):

Rock mechanics, Rock mechanics laboratory, Geotechnics,

Graduate (MSc Rock mechanics and Tunnel engineering):

Mechanical rock cutting, advanced underground design and construction methods, advanced tunnel construction techniques.

Graduate (PhD Rock mechanics):

Deep drilling, Coupled simulations,

Graduate (MSc Petroleum Exploration/production Engineering):

Petroleum Geomechanics (advanced rock mechanics for petroleum applications)

## **Previous Experiences**

Hard Rock Tunnelling

- Mechanized tunnelling with tunnel boring machine and roadheader: Machine performance prediction (including machine advance rate/production rate, disc cutter/pick consumption, equipment selection, definition of required machine characteristics based on rock mass conditions), data processing, data analysis, TBM/roadheader follow ups and recommendation to improve machine performance.
- Design of support system for underground spaces: stability analysis by using different methods (empirical, structural controlled, numerical approach), design of support systems for tunnels, caverns and rock slopes.
- Rock mass characterisation: Field and laboratory testing plan, data processing (including intact rock and rock fractures), data analysis and interpretation of geotechnical data by using statistical methods, prediction of rock mass behaviour and definition of design criteria.
- Head of underground structures department in SCE Company. Supervising and coordinating the work of teams of engineers and technical personnel for Design of more than 10 different medium size hard rock tunnel projects in Iran (1996-2001).
- Stability analysis and support design for underground powerhouse cavern in Karun 3 scheme, one of the biggest hydroelectric power plants in Iran.
- A lot of experience in hard rock TBM performance analysis and providing new adjustment factors for Colorado School of Mine's prognosis model which takes into account the impact of joint/fractures spacing and orientation. collecting, analysing and interpretation TBM operational data along with geotechnical information from 15 different hard rock tunnels, all bored by Tunnel Boring Machines in Switzerland, Norway, USA, France, Iran and Hong Kong (During PhD) (2001-2005).
- Research fellow and project leader on Rapid Mine Development within the Rock Fragmentation Optimization group in CRC Mining, University of Queensland Dealing with emerging mechanical rock cutting technology which is currently under commercialization stage for mechanized hard rock mining application (2006-2008).
- Senior rock mechanics engineer in designing urban tunnels in PB Australia in Airport Link Tunnel (Brisbane) (less than six months in 2008)

## **Research/consulting experiences**

## Selected Industrial Research Contracts (graduate students)

- Research contract for PhD student, Mahdi Bajoolvand, Optimization of Controllable Drilling Parameters baxsed on Geomechanical Parameters, NIDC, 2023
- Research contract for Postdoctoral Researcher, Manouchehr Sanei, Development of hydromechanical coupling geomechanical model for oil and gas reservoirs, SUT, 2021
- Research contract for MSc student, Mehdi Allameh, Wellbore stability analysis and determining the mud weight of drilling to ascertain the orientation of wellbore drilling baxsed on 3D Geomechanical modeling in the Asmari reservoir of the Lali field, NISOC, 2020
- Research contract for MSc student, Ali Asghar Heydari, Presentation of a Numerical-Analytical method for estimating por pressure in the Gachsaran Formation", NISOC, 2020
- Research contract for MSc student, Mohammad Reza Delavar Khoshkelat, Impact of reservoir Geomechanical properties on drilling operating parameters in one of Iran's south west oilfields, NISOC, 2019
- Research contract for PhD student, Mohammad Javad Nasri Fakerdavood, Modeling hydro-mechanical behavior of rock to design water curtain in unlined rock cavern for underground storage of crude oil, IOTCO, 2019
- Research contract for MSc student, Mohammad Haj Saiedi, 3D fracture modelling to evaluate mud lost in oilwells in SW of Iran, NISOC, 2016-2017.
- Research contract for MSc student, Yosef Teimory, estimation of geomechanical parameters using Mechanical/Drilling Specific Energy in several oilwells in south west of Iran, 2016-2017.
- Research contract for PhD student, Mohammad Anne-Mangoli, Development of new boreability index to evaluate drilling performance in reservoir formations, NISOC, 2015-2017
- Research contract for MSc student, Hamed Amiri, Geomechanical study to determine best candidate wells for performing hydraulic fracturing in Bangestan group formations at one of the NISOC oil fields, NISOC, 2015-2016
- Research contract for MSc student, Mohammad Mohammadi-Behbood, Geomechanical classification of reservoir formations based on Drilling/Mechanical Specific Energy, NIDC, 2015-2016
- Research contract for MSc student, Sina Anzanpour, Evaluate the effect of geomechanical parameters on the well stability in one of the NISOC fields, NISOC, 2014-2015
- Research contract for MSc student, Masoud Torabikhah, Determining the optimum drilling trajectory of horizontal wells based on reservior 3D geomechanical modelling, case study: One of the NISOC's oil field, NISOC, 2013-2015
- Research contract for MSc student, Mohammad Ali Chamanzad, Design of hydraulic fracturing treatment in oilwells in south west of Iran, PEDEC, 2013-2014
- Research contract for MSc student, Sina Norouzi Evaluate the effect of reservoir rock mechanical properties on the drilling penetration rate in wells of Petroleum Engineering and Development Company's field, PEDEC, 2013-2014
- Research contract for MSc student, Amin Asgari, Stability analysis of natural gas storage salt caverns, NIGC, 2011-2012
- Research contract for MSc student, Morteza Namaani, Technical evaluation of hydraulic fracturing in a number of wells of an oil field to increase oil production, ICOFC, 2011-2012
- Research contract for MSc student, Maliheh Davoud-Abadi, Design of lined rock cavern for underground storage of crude oil, IOTCO, 2010-2011

