

Asst. Prof. MEHMET ONUR DOĞAN

Personal Information

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Address: ODTÜ - Department of Petroleum and Natural Gas Engineering

International Researcher IDs

ScholarID: rEnfesQAAAAJ

ORCID: 0000-0002-9043-6187

Publons / Web Of Science ResearcherID: L-7937-2017

ScopusID: 35758531300

Yoksis Researcher ID: 252588

Biography

KİŞİSEL BİLGİLER

Uyruk : T.C.

Doğum tarihi : 01 Ocak, 1980

Askerlik durumu : Tamamlandı

Medeni durumu : Evli , 2 çocuk babası

KİŞİSEL PROFİL

Gözenekli yapıda çok fazlı akışkanların sayısal modellenmesinde uzman, Dr. Mühendis

EĞİTİM BİLGİLERİ

Mart 2007 - Aralık 2010 :**Doktora, Stuttgart Üniversitesi İnşaat ve Çevre Mühendisliği**, Doktora Tezi: Gözenekli ortam akımıyla boru akımını eşleştirmek için simülasyon modeli geliştirilmesi (Alman Araştırma Birliği DFG destekli), Derecesi: çok iyi.

Ağ. 2005 - Şubat 2007 :**Araştırma Görevlisi, Stuttgart Üniversitesi İnşaat ve Çevre Mühendisliği, CO₂-TRAP** Projesi: Terkedilmiş kömür yataklarına karbondioksit depolanması işleminin sayısal analizi (Federal Almanya Eğitim ve Araştırma Bakanlığı(BMBF) ve Alman Araştırma Birliği DFG destekli).

Ocak 2005 - Mayıs 2005 :**Araştırma Görevlisi, Stuttgart Üniversitesi İnşaat ve Çevre Mühendisliği**, Tez Sonrası Proje: Jeolojik formasyonlarda gaz akışının sayısal modellenmesi (Deutsche Montan Technologie destekli)

Eylül 2002 - Aralık 2004 :**Hidrolik Mühendisliği Yüksek Lisansı, Stuttgart Üniversitesi**, Yüksek Lisans Tezi: Madenlerdeki gaz akışının sayısal modellenmesi (IPSWAT bursu destekli), Derecesi: 1.3 (maks 1.0).

Eylül 1997 - Haziran 2002 : **İnşaat Mühendisliği Lisans Eğitimi, ODTÜ**, Derecesi: 3.6 (maks. 4.0).

Eylül 1990 - Ocak 1997 : **Ankara Anadolu Lisesi (Almanca)**, Derecesi: 4.7 (maks. 5.0).

Education Information

Doctorate, Universitaet Stuttgart, Civil and Environmental Engineering, Department of Hydromechanics and Modelling of Hydrosystems, Germany 2005 - 2010

Postgraduate, Universitaet Stuttgart, Civil and Environmental Engineering, Department of Hydromechanics and Modelling of Hydrosystems , Germany 2002 - 2004

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, Turkey 1997 - 2002

Foreign Languages

English, C2 Mastery

German, C1 Advanced

Dissertations

Doctorate, Coupling of Porous Media Flow with Pipe Flow, Universitaet Stuttgart, Civil and Environmental, Department of Hydromechanics and Modelling of Hydrosystems, 2010

Postgraduate, Modeling of mine gas repositories, Universitaet Stuttgart, Civil and Environmental Engineering, Department of Hydromechanics and Modelling of Hydrosystems, 2004

Research Areas

Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2019 - Continues

Research Assistant, Universitaet Stuttgart, Civil and Environmental Engineering, 2007 - 2010

Research Assistant, Universitaet Stuttgart, Civil and Environmental Engineering, Department of Hydromechanics and Modelling of Hydrosystems, 2005 - 2007

Researcher, Universitaet Stuttgart, Civil and Environmental Engineering, Department of Hydromechanics and Modelling of Hydrosystems, 2005 - 2005

Academic and Administrative Experience

Engineering Faculty Transfer Committee, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2024 - Continues

Department Education Committee, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2024 - Continues

Performans Değerlendirme Komisyonu Üyesi, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2021 - Continues

Remote Education Coordinator, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2020 - Continues

Kalite/Açık Erişim Koordinatörü, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2020 - Continues

Deputy Head of Department, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2020 - Continues

Bölüm Stratejik Plan Komisyonu Üyesi, Middle East Technical University, Faculty of Engineering, Department of Petroleum and Natural Gas Engineering, 2020 - Continues

