

## Prof. MAHMUT PARLAKTUNA

### Personal Information

Office Phone: [+90 312 210 4893](tel:+903122104893)

Fax Phone: [+90 312 210 4883](tel:+903122104883)

Email: [mahmut@metu.edu.tr](mailto:mahmut@metu.edu.tr)

Web: <https://avesis.metu.edu.tr/mahmut>

Address: ODTÜ Petrol ve Doğal Gaz Mühendisliği 06800 Ankara

### International Researcher IDs

ScholarID: T9e-yIkAAAAJ

ORCID: 0000-0001-6340-3307

Publons / Web Of Science ResearcherID: AAY-8640-2021

ScopusID: 35606287700

Yoksis Researcher ID: 14363

### Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, Turkey 1983 - 1988

Postgraduate, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, Turkey 1980 - 1983

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, Turkey 1975 - 1980

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Effect of carbon dioxide on PVT behavior of geothermal fluids and prevention of calcite deposition by inhibitor injection, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1988

Postgraduate, Effect of Reinjection on the Behavior of a Hot Water Geothermal Reservoir - A Laboratory Model Approach, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1983

### Research Areas

Reservoir, Gas Hydrates, Geothermal Reservoir Engineering

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2001 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1994 - 2001

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1988 - 1994

Lecturer, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1987 - 1988

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 1980 - 1987

## Academic and Administrative Experience

Head of Department, Middle East Technical University, Graduate School of Natural and Applied Sciences, İş Sağlığı Ve Güvenliği (YI) (Tezli), 2017 - 2023

Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2006 - 2015

Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2000 - 2003

## Advising Theses

Parlaktuna M., A novel rheological and frictional pressure loss equations for non-aqueous based drilling fluid systems by considering the pressure effect, Doctorate, M.GÖRKEM(Student), 2023

PARLAKTUNA M., POWER GENERATION FROM LOW TEMPERATURE LIQUID DOMINATED GEOTHERMAL SYSTEMS UTILIZING A BINARY POWER PLANT, Postgraduate, O.TAJI(Student), 2022

PARLAKTUNA M., An experimental investigation of possible production mechanisms of hydrate formation, Postgraduate, H.HÜSEYİN(Student), 2021

PARLAKTUNA M., A Study on risk assessment regarding sausage production line, Postgraduate, Ş.Biçer(Student), 2020

Ayrancı Tansık İ., Parlaktuna M., The effect of experimental conditions on natural gas hydrate formation, Doctorate, S.LONGINOS(Student), 2020

PARLAKTUNA M., Investigation of behavioral-based safety impacts on organizational safety culture., Postgraduate, U.Semih(Student), 2020

PARLAKTUNA M., A new approach to reduce the formation fluid invasion during well control operations, Postgraduate, G.Tekdal(Student), 2019

PARLAKTUNA M., Prediction of dog-leg severity by using artificial neural network, Postgraduate, S.Kaymak(Student), 2019

PARLAKTUNA M., Analysis of human factors and procedural failures in landscaping and horticultural services using HAZOP, Postgraduate, İ.Sarıöz(Student), 2019

PARLAKTUNA M., Investigation of natural gas hydrate potential of the south caspian sea, Postgraduate, Z.MUSTAFAYEVA(Student), 2018

PARLAKTUNA M., Fracture effect limitation on residual oil saturation & visualization by computer tomography, Doctorate, S.CANBOLAT(Student), 2018

PARLAKTUNA M., İÇGEN B., Investigation on indigenous bacteria for individual BTEX degradation potentials and relative pathways used, Postgraduate, A.Yavaş(Student), 2018

PARLAKTUNA M., Experimental investigation of cuttings transport in horizontal wells using aerated drilling fluid, Postgraduate, S.Gül(Student), 2017

PARLAKTUNA M., YAMAN İ. Ö., Evaluation of limestone incorporated cement compositions for cementing gas hydrate zones in deepwater environments, Postgraduate, İ.ALPTUĞ(Student), 2017

PARLAKTUNA M., Experimental investigation of cuttings transport in horizontal wells using aerated drilling fluids, Postgraduate, S.GÜL(Student), 2017

PARLAKTUNA M., A wellbore heat transfer model for steam injection as enhanced oil recovery method, Postgraduate, R.HOSAM(Student), 2015