## **Consulting and industrial projects**

- Investigating the Ability of Destruction of the Deposit and cap rock in the Kahang Copper Mine, 2015-2017
- PFC and conceptual design of underground coal mine pilot (UCG) in Iran,2014-2015
- Feasibility study of establishment of Science and Industry Coordination Centre of underground storage of oil and gas, Semnan Park Science and Technology, 2012-2014
- Managing brine production from salt dissolution process for underground gas storage in domal salt and aquifer, RIPI, 2012-2014
- Setting of appropriate solutions for tunnel excavation in highly fractured, high water pressured and deep zone, ESRW, 2011-2013
- Supervisor of Research project of National Science Foundation, Iran National Science Foundation, 2011.
- Consulting services study and evaluation of hydrocarbon storage methods, PSM consulting engineers, 2010-2012
- Senior advisor for Tunnel Monitoring Systems, Tabriz subway tunnels, 2010-2011
- Senior advisor of Karaj Water Supply tunnel project-lots 2, 2010-2011,
- Design and implementation of Iranian Tunnelling Association (IRTA) database, IRTA, 2009
- Senior advisor of Engineering and Quality Control management, Gotvand Dam, Roudbar dam, Sardasht dam and Tehran subway tunnel-Line 7, 2009-2011.
- TBM performance prediction and design specifications review, Zagros Tunnel, Iran, 2005-2006.
- TBM performance analysis of 9 Norwegian TBM bored tunnels, Trondheim, Norway, 2004.
- TBM performance analysis of Queens Tunnel project, NY, USA, 2004.
- TBM performance analysis of access tunnel of Lötschberg project, Switzerland, 2004.
- Study of TBM performance data of KCRC tunnel project, Hong Gong, 2003.
- Study of TBM performance data of BPNL tunnel project, Lyon, France, 2003.
- Initial estimation of TBM performance in Maurice Lemaire tunnel, France, 2002.
- Stability analysis of Karun III underground Powerhouse cavern, Iran, 1997.
- Slope stability analysis in Sarcheshmeh Open pit Mine, Iran, 1994.

