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h-index (Scopus):
Citations (Scopus):

Supervised MSc Theses

#	Thesis title	By	Date
1	Uncertainty quantification based improved history matching of 4d seismic and production data in carbonate reservoirs guided by streamline simulation	Mohamadreza Varmazyar & Mohamad Ahmady	December 2021
2	Deep learning methods for reduced-order modeling of multi phase flow in purpose media to conserve major flow patterns	Alireza Sharif & Mohamad Ahmady	October 2021
3	Study and determination of petro physical parameters using rock computed tomography image processing algorithms	Sara Shirafkan & Mohamad Ahmady	October 2021
4	Well Trajectory Optimization under Geomechanical Uncertainties	Behnam Sakkaki & Mohamad Ahmady	September 2021
5	Reservoir characterization using elastic impedance inversion and machine learning in one of oilfields	Farshad Jafarizadeh & Mohamad Ahmady	September 2021
6	Fuel Oil Storage Tank Process Design	Alireza Dolatyari & Mohamad Ahmady	September 2021
7	Optimizing injection and production strategy in water-flooding process in an oil reservoir using artificial intelligence	Yaser Abdollahfard & Mohamad Ahmady	September 2021
8	Optimization of chemical enhanced oil recovery processes under geological and economical uncertainties	Hadi Ahmadi & Mohamad Ahmady	April 2021
9	Optimization of field development and production under economic and operational uncertainty in future field development plans with the help of multi stage stochastic optimization	Ahmad Miri Jahromi & Mohamad Ahmady	March 2021

10	Investigation of inter facial phenomena in chemical enhanced oil recovery: insights from molecular dynamics simulation	Farid Faraji & Mohamad Ahmady	March 2021
11	Investigation of the effect of ion composition of low-salinity water on wet ability alteration of carbonate rocks	Peiman Vatan Khah & Mohamad Ahmady	February 2021
12	Measuring the resistance factor of nano preformed particle Gel in porous media and investigation effect of injection flow rate parameters on it for preventing the production of water	Majid Yaghoubi & Mohamad Ahmady	January 2021
13	Hydrocyclone design and its application in oil-water separation and separation of cutting from mud	Mohammad Zandieh & Mohamad Ahmady	December 2020
14	Uncertainty analysis in simultaneous interpretation of well and production log (plt) multi layer reservoir	Alireza Asadi & Mohamad Ahmady	November 2020
15	Investigation of well bore stability under geomechanical uncertainty condition using probabilistic and intelligent methods	Mohammad Amin Ebrahimi & Mohamad Ahmady	September 2020
16	Physics-based and data-driven surrogates modeling of production forecasting and history matching	Meead Ghaemi & Mohamad Ahmady	October 2019
17	Assisted seismic and production history matching	Mohammad Ali Faramarzi & Mohamad Ahmady	June 2019
18	Development of probabilistic dynamic criterion for optimization of well locations under uncertainty by means of tensor decomposition methods	Forough Vaseghi & Mohamad Ahmady	May 2019
19	Production optimization under structural geological uncertainty	Mahvash Pezhman & Mohamad Ahmady	March 2019
20	Well bore temperature analysis to match producing well bore phenomena assisted by improved heat transfer modeling	Atefeh Dargahi Zarandi & Mohamad Ahmady	February 2019
21	Production optimization under market uncertainty	Mostafa Mohammadi & Mohamad Ahmady	February 2019
22	Reduce order modeling and their application in production optimization and history matching	Mohammad Esmaeili & Mohamad Ahmady	February 2019
23	production optimization based on singular value characterization of pressure field and saturation distribution assisted by tensor decomposition approach	Reza Heidarzade Souraki & Mohamad Ahmady	July 2018
24	New generation of flow simulation in porous media based on stockastic PDE for synchronous uncertainty quantification.	Hamidreza Moradi & Mohamad Ahmady	May 2018
25	Modeling of None Ideal Wellbore Storage in Gas Well Testing	Saeid Ghafarinezhad & Mohamad Ahmady	February 2018
26	New Reservoir Opportunity Index for Well Placement Optimization Based On Dynamic and Static Properties of the Reservoir	Abdorreza Karkevandi Talkhoonchah & Mohamad Ahmady	October 2016
27	Analysis and interpretation of pressure transient for multilayered well testing (Commingled) in gas condensate reservoirs- Applied in South Pars Gas Field	Hojjat Makhssousi & Mohamad Ahmady	October 2016
28	Well Placement And Geometry Optimization In Hydrocarbon Reservoir Using Evolutionary Optimization Algorithms	Mojtaba Gohari Bahabadi & Mohamad Ahmady	October 2016
29	History Matching And Uncertainty Quantification For Relative Permeability Models In Gas Condensate Reservoirs	Zohreh Dermanaki Farahani & Mohamad Ahmady	October 2016

