

Asst. Prof. Kayhan Develi

Personal Information

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Address: İTÜ Maden Fak. Jeoloji Müh. Böl. Ofis: A106 Maslak İstanbul

Research Areas

Geological Engineering, Applied Geology, Mathematical Geology, Engineering Geology foundations, earthquakes, dams, reservoirs, Rock Mechanics, Petroleum And Natural Gas Engineering, Reservoir, Reservoir Engineering and Recovery Methods

Academic Titles / Tasks

Assistant Professor, İstanbul Teknik Üniversitesi, Maden Fakültesi, Jeoloji Mühendisliği Bölümü, 2018 - Continues

Assistant Professor, İstanbul Teknik Üniversitesi, Maden Fakültesi, Jeoloji Mühendisliği Bölümü, 2015 - 2018

Professional Experience

Fakülte Yönetim Kurulu Üyesi, İstanbul Teknik Üniversitesi, Maden Fakültesi, 2015 - Continues

Courses

Applied Rock Mechanics, Under Graduate, 2019 - 2020

Earth Science for Civil Engineers, Under Graduate, 2019 - 2020

Experimental Rock Mechanics, Under Graduate, 2019 - 2020

Characterization of Discontinuous Medium – Hydraulic & Mechanical Properties, Under Graduate, 2019 - 2020

Engineering Geology, Under Graduate, 2019 - 2020

Engineering Geology, Under Graduate, 2018 - 2019

Kaya Mekaniği, Under Graduate, 2015 - 2016, 2016 - 2017

Geology for Civil Engineers, Under Graduate, 2016 - 2017

Rock Mechanics, Under Graduate, 2016 - 2017

Design in Earth Science, Under Graduate, 2016 - 2017

İnşaat Jeolojisi, Under Graduate, 2015 - 2016, 2016 - 2017

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Effect of injection parameters on proppant transport in rough vertical fractures: An experimental analysis on visual models**
Huang H., Babadagli T., Li H. A. , Develi K., Wei G.
JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, vol.180, pp.380-395, 2019 (Journal Indexed in SCI)
- **Percolation characteristics of solvent invasion in rough fractures under miscible conditions**
Korfanta M., Babadagli T., Develi K.
JOURNAL OF CONTAMINANT HYDROLOGY, vol.205, pp.25-36, 2017 (Journal Indexed in SCI)
- **Effect of Fracture Roughness, Shear Displacement, Fluid Type, and Proppant on the Conductivity of a Single Fracture: A Visual and Quantitative Analysis**
Raimbay A., Babadagli T., Kuru E., Develi K.

SPE RESERVOIR EVALUATION & ENGINEERING, vol.20, pp.446-470, 2017 (Journal Indexed in SCI)

- **Fractal analysis of single-phase water and polymer solution flow at high rates in open and horizontally displaced rough fractures**
Raimbay A., Babadagli T., Kuru E., Develi K.
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES, vol.92, pp.54-71, 2017 (Journal Indexed in SCI)
- **Quantitative and visual analysis of proppant transport in rough fractures**
Raimbay A., Babadagli T., Kuru E., Develi K.
JOURNAL OF NATURAL GAS SCIENCE AND ENGINEERING, vol.33, pp.1291-1307, 2016 (Journal Indexed in SCI)
- **Effect of surface roughness and lithology on the water-gas and water-oil relative permeability ratios of oil-wet single fractures**
Babadagli T., Raza S., REN X., Develi K.
INTERNATIONAL JOURNAL OF MULTIPHASE FLOW, vol.75, pp.68-81, 2015 (Journal Indexed in SCI)
- **FRACTAL ASPECTS OF MISCIBLE DISPLACEMENT IN ROUGH FRACTURES: AN EXPERIMENTAL APPROACH**
Korfanta M., Babadagli T., Develi K.
FRACTALS-COMPLEX GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY, vol.23, 2015 (Journal Indexed in SCI)
- **Experimental and visual analysis of single-phase flow through rough fracture replicas**
Develi K., Babadagli T.
International Journal of Rock Mechanics and Mining Sciences, vol.73, pp.139-155, 2015 (Journal Indexed in SCI)
- **Effects of fractal surface roughness and lithology on single and multiphase flow in a single fracture: An experimental investigation**
Babadagli T., Ren X., Develi K.
INTERNATIONAL JOURNAL OF MULTIPHASE FLOW, vol.68, pp.40-58, 2015 (Journal Indexed in SCI)
- **Fractal characteristics of rocks fractured under tension**
Babadagli T., Develi K.
Theoretical and Applied Fracture Mechanics, vol.39, pp.73-88, 2003 (Journal Indexed in SCI)
- **A new computer-controlled surface-scanning device for measurement of fracture surface roughness**
Develi K., Babadagli T., Comlekci C.
Computers and Geosciences, vol.27, pp.265-277, 2001 (Journal Indexed in SCI)
- **On the application of methods used to calculate the fractal dimension of fracture surfaces**
Babadagli T., Develi K.
Fractals, vol.9, pp.105-128, 2001 (Journal Indexed in SCI)
- **Quantification of natural fracture surfaces using fractal geometry**
Develi K., Babadađlı T.
MATHEMATICAL GEOLOGY, vol.30, 1998 (Journal Indexed in SCI Expanded)