## • Other graduate thesis

- Supervisor of thesis entitled: "Numerical Investigation of the Effects of Factors on the Results of Leak Tests in Oil Wells", By A. Sharifi, Shahrood University Of Technology 2023
- Supervisor of thesis entitled: "An evaluation impact of geomechanical factors on Non Productive Times in drilling process", By S.R. Afshinpour, Shahrood University Of Technology 2023
- Supervisor of thesis entitled: "Investigation of the effect of well angle on drilling rate of penetration using machine learning in one of the oil fields in southwestern Iran", By O. Ahrari Moghaddam, Shahrood University Of Technology 2023
- Supervisor of thesis entitled: "Geomechanical Modeling of Caprock Integrity bassed on Different Gas Injection Scenarios", By M. Tirgari, Shahrood University Of Technology 2023

- 5. Supervisor of thesis entitled: "Numerical Modeling of the effect of Salt-Cement's Interface Mechanical Properties on Well Integrity of Gas Storage Caverns in Salt formations", By F. Sakhaeyan, Shahrood University Of Technology 2022
- Supervisor of PhD thesis entitled: "Laboratory investigatons on the effect of orientation and spacing of fractures on fluid flow in reservoir condition, By M. Faez, Shahrood University Of Technology 2021
- 7. Advisor of thesis entitled: "" drilling mud window estimation using well logging in kupal oil filled, By H. Sadeghi, Shahrood University Of Technology 2021
- 8. Supervisor of PhD thesis entitled: "Hydro -Mechanical Modeling of Permeability in Carbonete Fractured Reservoirs, Case Study: An Oil Well in the South of Iran, By A. Arianfar , Shahrood University Of Technology 2020
- Supervisor of PhD thesis entitled: "Development of borability index in jointed rock mass in excavation by tunnel boring machine, By M. Khosravi, Shahrood University Of Technology 2020
- Supervisor of thesis entitled: "Impacts of some Reservoir Geomechanical Properties on Mechanical Specific Energy in Oil Well Drilling - A Case Study: Two Oil Wells in South-West of Iran, By M. Teimuri , Shahrood University Of Technology 2019
- Advisor of thesis entitled: "Development and Improvement of Discrete Fracture Network approach with conditioning to fracability, By M. Asgarzadeh, Shahrood University Of Technology 2019
- 12. Supervisor of thesis entitled: "Experimental Investigation of the Carbonate Rock Initial Permeability in Determining the Optimal Acid Injection Rate , By F. Sheikhi Bojani , Shahrood University Of Technology 2019
- 13. Supervisor of thesis entitled: "Impact of Punch penetration test brittleness index on hard rock tunnel boring machine performance- A case study- Kerman tunnel, By I, Khosravi, Shahrood University Of Technology 2019
- Advisor of thesis entitled: "The zoning of oil reservoirs baxsed on the hydraulic fracturing capability using neural network, By A. Adinehvand, Shahrood University Of Technology 2019
- 15. Supervisor of thesis entitled: "Numerical modeling of oil well integrity with special attention to mechanical properties of cement in Iranian South West Wells, By E. Khodami, Shahrood University Of Technology 2018
- 16. Supervisor of thesis entitled: "An investigation on coupled hydro-mechanical behaviour of rock mass to design unlined rock cavern for underground storage of crude oil A case study" By A. Shouhani, Shahrood University Of Technology, 2017
- 17. Supervisor of thesis entitled: "Identifing Favorable Zones for Hydraulic Fracturing Operation and Prioritization Them in Some Iranian South West Wells; A fuzzy Integrals Approach" by E. Shabanikia, Shahrood University Of Technology, 2017
- Supervisor of thesis entitled: "Investigation of Natural Fractures Effect on Hydraulic Fracture Treatment in Fractured Reservoirs by Using Discrete Fracture Network (DFN) & Discrete Element Method" by A. Kazemi Kiyasari, Shahrood University Of Technology, 2017
- Supervisor of thesis entitled: "Hydromechanical modeling of tunnel settlement in urban area-A case study, Tehran subway tunnel-line?" by A. Hojjati Tavandashti, Shahrood University Of Technology, 2017
- 20. Supervisor of thesis entitled: "Numerical modeling of the effect of time- Bajoolvand, Shahrood University Of Technology, 2017