30	Uncertainties Qualification of DFN's parameters for Fractured Reservoir Simulation	Mojtaba Shokrian & Mohamad Ahmady	February 2016
31	Mathematical Modeling of Processes Involve in Microbial Enhanced Oil Recovery	Mohammad Hesam Nani & Mohamad Ahmady	February 2016
32	determination of well drainage area using the stream line simulation and fast marching method in gas condensate reservoirs	Behzad Pouladi Borj & Mohamad Ahmady	October 2015
33	Automatic history matching workflow based on principal component analysis method aimed for preserving the geostatistical features of reservoir	Behnam Ahmadi & Mohamad Ahmady	October 2014

Journal Papers

Portal Records

- 1 Seyed Mahdia Motahhari, Mehdi Rafizadeh, S. Mahmoud Reza Pishvaie, Mohamad Ahmady, "An integrated Shannon Entropy and reference ideal method for the selection of enhanced oil recovery pilot areas based on an unsupervised machine learning algorithm", OIL & GAS SCIENCE AND TECHNOLOGY-REVUE DE L INSTITUT FRANCAIS DU PETROLE, December 2021 Vol. 76, Num. 82, Page 1-21, December 2021,
- 2 Mohammad Mahdi Moshir Farahi, Mohamad Ahmady, Bahram Dabir, "Model-based production optimization under geological and economic uncertainties using multi-objective particle swarm method", OIL & GAS SCIENCE AND TECHNOLOGY-REVUE DE L INSTITUT FRANCAIS DU PETROLE, September 2021 Vol. 76, Num. 60, Page 1-19, September 2021,
- 3 Seyed Mahdia Motahhari, Mehdi Rafizadeh, Mahmoud Reza Pishvaie, Mohamad Ahmady, "An innovative workflow for selecting appraisal area in low permeability greenfield development under uncertainties", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, June 2021 Vol. 206, Num. 109019, Page 1-16, June 2021,
- 4 Forough Vaseghi, Mohamad Ahmady, Mohammad Sharifi, Mario Vanhoucke, "Generalized Multi-Scale Stochastic Reservoir Opportunity Index for enhanced well placement optimization under uncertainty in green and brownfields", OIL & GAS SCIENCE AND TECHNOLOGY-REVUE DE L INSTITUT FRANCAIS DU PETROLE, June 2021 Vol. 76, Num. 41, Page 1-23, June 2021,
- 5 Mohammad Mahdi Moshir Farahi, Mohamad Ahmady, Bahram Dabir, "Model-based multi-objective particle swarm production optimization for efficient injection/production planning to improve reservoir recovery", CANADIAN JOURNAL OF CHEMICAL ENGINEERING, May 2021 Vol. 2021, Num. 1, Page 1-18, May 2021,
- 6 Reza Yousefzadeh Shourbolagh, Mohammad Sharifi, Yousef Rafiei, Mohamad Ahmady, "Scenario Reduction of Realizations Using Fast Marching Method in Robust Well Placement Optimization of Injectors", Natural Resources Research, February 2021 Vol. 30, Num. 3, Page 2753-2775, February 2021,
- 7 Mohammad Zandieh, Alireza Kazemi, Mohamad Ahmady, Mostafa Keshavarz Moraveji, "A CFD investigation into the enhancement of down-hole de-oiling hydro cyclone performance", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, January 2021 Vol. 199, Num. 108352, Page 1-16, January 2021,
- 8 Abdolhossein Hemmati-Sarapardeh, Forough Ameli, Mohamad Ahmady, Bahram Dabir, Amir H. Mohammadi, Leila Esfahanizadeh, "Effect of asphaltene structure on its aggregation behavior in toluene-normal alkane mixtures", JOURNAL OF MOLECULAR STRUCTURE, November 2020 Vol. 1220, Num. 128605, Page 1-10, November 2020,
- 9 Mohammad Mahdi Moshir Farahi, Mohamad Ahmady, Bahram Dabir, "Model-based water-flooding optimization using multi-objective approach for efficient reservoir management", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, October 2020 Vol. 196, Num. 107988, Page 1-14, October 2020,
- 10 Saeed Khezerloo-Ye Aghdam, Alireza Kazemi, Mohamad Ahmady, "A laboratory study of a novel bio-based nonionic surfactant to mitigate clay swelling", Petroleum, September 2020 Vol. 0, Num. 0, Page 0-0, September 2020,
- 11 Mahdi Abbasi, Mohamad Ahmady, Alireza Kazemi, Mohammad Sharifi, "Investigation of thermal model effects on geothermal and oil reservoir well testing behavior during water and steam injection", OIL & GAS SCIENCE AND TECHNOLOGY-REVUE DE L INSTITUT FRANCAIS DU PETROLE, September 2020 Vol. 75, Num. 58, Page 1-10, September 2020,

