

## Assoc. Prof. Fazıl Emre Artun

### Personal Information

**Office Phone:** [+90 212 285 6271](tel:+902122856271)

**Email:** [artun@itu.edu.tr](mailto:artun@itu.edu.tr)

**Web:** <https://avesis.itu.edu.tr/artun>

### International Researcher IDs

ScholarID: RvrUVE4AAAAJ

ORCID: 0000-0003-1975-9167

Publons / Web Of Science ResearcherID: P-6893-2014

ScopusID: 14061907000

Yoksis Researcher ID: 225508

### Education Information

Doctorate, Pennsylvania State University, College of Earth and Mineral Sciences, Department of Petroleum and Natural Gas Engineering, United States Of America 2005 - 2008

Postgraduate, West Virginia University, College of Engineering and Mineral Resources, Department of Petroleum and Natural Gas Engineering, United States Of America 2003 - 2005

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, Turkey 1999 - 2003

### Foreign Languages

English, C1 Advanced

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Maden, Petrol Ve Dođalgaz Mühendisliđi, 2020 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2018 - 2020

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2013 - 2018

Lecturer PhD, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2012 - 2013

### Academic and Administrative Experience

Program Koordinatörü, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural

## Advising Theses

Kök M. V., Artun F. E., Development of a screening model for the cyclic steam injection (CSI) process, Postgraduate, G.YALGIN(Student), 2018

Durgut İ., Artun F. E., Development of a screening model for polymer flooding in multi-layer reservoirs, Postgraduate, N.ZAREPAKZAD(Student), 2018

## Jury Memberships

Award, SPE International Formation Evaluation Award Committee Chairperson, 2019, Society of Petroleum Engineers (SPE), October, 2019

Award, SPE International Formation Evaluation Award Committee Member, 2016-2019, Society of Petroleum Engineers (SPE), October, 2016

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Understanding the Controlling Factors for CO<sub>2</sub> Sequestration in Depleted Shale Reservoirs Using Data Analytics and Machine Learning**  
Baabbad H. K. H., Artun F. E., Kulga B.  
ACS OMEGA, vol.7, no.24, pp.20845-20859, 2022 (SCI-Expanded)
- II. **Machine-Learning Approach for Forecasting Steam-Assisted Gravity-Drainage Performance in the Presence of Noncondensable Gases**  
Canbolat S., Artun F. E.  
ACS OMEGA, vol.7, pp.21119-21130, 2022 (SCI-Expanded)
- III. **Analytical modeling of flow regimes during cyclic CO<sub>2</sub> injection in hydraulically fractured tight reservoirs for enhanced oil recovery**  
Mugisha J., Al-Rbeawi S., Artun F. E.  
JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, vol.201, 2021 (SCI-Expanded)
- IV. **A comparative analysis and rapid performance prediction of polymer flooding process by coupling reservoir simulation with neural networks**  
Zarepakzad N., Artun F. E., DURGUT İ.  
INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY, vol.27, no.3, pp.227-246, 2021 (SCI-Expanded)
- V. **Performance assessment and forecasting of cyclic gas injection into a hydraulically fractured well using data analytics and machine learning**  
Artun E.  
Journal of Petroleum Science and Engineering, vol.195, 2020 (SCI-Expanded)
- VI. **Selection of candidate wells for re-fracturing in tight gas sand reservoirs using fuzzy inference**  
Artun E., Kulga B.  
PETROLEUM EXPLORATION AND DEVELOPMENT, vol.47, no.2, pp.413-420, 2020 (SCI-Expanded)
- VII. **Improving Oil-Rate Estimate in Capacitance/Resistance Modeling Using the Y-Function Method for Reservoirs Under Waterflood**  
Temizel C., Artun F. E., Yang Z.  
SPE RESERVOIR EVALUATION & ENGINEERING, vol.22, no.3, pp.1161-1171, 2019 (SCI-Expanded)
- VIII. **Fishbone type horizontal wellbore completion: A study for pressure behavior, flow regimes, and productivity index**  
Al-Rbeawi S., Artun F. E.

- JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, vol.176, pp.172-202, 2019 (SCI-Expanded)
- IX. **Characterization of tight-gas sand reservoirs from horizontal-well performance data using an inverse neural network**  
Kulga B., Artun F. E., Ertekin T.  
JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING, vol.59, pp.35-46, 2018 (SCI-Expanded)
- X. **Characterizing interwell connectivity in waterflooded reservoirs using data-driven and reduced-physics models: a comparative study**  
Artun F. E.  
NEURAL COMPUTING & APPLICATIONS, vol.28, no.7, pp.1729-1743, 2017 (SCI-Expanded)
- XI. **Development of a data-driven forecasting tool for hydraulically fractured, horizontal wells in tight-gas sands**  
Kulga B., Artun F. E., Ertekin T.  
COMPUTERS & GEOSCIENCES, vol.103, pp.99-110, 2017 (SCI-Expanded)
- XII. **Modeling, analysis, and screening of cyclic pressure pulsing with nitrogen in hydraulically fractured wells**  
Artun F. E., Khoei A. A., Kose K.  
PETROLEUM SCIENCE, vol.13, no.3, pp.532-549, 2016 (SCI-Expanded)
- XIII. **A pattern-based approach to waterflood performance prediction using knowledge management tools and classical reservoir engineering forecasting methods**  
Artun F. E., Vanderhaeghen M., Murray P.  
INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY, vol.13, no.1, pp.19-40, 2016 (SCI-Expanded)
- XIV. **Designing cyclic pressure pulsing in naturally fractured reservoirs using an inverse looking recurrent neural network**  
Artun F. E., Ertekin T., Watson R., Miller B.  
COMPUTERS & GEOSCIENCES, vol.38, no.1, pp.68-79, 2012 (SCI-Expanded)
- XV. **Development of universal proxy models for screening and optimization of cyclic pressure pulsing in naturally fractured reservoirs**  
Artun F. E., Ertekin T., Watson R., Al-Wadhahi M.  
JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING, vol.3, no.6, pp.667-686, 2011 (SCI-Expanded)
- XVI. **Performance and Economic Evaluation of Cyclic-Pressure Pulsing in Naturally Fractured Reservoirs**  
Artun F. E., Ertekin T., Watson R., Al-Wadhahit M., Miller B.  
JOURNAL OF CANADIAN PETROLEUM TECHNOLOGY, vol.50, pp.24-36, 2011 (SCI-Expanded)
- XVII. **Intelligent seismic inversion workflow for high-resolution reservoir characterization**  
Artun F. E., Mohaghegh S.  
COMPUTERS & GEOSCIENCES, vol.37, no.2, pp.143-157, 2011 (SCI-Expanded)
- XVIII. **Performance Evaluation of Cyclic Pressure Pulsing in a Depleted, Naturally Fractured Reservoir with Stripper-Well Production**  
Artun F. E., Ertekin T., Watson R., Miller B.  
PETROLEUM SCIENCE AND TECHNOLOGY, vol.29, no.9, pp.953-965, 2011 (SCI-Expanded)
- XIX. **Development and testing of proxy models for screening cyclic pressure pulsing process in a depleted, naturally fractured reservoir**  
Artun F. E., Ertekin T., Watson R., Miller B.  
JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, vol.73, pp.73-85, 2010 (SCI-Expanded)
- XX. **A Parametric Study on the Benefits of Drilling Horizontal and Multilateral Wells in Coalbed Methane Reservoirs**  
Maricic N., Mohaghegh S. D., Artun F. E.  
SPE RESERVOIR EVALUATION & ENGINEERING, vol.11, no.6, pp.976-983, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Probabilistic assessment of geothermal resources and their development in Dikili-İzmir region**  
Turan A., Artun F. E., Saner S.  
SN Applied Sciences, vol.3, no.6, 2021 (ESCI)
- II. **Assessment of Carbon Footprint of a Campus with Sustainability Initiatives**  
Artun E.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.34, no.3, pp.652-663, 2021 (ESCI)

## Books & Book Chapters

- I. **Oilfield data mining**  
Mohaghegh S., Artun F. E.  
in: Exploration and Production of Petroleum and Natural Gas, M.R. Riazi, Editor, ASTM : American Society for Testing and Materials , Pennsylvania, pp.177-196, 2016

## Refereed Congress / Symposium Publications in Proceedings

- I. **Analytical Modeling of Flow Regimes During Cyclic CO<sub>2</sub> Injection in Hydraulically Fractured Tight Reservoirs for EOR**  
MUGISHA J., AL RBEAWI S., ARTUN F. E.  
82nd EAGE Annual Conference Exhibition, 8 - 11 December 2020
- II. **Comparison of machine learning algorithms for the development of a forecasting tool for cyclic gas injection in hydraulically-Fractured wells**  
Seilkhanov A., Otyunshin D., Novopokrovskiy G., Artun E.  
SPE Annual Caspian Technical Conference 2020, CTC 2020, Virtual, Online, 21 - 22 October 2020
- III. **Candidate well selection for re-fracturing in tight-gas sand reservoirs using artificial intelligence**  
ARTUN F. E., KULGA İ. B.  
AAPG/SPE Eastern Section Joint Meeting, Pittsburgh, United States Of America, 7 - 11 October 2018
- IV. **Development of a data-driven operational design tool for CO<sub>2</sub> sequestration in shale gas reservoirs**  
KULGA İ. B., ARTUN F. E., Ertekin T.  
AAPG/SPE Eastern Section Joint Meeting, Pittsburgh, United States Of America, 7 - 11 October 2018
- V. **Design and Development of Data-Driven Screening Tools for Enhanced Oil Recovery Processes**  
Yalgın G., Zarepakzad N., ARTUN F. E., DURGUT İ., KÖK M. V.  
SPE Western Regional Meeting, 22 - 26 April 2018
- VI. **Probabilistic assessment of tight-gas sands using a data-driven modeling approach**  
ARTUN F. E., KULGA İ. B., Ertekin T.  
AAPG Eastern Section Meeting, Morgan Town, United States Of America, 24 - 27 October 2017
- VII. **Time-dependent performance evaluation of cyclic injection of gas mixtures into hydraulically-fractured wells in Appalachian sandstones**  
ARTUN F. E.  
AAPG Eastern Section Meeting, 24 - 27 September 2017
- VIII. **Cyclic pressure pulsing A promising method to improve recovery from hydraulically fractured stripper wells of Appalachian Basin**  
ARTUN F. E., Irgav O., Khairzhanov N.  
AAPG Eastern Section Meeting, Lexington, Kentucky, United States Of America, 25 - 27 September 2016
- IX. **Characterizing Reservoir Connectivity and Forecasting Waterflood Performance Using Data Driven and Reduced Physics Models**  
ARTUN F. E.  
SPE Western Regional Meeting, Anchorage, Alaska, United States Of America, 23 - 26 May 2016
- X. **Intersecting fracture geometries in control of geothermal spring occurrences in circumferences of**