- 21. Supervisor of thesis entitled: "Numerical modeling of the effect of geometrical parameters of joints on rock cutting by disc cutters in jointed hard rock" by N. Afrasiabi, Shahrood University Of Technology, 2017
- 22. Supervisor of PhD thesis entitled: "Developing new boreability index for hard rock TBM" by Morteza Khosravi, Shahrood University, 2017
- 23. Supervisor of thesis entitled: "Evaluate the effect of Tehran 7 line subway tunnel drilling on stability of Abazar tunnel at the junction with the use of numerical methods" by S. Hosseini, Shahrood University, 2014
- 24. Supervisor of thesis entitled: "Preliminary design communication tunnel Kharg island to the main beach" by S. Javanmard, Shahrood University, 2013
- 25. Supervisor of thesis entitled: "Numerical modeling of injection and storage of carbon dioxide in hydrocarbon reservoirs (CCS) Case Study: oil field in south western of Khuzestan" by SH. Barati, Shahrood University, 2013
- 26. Supervisor of thesis entitled: "Hydraulic modeling of the rock mass around the tunnel by numerical methods and its control procedures to facilitate the drilling, case study: Zagros water transport tunnel (Part II)" by M.R. Mehravaran, Shahrood University, 2012
- Supervisor of thesis entitled: "Construction consideration and Stability Analysis of CNG Storage in limestone Cavern using solution mining" by M. Eshaghi, Shahrood University Of Technology, 2012
- Supervisor of thesis entitled: "ground improvement around metro stations during EPB breakthrough by numerical analysis- A case study: U7 station of Tehran metro line 7 Project" by M. Zamani & A. Mahmoodi, Shahrood University Of Technology, 2012
- 29. Supervisor of thesis entitled: "Modeling and analysis of gas leaks from underground mining sites of underground coal gasification (UCG) process, case study: Tabas coal mine" by A.A. Lotfi-Azad, Shahrood University, 2012
- 30. Supervisor of thesis entitled: ""Continuation of joint modeling and its effect on strength" by J. Zadhesh, Shahrood University, 2012
- 31. Supervisor of thesis entitled: "Land improvement around subway stations for machine drilling with EPB using numerical methods, case study: U7 station of Tehran subway's seven line" by A. Mahmoodi, Shahrood University, 2012
- 32. Supervisor of thesis entitled: "Technology review and stability analysis of limestone caverns for natural gas storage in dissolution method" by V. Maeboodi, Shahrood University, 2012
- 33. Supervisor of thesis entitled: "Stability and leakage analysis of natural caves at Iran meeting in order to preliminary feasibility for underground storage of crude oil" by A. Soltanalizadeh, Shahrood University, 2011
- 34. Supervisor of thesis entitled: "Geometric design, stability analysis and determining reinforcement system of crude oil storage cavern" by M. davoodabadi, Shahrood University, 2011
- 35. Supervisor of thesis entitled: "An investigation on water-tightening grouting process for hard rock tunnels A case study: Karaj water conveyance tunnel (lot I)" by H. Mahdavinejad, Shahrood University Of Technology, 2011
- 36. Supervisor of thesis entitled: "Feasibility study of construction Sardasht Dam underground power station by using underground method" by SH. Rahimi, Shahrood University, 2010

- Supervisor of thesis entitled: "Dynamic analysis of large underground structures under loads of explosion, case study: Ghazvin storage reservoir" by M. Mohammadnejad, Shahrood University, 2010
- 38. Supervisor of thesis entitled: "Choose a suitable small section tunneling drilling machine using fuzzy multi-criteria decision-making,case study: Hamadan's sewage" by A. Jafari-Moghaddam, Shahrood University, 2010

## **Publications**

- Journal Papers
  - o English
  - No. Title

1

Delavar MR., Ramezanzadeh A., Machine Learning Classification Approaches to Optimize ROP and TOB Using Drilling and Geomechanical Parameters in a Carbonate

Reservoir, Journal of Petrroleum Exploration and Production Technology, 2024, (ISI) Delavar MR., **Ramezanzadeh A.**, Gholami R., Sanei M., Optimization of drilling

2 parameters using combined multi-objective method and presenting a practical factor, Computers and Geosciences, 2023, (ISI)