PARLAKTUNA M., A performance analysis of different types of liquid lubricants in weighted and unweighted water based drilling fluid by differential sticking tester parallel with lubricity tester, Postgraduate, M.UĞUR(Student), 2015

PARLAKTUNA M., A comparative study of cuttings transport performance of water versus polymer-based fluids in horizontal well drilling, Postgraduate, P.ALLAHVİRDİZADEH(Student), 2015

PARLAKTUNA M., Smart water displacement an alternative enhanced oil recovery technique, Doctorate, C.POLAT(Student), 2015

PARLAKTUNA M., Experimental verification of CH<sub>4</sub>-CO<sub>2</sub> swap in methane-propane-carbon dioxide mixture hydrates, Postgraduate, A.ABBASOV(Student), 2014

PARLAKTUNA M., An experimental study on steam distillation of heavy oils during thermal recovery, Postgraduate, Y.TAVAKKOLI(Student), 2013

PARLAKTUNA M., An experimental investigation of the shale inhibition properties of a quaternary amine compound, Postgraduate, B.TUĞRUL(Student), 2013

PARLAKTUNA M., Matrix fracture interaction in sandstone rocks during carbon dioxide, methane and nitrogen injection, Doctorate, S.BÜLBÜL(Student), 2012

PARLAKTUNA M., KARAHANOĞLU N., An investigation of the leak-off tests conducted in oil and natural gas wells drilled in Thrace basin, Postgraduate, B.KAYAEL(Student), 2012

PARLAKTUNA M., Economical impact of a dual gradient drilling system, Postgraduate, M.PEKER(Student), 2012

Güleç N. T., Parlaktuna M., Geochemical evaluation and conceptual modeling of Edremit geothermal field, Doctorate, Ö.AVŞAR(Student), 2011

PARLAKTUNA M., Wellbore temperature assessment for generic deepwater well in Blacksea and mitigation of hydrate dissociation risk, Postgraduate, M.TARIK(Student), 2011

PARLAKTUNA M., Extra korolev producers: Their impact on production, Postgraduate, A.YSKAK(Student), 2010

PARLAKTUNA M., BİLGİN H. A., Resource assessment in Aydin-Pamukören geothermal field, Postgraduate, İ.ATMACA(Student), 2010

PARLAKTUNA M., AYDIN İ., Modeling of Newtonian fluids and cuttings transport analysis in high inclination wellbores with pipe rotation, Doctorate, M.SORGUN(Student), 2010

PARLAKTUNA M., Laboratory investigation on gelation behavior of xanthan crosslinked with borate intended to combat lost circulation, Postgraduate, M.MOKHTARİ(Student), 2010

AKIN S., PARLAKTUNA M., Integration of real-time and dynamic surveillance data in managing Azeri-Chirag-Guneshli field, Postgraduate, S.SADİKHOV(Student), 2010

AKIN S., PARLAKTUNA M., Numerical modeling of Balçova geothermal field, Postgraduate, C.POLAT(Student), 2010

AKIN S., PARLAKTUNA M., Numerical simulation of Germencik geothermal field, Postgraduate, A.HAMENDİ(Student), 2009

PARLAKTUNA M., Assessment of reservoir rock and fluid data for Black Oil Simulation – a case study, Postgraduate, O.Susuz(Student), 2009

PARLAKTUNA M., PERFORMANCE PREDICTION ANALYSIS IN AZERI OIL FIELD, AZERBAIJAN, Postgraduate, A.MAJİDOVA(Student), 2009

PARLAKTUNA M., Estimation of water alternating gas (wag) injection performance of an offshore field (Azeri Field,Azerbaijan) using a sector simulation model, Postgraduate, F.BABAYEV(Student), 2008

PARLAKTUNA M., Hydrate formation conditions of methane hydrogen sulfide mixtures, Postgraduate, S.BÜLBÜL(Student), 2007

PARLAKTUNA M., Determination of hydrate formation conditions of drilling fluids, Postgraduate, A.Kupeyeva(Student), 2007

PARLAKTUNA M., Review of natural gas discovery and production from conventional resources in Turkey, Postgraduate, H.KESKİN(Student), 2007

AKIN S., PARLAKTUNA M., Characterization of Kızılcahamam geothermal field by tracer testing, Postgraduate, T.KAYA(Student), 2005