## **the madra mountain, aegean region of Turkey**

Turan A., Saner S., Artun E.

Geothermal Resources Council 2016 Annual Meeting - Geothermal Energy Here and Now: Sustainable, Clean, Flexible, GRC 2016, California, United States Of America, 23 - 26 October 2016, vol.40, pp.611-619

- XI. **Modeling and analysis of cyclic pressure pulsing in hydraulically fractured wells**  
ARTUN F. E., Aghazadeh Khoei A., Kose K.  
20th International Petroleum and Natural Gas Congress and Exhibition of Turkey (IPETGAS), Ankara, Turkey, 27 - 29 May 2015
- XII. **A Pattern Based Approach to Waterflood Performance Prediction Using Knowledge Management Tools and Classical Reservoir Engineering Forecasting Methods**  
ARTUN F. E., Vanderhaeghen M., Murray P.  
SPE Western North American and Rocky Mountain Joint Meeting, Denver, Colorado, United States Of America, 14 - 16 April 2014
- XIII. **A case study for understanding waterflood performance using analytical tools**  
Fernandes B., Cabral Y., ARTUN F. E.  
19th International Petroleum and Natural Gas Congress and Exhibition of Turkey (IPETGAS), Ankara, Turkey, 15 - 17 May 2013
- XIV. **Performance and Economic Evaluation of Cyclic Pressure Pulsing in Naturally Fractured Reservoirs**  
ARTUN F. E., Ertekin T., Watson R., AlWadhahi M., Miller B.  
SPE EOR Conference at Oil & Gas West Asia, Muscat, UMMAN, 11 - 13 April 2010
- XV. **Development of Universal Proxy Models for Screening and Optimization of Cyclic Pressure Pulsing in Naturally Fractured Reservoirs**  
ARTUN F. E., Ertekin T., Watson R., AlWadhahi M.  
International Petroleum Technology Conference, Doha, Qatar, 7 - 09 December 2009
- XVI. **Optimized Design of Cyclic Pressure Pulsing in a Depleted Naturally Fractured Reservoir**  
ARTUN F. E., Ertekin T., Watson R., Miller B.  
SPE Eastern Regional/AAPG Eastern Section Joint Meeting, Pittsburgh, Pennsylvania, USA, United States Of America, 11 - 15 October 2008
- XVII. **A Parametric Study on the Benefits of Drilling Horizontal and Multilateral Wells in Coalbed Methane Reservoirs**  
Maricic N., Mohaghegh S., ARTUN F. E.  
SPE Annual Technical Conference and Exhibition, Dallas, Texas, United States Of America, 9 - 12 October 2005
- XVIII. **Intelligent seismic inversion From surface seismic to well logs via VSP**  
ARTUN F. E., Mohaghegh S., Toro J., Wilson T., Sanchez A.  
AAPG Eastern Section Meeting, Morgantown, WV, United States Of America, 18 - 20 September 2005
- XIX. **Reservoir Characterization Using Intelligent Seismic Inversion**  
ARTUN F. E., Mohaghegh S., Toro J., Wilson T., Sanchez A.  
SPE Eastern Regional Meeting, Morgantown, West Virginia, United States Of America, 14 - 16 September 2005

## **Activities in Scientific Journals**

Journal of Natural Gas Science and Engineering, Assistant Editor/Section Editor, 2015 - Continues

International Journal of Oil Gas and Coal Technology, Publication Committee Member, 2012 - 2020

## **Metrics**

Publication: 44

Citation (WoS): 151

Citation (Scopus): 252

H-Index (WoS): 9

H-Index (Scopus): 10

## **Non Academic Experience**

Quantum Reservoir Impact

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Chevron Energy Technology Company

Chevron Energy Technology Company

EQT Corporation