Mohammadi Behboud M., **Ramezanzadeh A**., Tokhmechi B., Mehrad M., Davoodi S., Estimation of geomechanical rock characteristics from specificenergy data using

**3** combination of wavelet transform with ANFIS-PSOalgorithm, Journal of Petroleum Exploration and Production Technology, 2023, (ISI)

Sanei M., Ramezanzadeh A., Delavar MR., Applied machine learning-based models for
predicting the geomechanical parameters using logging data, Journal of Petroleum Exploration and Production Technology, 2023, (ISI)

Delavar M R, Ramezanzadeh A, Gholami R, Sanei M, Pore pressure prediction by
empirical and machine learning methods using conventional and drilling log in carbonates rocks, Rock Mechanics and rock engineering, 2023, (ISI)

Mohamadi Behboud M, **Ramezanzadeh A**, Tokhmechi B, Mehrad M, Davoodi Sh, Estimation of geomechanical rock characteristics from specific energy data using

6 combination of wavelet transform with ANFIS-PSO algorithm, Journal of Petroleum Exploration and Production Technology, , 2023, (ISI)

Khodami E, Ramezanzadeh A, Sharifi A, Building 1D and 3D static reservoir
geomechanical properties models in the oil feld, Journal of Petroleum Exploration and Production Technology, Published online: 06 Agusut 2022,(ISI)

Faez M, Ramezanzadeh A, Ghavami-Riabi R, Tokhmechi B, Pore pressure prediction by
empirical and machine learning methods using conventional and drilling log in carbonates rocks, Rock Mechanics and rock engineering, 2022, (ISI)

Mehrad M, Ramezanzadeh A, Bajolvand M, Hajsaeidi MR, Estimating shear wave
9 velocity in carbonate reservoirs from petrophysical logs using intelligent algorithms, Journal of Petroleum Science and Engineering, Volume 212, 2022, (ISI)

Sanei M, **Ramezanzadeh A**, Asgari A Building 1D and 3D static reservoir geomechanical properties models in the oil feld Journal of Petroleum Exploration

and Production Technology, 2022, (ISI)

Bajolvand M, **Ramezanzadeh A**, Mehrad M, Roohi A, Optimization of controllable drilling parameters using a novel geomechanics-based workflow, Journal of Petroleum Science and Engineering, Volume 218, 2022, (ISI)

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Delavar M R, Ramezanzadeh A, Pore pressure prediction by empirical and machine
 learning methods using conventional and drilling log in carbonates rocks, Rock Mechanics and rock engineering, 2022, (ISI)

Khodami E, Ramezanzadeh A, Noroozi M, Numerical modeling of oil well integrity with a particular view to cement (case study: Maroon Oilfield in southwest of Iran), Journal of Petroleum Science and Engineering, Volume 196, 2021, (ISI)

Arianfar A, Ramezanzadeh A, Khalili M, Numerical modeling of closure effect of natural fracture surface of rock on behavior of fluid flow, Bulletin of Engineering Geology and the Environment, Volume 80, 2021, (ISI)

Arianfar A, Ramezanzadeh A, Khalili M, Numerical study of nonlinear fluid flow behavior in natural fractures adjacent to porous medium, Journal of Petroleum Science and Engineering, Volume 204, 2021, (ISI)

Amiri H, Ramezanzadeh A, Chamanzad M A, Parhizgar M R, Recognizing the best intervals for hydraulic fracturing using a new fracability index, Journal of Petroleum Exploration and Production, Volume 11, 2021, (ISI)

Khodami E, **Ramezanzadeh A**, Sharifi A, The 3D simulation of the effect of casing standoff on cement integrity by considering the direction of horizontal stresses in

17 one of the wells of Iranian oil fields, Journal of Petroleum Science and Engineering, Volume 206, 2021, (ISI)

Khosravi M, Ramezanzadeh A, Zare Sh, Effects of joint orientation and spacing on the boreability of jointed rock mass using tunnel boring machines, Arabian Journal of Geosciences, Volume 14, 2021, (Scopus)