- 12 Mohammad Esmaili, Mohamad Ahmady, Alireza Kazemi, "A generalized DEIM technique for model order reduction of porous media simulations in reservoir optimizations", JOURNAL OF COMPUTATIONAL PHYSICS, August 2020 Vol. 422, Num. 109769, Page 1-21, August 2020,
- 13 Mohammad Sadegh Sharafi, Mehdi Ghasemi, Mohamad Ahmady, Alireza Kazemi, "An experimental approach for measuring carbon dioxide diffusion coefficient in water and oil under supercritical conditions", CHINESE JOURNAL OF CHEMICAL ENGINEERING, August 2020 Vol. 0, Num. 0, Page 0-0, August 2020,
- 14 Arash Azamifard, Mohamad Ahmady, Fariborz Rashidi, Mohammadreza Pourfard, Bahram Dabir, "MPS realization selection with an innovative LSTM tool", JOURNAL OF APPLIED GEOPHYSICS, June 2020 Vol. 179, Num. 104107, Page 1-20, June 2020,
- 15 Mohammadhossein Heidari Sureshjani, Mohamad Ahmady, Jalal Fahimpour, "Uncertainty Quantification in Heterogeneous Tight/shale Reservoirs from Analysis of Transient/Boundary-Dominated Production Data", Journal of Natural Gas Science and Engineering, May 2020 Vol. 79, Num. 103342, Page 1-14, May 2020,
- 16 Mostafa Mohammadi, Mohamad Ahmady, Alireza Kazemi, "Comparative study of different risk measures for robust optimization of oil production under the market uncertainty: a regret-based insight", COMPUTATIONAL GEOSCIENCES, May 2020 Vol. 24, Num. 3, Page 1409-1427, May 2020,
- 17 Mohammad Esmaili, Mohamad Ahmady, Alireza Kazemi, "Kernel-based two-dimensional principal component analysis applied for parameterization in history matching", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, March 2020 Vol. 191, Num. 107134, Page 1-13, March 2020,
- 18 Mohammadhossein Heidari Sureshjani, Mohamad Ahmady, Jalal Fahimpour, "Estimating reservoir permeability distribution from analysis of pressure/rate transient data: A regional approach", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, March 2020 Vol. 191, Num. 107172, Page 1-16, March 2020,
- 19 Arash Azamifard, Mohamad Ahmady, Fariborz Rashidi, Mohammadreza Pourfard, Bahram Dabir, "Insights of new-generation reservoir property modeling (MPS methods) in assessing the reservoir performance for different recovery methods", Arabian Journal of Geosciences, March 2020 Vol. 302, Num. 13, Page 2-14, March 2020,
- 20 Arash Azamifard, Mohamad Ahmady, Fariborz Rashidi, Mohammadreza Pourfard, Bahram Dabir, "QuiltEdge: Novel geostatistical workflow for heterogeneous reservoirs with an innovative combination of multi-variable image quilting and edge property concept to model heterogeneity and flow barriers", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, February 2020 Vol. 190, Num. 1, Page 2-14, February 2020,
- 21 Mohammad Amin Ebrahimi, Mohamad Ahmady, Mohammad Javad Ameri Shahrabi, "Application of unconditional simulation methods for quantifying the uncertainties in mud window design of gas reservoirs based on 3-dimensional mechanical earth modeling", Journal of Natural Gas Science and Engineering, January 2020 Vol. 76, Num. 103186, Page 1-11, January 2020,
- 22 Mohammadhossein Heidari Sureshjani, Mohamad Ahmady, Jalal Fahimpour, "Practical Solutions for Rate-Transient Analysis of Tight/Shale Reservoirs with Interfracture Induced Heterogeneity", SPE RESERVOIR EVALUATION & ENGINEERING, October 2019 Vol. 0, Num. 0, Page 1-20, October 2019,
- 23 Atefeh Dargahi Zarandi, Abdolhossein Hemmati Sarapardeh, Mohammadhadi Shateri, Nait Amar Menad, Mohamad Ahmady, "Modeling minimum miscibility pressure of pure/impure CO₂-crude oil systems using adaptive boosting support vector regression: Application to gas injection processes", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, September 2019 Vol. (2020) 184, Num. 106499, Page 1-15, September 2019,
- 24 Arash Azamifard, Fariborz Rashidi, Mohammadreza Pourfard, Mohamad Ahmady, Bahram Dabir, "Enduring effect of permeability texture for enhancing accuracy and reducing uncertainty of reservoir fluid flow through porous media", PETROLEUM SCIENCE, September 2019 Vol. 0, Num. 0, Page 1-18, September 2019,
- 25 Mohammadhossein Heidari Sureshjani, Mohamad Ahmady, Jalal Fahimpour, "A generalized approach for fast estimation of reservoir permeability distribution from analysis of pressure transient data", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, July 2019 Vol. 182, Num. 106240, Page 1-13, July 2019,
- 26 Zohreh Dermanaki Farahani, Mohamad Ahmady, Mohammad Sharifi, "History matching and uncertainty quantification for velocity dependent relative permeability parameters in a gas condensate reservoir", Arabian Journal of Geosciences, July 2019 Vol. 2019, Num. 0, Page 1-19, July 2019,