Member of Department Promotion and Alumni Relations Commission, Middle East Technical University, Faculty Of Engineering, Department Of Petroleum And Natural Gas Engineering, 2021 - 2021

Courses

Natural Gas Engineering, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Transport Phenomena in Geosystems, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2020 - 2021, 2019 - 2020, 2017 - 2018

Numerical Reservoir Simulation I, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2017 - 2018

Introduction to Fluid Mechanics, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2017 - 2018, 2016 - 2017

Fluid Mechanics, Undergraduate, 2015 - 2016

Supervised Theses

Doğan M. O., DEVELOPMENT OF A MACHINE LEARNING MODEL FOR PREDICTING MDT POINTS AND FLUID TYPES USING CONVENTIONAL LOGS AND HIGH-RESOLUTION RESISTIVITY DATA, Postgraduate, M.BEDİRHAN(Student), Continues

Doğan M. O., IMPROVING DRILLING TRAJECTORY CALCULATION BY DEVELOPING KALMAN FILTER ALGORITHM, Postgraduate, E.KARATAŞ(Student), Continues

Doğan M. O., COMPARISON OF CONFORMING AND NON-CONFORMING DFN MODELS WITH DUAL/CONTINUUM MODELS, Postgraduate, O.TÖREN(Student), Continues

Doğan M. O., THE EFFECT OF SCREENING PARAMETERS ON MISCIBLE AND IMMISCIBLE CO₂ EOR APPLICATIONS, Postgraduate, U.EFE(Student), Continues

Doğan M. O., Comparison Between Empirical Correlations and Deterministic Models of Two-Phase Free Flow, Postgraduate, A.EGE(Student), Continues

Doğan M. O., MODELING OF FLOW AND TRANSPORT PROCESSES IN GAS CONDENSATE RESERVOIRS USING PHYSICS-INFORMED NEURAL NETWORKS, Doctorate, T.JAMALBAYLI(Student), Continues

Doğan M. O., UNDERSTANDING AND MODELING MULTI-PHASE FLOW IN FRACTURED MEDIA USING MINC (MULTIPLE INTERACTING CONTINUA) PROXIMITY FUNCTION, Doctorate, E.BERNA(Student), Continues

Doğan M. O., EFFECT OF GRAVITY DRAINAGE, MISCIBILITY, AND RELATIVE PERMEABILITY ON TIGHT MATRIX RESERVOIR WITH LOW-QUALITY NATURAL FRACTURES ON CARBON-DIOXIDE INJECTION, Postgraduate, M.Can(Student), 2024

Doğan M. O., ASSESSING THE EFFECT OF COUPLED GEOMECHANICAL AND FLUID-FLOW PROBLEMS IN GEOTHERMAL RESERVOIRS VIA NUMERICAL MODELING, Postgraduate, Y.MUSTAPHA(Student), 2024

Doğan M. O., Comparison and optimization of multiple interacting continua (MINC) model parameters, Postgraduate, E.BERNA(Student), 2023

Doğan M. O., Comparison of reservoir simulation techniques for gas reservoirs: semi-analytical tankflow model approach versus finite volume solutions, Postgraduate, T.Jamalbayli(Student), 2023

Published journal articles indexed by SCI, SSCI, and AHCI

1. Investigating terminal film thickness in oil spreading dynamics under opposing net surface tension

force on calm water

DOĞAN M. O., DURGUT İ.

Marine Pollution Bulletin, vol.211, 2025 (SCI-Expanded)

- II. **Extended Multiple Interacting Continua (E-MINC) Model Improvement with a K-Means Clustering Algorithm Based on an Equi-dimensional Discrete Fracture Matrix (ED-DFM) Model**

DOĞAN M. O.

MATHEMATICAL GEOSCIENCES, vol.56, no.4, pp.751-782, 2024 (SCI-Expanded)

- III. **Different concepts for the coupling of porous-media flow with lower-dimensional pipe flow**

Dogan M. O., Class H., Helmig R.

CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES, vol.53, no.3, pp.207-233, 2009 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **New Definition and Numerical Analysis of Local Thermal Non-Equilibrium (LTNE) Conditions in Porous Media: Considering Convection and Conduction Processes for Darcy Scale Problems**

Doğan M. O., Tavakkoli Osgouei Y.