PARLAKTUNA M., Gas production from hydrate reservoirs, Postgraduate, D.ALP(Student), 2005  
PARLAKTUNA M., Effect of polyglycols on hydrate formation during drilling operations, Postgraduate, A.TAHİR(Student), 2005  
PARLAKTUNA M., A technical feasibility study on the use of Çavundur geothermal field for greenhouse heating, Postgraduate, H.KASAPÖĞLU(Student), 2003  
PARLAKTUNA M., Assessment of low temperature geothermal resources, Postgraduate, S.Arkan(Student), 2003  
PARLAKTUNA M., An Experimental investigation of gas hydrate inhibition during deepwater drilling operations, Postgraduate, H.SAVAŞ(Student), 2002  
PARLAKTUNA M., Reservoir simulation modeling of a natural gas field for reservoir evaluation., Postgraduate, S.YILMAZ(Student), 2002  
PARLAKTUNA M., Fractionation properties of natural gas hydrates, Postgraduate, G.FATİH(Student), 2001  
PARLAKTUNA M., AKIN S., Characterization and modeling of Kızıldere geothermal field, Postgraduate, K.Yeltekin(Student), 2001  
PARLAKTUNA M., Kinetic inhibition of hydrate formation through polymers and surfactants, Doctorate, U.KARAASLAN(Student), 2001  
PARLAKTUNA M., Effect of surfactants on hydrate formation, Postgraduate, U.Karaaslan(Student), 1998  
PARLAKTUNA M., Estimation of silica scaling potential of Kızıldere field effluent, Postgraduate, S.ARITÜRK(Student), 1997  
PARLAKTUNA M., Steam injection model for gas production from a hydrate reservoir, Postgraduate, N.CEYHAN(Student), 1996  
PARLAKTUNA M., Modelling unsteady state flow to natural gas pipeline systems, Postgraduate, A.MURAT(Student), 1994  
PARLAKTUNA M., Geochemical survey of Dutlu-Beypazarı geothermal field and geothermometry applications, Postgraduate, M.ŞUMNU(Student), 1989

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

- Kinetic Analysis of Methane Hydrate Formation with Butterfly Turbine Impellers**  
Longinos S. N., Longinou D. D., Myrzakhmetova N., Akimbayeva N., Zhursumbaeva M., Abdiyev K., Toktarbay Z.,  
PARLAKTUNA M.  
Molecules, vol.27, no.14, 2022 (SCI-Expanded)

## Articles Published in Other Journals

- INVESTIGATION OF NATURAL GAS HYDRATE POTENTIAL OF THE SOUTH CASPIAN SEA**  
Mustafayeva Z., PARLAKTUNA M.  
ANAS Transactions, Earth Sciences, pp.34-36, 2023 (Scopus)

## Books & Book Chapters

- Balçova geothermal field district heating system: lessons learned from 16 years of application**  
PARLAKTUNA M.  
in: Geothermal Resources of Aegean Region, İper Baba, Jochen Bundschuh, D. Chandrasekharam, Editor, CRC  
Press, pp.177-196, 2014

## Refereed Congress / Symposium Publications in Proceedings

- Fracture Effect Limitation on Residual Oil Saturation: Aperture Shrinkage**  
CANBOLAT S., PARLAKTUNA M.

SPE International Conference and Exhibition on Formation Damage Control, 7 - 09 February 2018