Khosravi M, **Ramezanzadeh** A, Zare Sh, A new approach on punch penetration test for prediction of boreability of jointed rock mass at northern section of Kerman

19 Water conveyance tunnel, Arabian Journal of Geosciences, Volume 15, 2021, (Scopus)

Delavar M.R, **Ramezanzadeh A**, Tokhmechi B, A new approach on punch penetration test for prediction of boreability of jointed rock mass at northern section of Kerman water conveyance tunnel, Arabian Journal of Geosciences, Volume 14, 2021, (Scopus)

Mehrad M, Bajolvand M, Ramezanzadeh A, Ghavidel Neycharan j, Developing
 a new rigorous drilling rate prediction model using a machine learning technique, Journal of Petroleum Science and Engineering, Volume 192, 2020, (ISI)

Anemangely M, **Ramezanzadeh** A, Behboud M.M, Geomechanical parameter estimation

from mechanical specific energy using artificial intelligence, Journal of Petroleum Science and Engineering, Volume 175, April 2019, Pages 407-429, (ISI)

Nasri Fakhr M. Ramezanzadeh A, Jenabi H, Laboratory investigation nonlinear flow characteristics through natural rock fractures, Quarterly Journal of Engineering Geology and Hydrogeology, Volume: 4, no:52, 2019, (ISI)

Anemangely M, Ramezanzadeh A, Amiri H, hossein poor SE, Machine learning
 technique for the prediction of shear wave velocity using petrophysical logs, Journal of Petroleum Science and Engineering, 2018, (ISI)

**Ramezanzadeh** A, Tokhmechi B,Norouzi H, Comparison of Different Hydraulic Fracture Growth Models Based on a Carbonate Reservoir in Iran, Journal of Chemical and Petroleum Engineering, Volume: 50, no:2, pp: 95-106, 2018, (ISI)

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Eslami Andargoli M.B., Shahriar K., Ramezanzadeh A., Goshtasbi K., (2018), "The Analysis of Dates Obtained from Long-term Creep Tests to Determine Creep Coefficients of Rock Salt" Bulletin of Engineering Geology and the Environment, (ISI)

Anemangoly M., **Ramezanzadeh A**., Tokhmechi B., Molaghab A., Mohammadian A.,(2018), "Drilling rate prediction from petrophysical logs and mud logging data using optimized MLP neural network", Journal of Geophysics and Engineering, Volume 15,

Number 4, (ISI), United Kingdom

Moshrefi S., Shahriar K., Ramezanzadeh A., Goshtasbi K., (2017), "Prediction of ultimate strength of shale using artificial neural network", Journal of Mining & Environment, Volume 9, Issue 1, Winter 2018, Page 91-105, (ISI)

Anemangoly M., Ramezanzadeh A., Tokhmechi B., Molaghab A., Mohammadian A.,
 (2018), "Development of a new rock drillability index for oil and gas reservoir rocks using punch penetration test", Journal of Petroleum Science and Engineering, (ISI),

Moshrefi S., Shahriar K., **Ramezanzadeh A.**, Goshtasbi K., (2017), "New empirical failure criterion for shale", Journal of Mining & Environment, (ISC)

Anzanpoor, S., Ramezanzadeh, A., Tokhmechi, B., Parhizgar, R., (2017), "Drilling
 Trajectory Optimization in Normal Tectonic Regime, Applying the Numerical Method in One of Southern West oil fields of Iran", Arabian Journal of Geoscience

Chamanzad, M.A., Ramezanzadeh, A., Tokhmechi, B., Norouzi, H., (2017),

32 "Comparison of different hydraulic fracture growth models based on reservoir condition of one carbonate oil field in south-west of Iran, Journal of Mining and environment

Norouzi, S., Ramezanzadeh, A., Jalali, S.M.E., Tokhmechi, Roustaei, A., (2017), "Effect of rock properties on ROP modelling using statistical and intelligent methods A case study of an oil well in southwest of Iran", Archives of Mining Sciences