VI International Workshop «Thermal Methods for Enhanced Oil Recovery: Laboratory Testing, Simulation and Oilfields Applications» ThEOR2023, Ankara, Turkey, 20 - 22 November 2023, pp.48-49

- II. **Comparison of Reservoir Simulation Techniques for Gas Reservoirs: Semi-Analytical Tank Flow Model Approach versus Finite Volume Solutions**

Doğan M. O., Jamalbayli T., Jamalbayov M.

VI International Workshop «Thermal Methods for Enhanced Oil Recovery: Laboratory Testing, Simulation and Oilfields Applications» ThEOR2023, Ankara, Turkey, 20 - 22 November 2023, pp.21

- III. **TÜRKİYE'DEKİ İKLİM DEĞİŞİKLİĞİ VE KARBON YAKALAMA-DEPOLAMA UYGULAMALARI İLE İLİŞKİLİ MEVZUATIN İNCELENMESİ**

Bülbül S., Sinayuç Ç., Doğan M. O.

21st International Petroleum and Natural Gas Congress and Exhibition of Türkiye, Ankara, Turkey, 27 - 29 September 2023, pp.305-311

- IV. **A Numerical Study on the Effect of Flue Gas Composition on Oil Recovery in Low-Permeability Formations**

Tavakkoli Osgouei Y., Doğan M. O., Sinayuç Ç.

21st International Petroleum and Natural Gas Congress and Exhibition of Türkiye, Ankara, Turkey, 27 - 29 September 2023, pp.325-328

- V. **A numerical study on decreasing CO2 emission by flue gas injection into heavy oil reservoirs**

Tavakkoli Osgouei Y., Doğan M. O., Sinayuç Ç.

Interpore 2023, Edinburgh, England, 22 - 25 May 2023, pp.51

- VI. **Heat Extraction at High Flow Rates by Fracture Plugging in Geothermal Reservoirs from Pore to Darcy Scale Considering Local Thermal Non-Equilibrium (LTNE) Conditions**

Tavakkoli Y., Doğan M. O., Akn S.

Interpore 2023, Edinburgh, England, 22 - 25 May 2023, pp.333-334

- VII. **Model Development for Thermal Management of Li-Ion Batteries from Cell Level to Total System Level**

Doğan M. O.

Interpore 2023, Edinburgh, England, 22 - 25 May 2023, pp.465-466

- VIII. **Dynamic Simulation of the Filtration Process Based on the Streamline Technology, Monitoring and Prediction of EOR and Stimulation Methods**

Jamalbayov M. A., Hasanov I. R., Valiyev N. A., Doğan M. O., Jamalbayli T. M.

ThEOR2022 - Thermal Methods for Enhanced Oil Recovery: Laboratory Testing, Simulation and Oilfields Applications, Baku, Azerbaijan, 3 - 05 November 2022, pp.42

- IX. **HEPPs Foreseeing Upcoming Energy Market Conditions**

Dođan M. O.

3rd International Conference on Civil and Environmental Engineering (ICOCEE) , İzmir, Turkey, 24 - 27 April 2018, pp.573-581

X. Gelişen enerji piyasasında denge bacasının önemi

Dođan M. O.

DSI 2. Barajlar Kongresi, İstanbul, Turkey, 13 - 15 February 2014

XI. Coupling of Porous Media Flow with Pipe Flow via Dual-Continuum Strategy

Dođan M. O.

DFG FG 581 Natural Slopes: Coupling of Flow and Deformation Processes for Modeling the Movement of Natural Slopes, Karlsruhe, Germany, 27 - 28 March 2008, pp.12

XII. Coupling of porous media flow with free flow

Dođan M. O., Helmig R., Class H.

4th IAHR International Groundwater Symposium: Flow and Transport in Heterogeneous Subsurface Formations, Theory, Modeling and Applications. Modelling of Coupled Surface-Subsurface Processes, İstanbul, Turkey, 18 - 20 June 2008, pp.65

XIII. Sorptive storage of CO2 in abandoned coal mines- Numerical Ad-/desorption Model

Dođan M. O., Class H.

Geotechnologien - Status Seminar - Development and Evaluation of Innovative Strategies for Sequestration and Permanent Immobilisation of CO2 in Geological Formations (CO2Trap) , Freiburg, Germany, 21 - 22 September 2006, pp.22

Metrics

Publication: 18

Citation (WoS): 4

Citation (Scopus): 4

H-Index (WoS): 1

H-Index (Scopus): 1

Non Academic Experience

Company, Aspilsan Energy Cooperation, Research and Development

Company, ENERJISA Energy Generation Company, Engineering Design