- 27 Abdolhossein Hemmati-Sarapardeh, Mohamad Ahmady, Forough Ameli, Bahram Dabir, Amir H. Mohammadi, Maen M Husein, "-", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, May 2019 Vol. 181, Num. 0, Page 106-127, May 2019,
- 28 Arash Azamifard, Fariborz Rashidi, Mohamad Ahmady, Mohammadreza Pourfard, Bahram Dabir, "-", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, May 2019 Vol. 181, Num. 0, Page 106-135, May 2019,
- 29 Abdolhossein Hemmati Sarapardeh, Bahram Dabir, Mohamad Ahmady, Amir H. Mohammadi, Maen M. Husein, "Modelling asphaltene precipitation titration data: A committee of machines and a group method of data handling", CANADIAN JOURNAL OF CHEMICAL ENGINEERING, June 2018 Vol. 2018, Num. 9999, Page 1-11, June 2018,
- 30 Abdolhossein Hemmati Sarapardeh, Bahram Dabir, Mohamad Ahmady, Amir H. Mohammadi, Maen M. Husein, "Toward Mechanistic Understanding of Asphaltene Aggregation Behavior in Toluene: The Roles of Asphaltene Structure, Aging Time, Temperature and Ultrasonic Radiation", JOURNAL OF MOLECULAR LIQUIDS, April 2018 Vol. 264, Num. 2018, Page 410-424, April 2018,
- 31 Abdorreza Karkevandi Talkhooncheh, Mohammad Sharifi, Mohamad Ahmady, "Application of hybrid adaptive neuro-fuzzy inference system in well placement optimization", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, March 2018 Vol. 166, Num. 0, Page 924-947, March 2018,
- 32 Abdorreza Karkevandi-Talkhooncheh, Alireza Rostami, Abdolhossein Hemmati Sarapardeh, Mohamad Ahmady, Maen M. Husein, Bahram Dabir, "Modeling minimum miscibility pressure during pure and impure CO2 flooding using hybrid of radial basis function neural network and evolutionary techniques", FUEL, January 2018 Vol. 220, Num. 0, Page 270-282, January 2018,
- 33 Mojtaba Karimi, Ali Mortazavi, Mohamad Ahmady, "Applying an optimized proxy-based workflow for fast history matching", Arabian Journal of Geosciences, October 2017 Vol. 14, Num. 462, Page 1-12, October 2017,
- 34 Mojtaba Gohari Bahabadi, Mohamad Ahmady, Amin Bazzi, "Decision making for choosing the optimum production scenario for a sector model of South Pars gas field based on single well modeling", Journal of Natural Gas Science and Engineering, September 2017 Vol. 46, Num. 0, Page 563-574, September 2017,
- 35 Mojtaba Karimi, Ali Mortazavi, Mohamad Ahmady, "Implementation of a new proxy algorithm in earth science - A case study: Automatic history matching in one of oil reservoirs", Journal of Petroleum Geomechanics, September 2017 Vol. 1, Num. 1, Page 1-14, September 2017,
- 36 Behzad Pouladi Borj, Mohammad Sharifi, Mohamad Ahmady, Mohan Kelkar, "Fast marching method assisted sector modeling: Application to simulation of giant reservoir models", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, January 2017 Vol. 1, Num. 1, Page 1-2, January 2017,
- 37 Abdolhossein Hemmati Sarapardeh, Forough Ameli, Bahram Dabir, Mohamad Ahmady, Amir H. Mohammadi, "On the evaluation of asphaltene precipitation titration data: Modeling and data assessment", FLUID PHASE EQUILIBRIA, January 2016 Vol. 415, Num. 1, Page 88-100, January 2016,