- II. **Experimental Investigation of Cuttings Transport in Horizontal Wells Using Aerated Drilling Fluids**  
Gül S., Kuru E., PARLAKTUNA M.  
Abu Dhabi International Petroleum Exhibition Conference, Abu Dhabi, United Arab Emirates, 13 - 16 November 2017
- III. **Evaluation of Dikili Kaynarca Geothermal Field NW Turkey**  
AVŞAR Ö., PARLAKTUNA M.  
World Geothermal Congress, Melbourne, Australia, 19 - 25 April 2015
- IV. **Flow Testing of Balçova Geothermal Field Turkey**  
PARLAKTUNA M., Ertunç G., Parlaktuna B., Sayık T.  
World Geothermal Congress, United States Of America, 19 - 25 April 2015
- V. **Evolution of Balçova Geothermal District Heating System Turkey**  
PARLAKTUNA M.  
2015 GRC Annual Meeting, 20 September - 23 April 2015
- VI. **Flow Testing of Balçova Geothermal Field Turkey**  
PARLAKTUNA M., ERTUNÇ G., PARLAKTUNA B., Sayık T.  
World Geothermal Congress 2015, 19 - 25 April 2015
- VII. **Gas and Gas Hydrate Potential Offshore Amasra Bartın and Zonguldak and Possible Agent for Multiple BSR Occurrence**  
KÜÇÜK H. M., DONDURUR D., ÖZEL Ö., SINAYUÇ Ç., MEREY Ş., PARLAKTUNA M., ÇİFÇİ G., TEAM S.  
European Geosciences Union General Assembly, Viyana, Austria, 12 - 17 April 2015, vol.17
- VIII. **Geothermal Potential Assessment of Edremit Geothermal Field NW Turkey**  
AVŞAR Ö., GÜLEÇ N. T., PARLAKTUNA M.  
WORLD GEOTHERMAL CONGRESS 2105 (WGC 2015), Melbourne, Australia, 19 - 25 April 2015
- IX. **Amasra Zonguldak Açıklarının Gaz Hidrat Potansiyeli ve Çoklu BSR Yansımalarının Olası Oluşum Nedenleri**  
KÜÇÜK H. M., DONDURUR D., ÖZEL Ö., PARLAKTUNA M., SINAYUÇ Ç., MEREY Ş., DARILMAZ E., ÇİFÇİ G.  
20th International Geophysical Congress and Exhibition of Turkey, Antalya, Turkey, 25 - 27 November 2013
- X. **Assessment of CO2 Storage Potential in Turkey, Modeling and a Prefeasibility Study for Injection into an Oil Field**  
Okandan E., Karakece Y., Cetin H., Topkaya I., PARLAKTUNA M., AKIN S., Bulbul S., Dalha C., Anbar S., Cetinkaya C., et al.  
10th International Conference on Greenhouse Gas Control Technologies, Amsterdam, Netherlands, 19 - 23 September 2010, vol.4, pp.4849-4856
- XI. **Forward extraction of L-aspartic acid from fermentation broths by reverse micelles and backward extraction by gas hydrate method**  
Aydoğan O., Bayraktar E., Mehmetoglu U., Parlaktuna M., Mehmetoglu T.  
12th European Congress on Biotechnology (ECB 12), Copenhagen, Denmark, 21 - 24 August 2005, vol.118
- XII. **Natural gas hydrates as a cause of underwater landslides: A review**  
Parlaktuna M.  
NATO Advanced Research Workshop on Underwater Ground Failures on Tsunami Generation, Modeling, Risk and Mitigation, İstanbul, Turkey, 23 - 26 May 2001, vol.21, pp.163-169
- XIII. **Laboratory for continuous production of natural gas hydrates**  
Gudmundsson J. S., PARLAKTUNA M., Levik O. I., Andersson V.  
GAS HYDRATES: CHALLENGES FOR THE FUTURE, United States Of America, 18 July 1999 - 18 July 1997, vol.912, pp.851-858
- XIV. **Effect of surfactants on hydrate formation rate**  
Karaaslan U., PARLAKTUNA M.  
GAS HYDRATES: CHALLENGES FOR THE FUTURE, United States Of America, 18 - 22 July 1999
- XV. **A numerical method for the gas production process in gas hydrate reservoirs**  
Durgut İ., Parlaktuna M.

2nd International Conference on Natural Gas Hydrates (NGH 96), Toulouse, France, 2 - 06 June 1996, pp.549-556

**XVI. EFFECT OF CARBON-DIOXIDE ON PVT BEHAVIOR OF WATER BELOW 150-DEGREES-C**

PARLAKTUNA M., OKANDAN E.

1988 ANNUAL MEETING OF THE GEOTHERMAL RESOURCES COUNCIL : NEW HORIZONS, California, United States  
Of America, 9 - 12 October 1988, vol.12, pp.131-136

## **Metrics**

Publication: 64

Citation (WoS): 666

Citation (Scopus): 936

H-Index (WoS): 12

H-Index (Scopus): 15

## **Non Academic Experience**

Norveç Bilim ve teknoloji Üniversitesi

Norveç Bilim ve teknoloji Üniversitesi

İzlanda Reykjavik UNU Üniversitesi