Anemangely, M., Ramezanzadeh, A., Tokhmechi, B. (2017), "Examining Input
 Parameters for Estimating Shear Wave Using Petrophysical Logs in Multi-Objective Optimization and Statistical Methods", Journal of Geology, Geophysics and Environment

Anemangely, M., **Ramezanzadeh**, A., Tokhmechi, B. (2017), Evaluation of the Input Parameters in the Penetration Rate Estimation Using Multi-Objective Optimization and Statistical Method. Iranian Journal of Science and Technology Transaction A: Science

Mohammadi Behboud, M., **Ramezanzadeh, A**., Tokhmechi, B., Anemangely, M., (2017), "Estimation of Geomechanical Rock Characteristics from Specific Energy Data Using

36 Combination of Geomechanical Rock Characteristics from Specific Energy Data Using Combination of Wavelet Transform with ANFIS-PSO Algorithm", Journal of Natural gas science and engineering Anemangely, M., Ramezanzadeh, A., Tokhmechi, B. (2017), "Determination of constant

37 coefficients of Bourgoyne and Young drilling rate model using a novel evolutionary algorithm", Journal of Mining and environment,

Anemangely, M., Ramezanzadeh, A., Tokhmechi, B. (2017), "Shear wave travel time estimation from petrophysical logs using ANFIS-PSO algorithm: A case study from Ab-Teymour Oilfield", Journal of Natural Gas Science and Engineering

Zare Naghadehi, M., Ramezanzadeh, A. (2016), "Models for Estimation of TBM
Performance in Granitic and Mica Gneiss Hard Rocks in a Hydropower Sub-Sea Tunnel", Bulletin of Engineering Geology and the Environment Najafi, M., Ramezanzadeh, A., Dezvareh, G.A., (2016), "Determination of Suitable
Method for Solution Mining Brine Recycling Using Fuzzy Analytical Hierarchy Method", Desalination and Water Treatment

Mohammadi Behboud, M., **Ramezanzadeh**, A., Tokhmechi, B. (2016), "Studying Empirical Correlation between Drilling Specific Energy and Geo-Mechanical Parameters

41 Empirical Correlation between Drilling Specific Energy and Geo-Mechanical Parameter in an Oil Field in SW Iran", Journal of Mining and environment (ISI)

Zadhesh, J., Jalali, M.E., Ramezanzadeh, A, (2013), "Estimation of joint trace length
probability distribution function in igneous, sedimentary and metamorphic rocks", Arabian Journal of Geosciences, (ISI),

Saeidi, O., **Ramezanzadeh**, A., Sereshki, F., and Jalali, M.E., (2013), "Numerical modeling of the effects of joint hydraulic aperture, orientation and spacing on rock grouting

**43** using UDEC: A case study of Bakhtiary Dam of Iran", Journal of Mining & Environment,(**ISC**),

Ghasemi, E., Ataei, M., Shahriar, K., Sereshki, F., Jalali, M.E., Ramazanzadeh, A.,
(2012), "Assessment of roof fall risk during retreat mining in room and pillar coal mines" international Journal of Rock Mechanics & Mining Sciences,(ISI),

Mohamadnejad, M., Gholami, R., Ramezanzadeh, A., Jalali, M.E., (2011), "Prediction of
blast induced vibrations in limestone quarries by using Support Vector Machine algorithm", Journal of Vibration and Control, (ISI)

Jafari, A., Ataie, M., Jalali, M.E., Ramazanzadeh, A., (2011), "Preference of effective factors in suitable selection of microtunnel boring machines (MTBM) by using the fuzzy
analytic hierarchy process (FAHP) approach", Revista de Matematica: Teoria y Aplicaciones

Ramezanzadeh, A., Hood, M., (2010), "Review of the state-of-the-art mechanical rock
excavation technologies", International Journal of Mining and Environmental Issues, Shahrood University of Technology

### o **Persian**

#### Title

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- 2 Faez M., Tokhmechi B., **Ramezanzadeh A.**, Ghavami R., Mohammadian A., "Creating artificial samples to investigate effect of fracture parameters on permeability", journal of Petroleum Geomechanics, Volume 4, Issue 2, 2022
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