Conference Papers

Portal Records

- 1 Mohammad Amin Ebrahimi, Mohammad Javad Ameri Shahrabi, Mohamad Ahmady, "Application of stochastic method for Geomechanical parameters under uncertainty quantification to design mud window ", EAGE Annual 82nd Conference & Exhibition Amsterdam 2020, November 2020
- 2 Abolfazl Bagherinezhad, Mohamad Ahmady, Khalil Afsari, "Multi-Level Decision Making in the Field Development Optimization ", 80th EAGE Conference and Exhibition 2018, June 2018
- 3 Amin Taghavinejad, Mohamad Ahmady, Mohammad Sharifi, "A Case Study; Production Data Analysis of Wells SPD7-05 and SPD709 of the South Pars Field and Investigating Possibility of Presence of Natural Fractures Around them Using Rate Transient Analysis ", THE 2nd NATIONAL CONGRESS ON THE DEVELOPMENT OF FRACTURED RESERVOIRS, WITH EOR APPROACH, April 2018

Taught Courses

#	Course title	Description	Headlines	Date
1	Oil & Gas Reservoir Engineering (II)	Application of traditional reservoir engineering tools to evaluate the hydrocarbon in place and recovery factors		Spring 2022
2	Advanced Engineering Mathematics	Introduction to various numerical and analytical methods applicable to problems encountered in petroleum engineering		Fall 2021
3	Applied Mathematics in Petroleum Engineering	Explanation of Analytical Methods to Solve Partial Differential Equations in Petroleum Engineering and Mathematical Modeling of Flow Phenomena in Petroleum Engineering-related Problems		Fall 2021
4	Geostatistical Spatial Modeling of Reservoir	Introduction to concepts of Geostatistics and Geostatistical Algorithms Applied for Spatial Modeling of Reservoir Petrophysics and Lithogy		Spring 2021
5	Oil & Gas Reservoir Engineering (II)	Application of traditional reservoir engineering tools to evaluate the hydrocarbon in place and recovery factors		Spring 2021
6	Advanced Engineering Mathematics	Introduction to various numerical and analytical methods applicable to problems encountered in petroleum engineering		Fall 2020
7	Applied Mathematics in Petroleum Engineering	Explanation of Analytical Methods to Solve Partial Differential Equations in Petroleum Engineering and Mathematical Modeling of Flow Phenomena in Petroleum Engineering-related Problems		Fall 2020