Articles Published in Other Journals

- **Yüzey pürüzlülüğünün sayısal tanımı ve süreksizliğin kesme dayanımına etkisi**
DEVELİ K., VARDAR M.
İTÜ Dergisi, Seri D; Mühendislik, vol.5, 2006 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- **Experimental study on the effect of injection parameters on proppant transport in rough vertical hydraulic fractures SPE-190041-MS**
HUANG H., Babadađlı t., Lİ H. A. , DEVELİ K., WEİ G.
SPE Western Regional Meeting, Garden Grove California, United States Of America, 22 - 27 April 2018, pp.1-17
- **Visual analysis on the effects of fracture-surface characteristics and rock type on proppant transport in**

vertical fractures SPE-189892-MS

HUANG H., Babadađlı t., Lİ H. A. , DEVELİ K.

SPE Hydraulic Fracturing Technology Conference Exhibition, The Woodlands Texas, United States Of America, 23 - 25 January 2018, pp.1-14

- **Experimental Study on the Effect of Injection Parameters on Proppant Transport in Rough Vertical Hydraulic Fractures**

Huang H., Babadagli T., Li H., Develi K., Wei G.

SPE Western Regional Meeting 2018, California, United States Of America, 22 - 26 April 2018

- **Visual analysis on the effects of fracture-surface characteristics and rock type on proppant transport in vertical fractures**

Huang H., Babadagli T., Andy Li H., Develi K.

SPE Hydraulic Fracturing Technology Conference and Exhibition 2018, HFTC 2018, Texas, United States Of America, 23 - 25 January 2018

- **Quantitative and Visual Analysis of Proppant Transport in Rough Fracture and Aperture Stability SPE 173385 MS**

RAIMBAY A., Babadađlı T., KURU E., DEVELİ K.

2015 SPE Hydraulic Fracturing Technology Conference, The Woodlands, Texas, 3 - 05 February 2015

- **Quantitative and visual analysis of proppant transport in rough fractures and aperture stability**

Raimbay A., Babadagli T., Kuru E., Develi K.

SPE Hydraulic Fracturing Technology Conference 2015, Texas, United States Of America, 3 - 05 February 2015, pp.874-884

- **Effect of fracture surface roughness and shear displacement on permeability and proppant transportation in a single fracture SPE 171577 MS**

RAIMBAY A., Babadađlı T., KURU E., DEVELİ K.

SPE/CSUR Unconventional Resources Conference – Canada, CALGARY, ALBERTA, 30 September - 02 October 2014, pp.1-18

- **Effect of fracture roughness and shear displacement on permeability and proppant transportation in a single fracture**

Raimbay A., Babadagli T., Kuru E., Develi K.

SPE Canadian Unconventional Resources Conference 2014, Calgary, Canada, 30 September - 02 October 2014, vol.1, pp.89-106

- **Fractal fracture surfaces and fluid displacement process in fractured rocks**

Babadađlı T., DEVELİ K.

ICF1005700R, 10th Int. Conf. of Fracture, Honolulu, Oahu, Hawaii, Honolulu, Oahu., 03 December 2001

- **Fractal fracture surfaces and its effect on fluid displacement efficiency**

Babadađlı T., DEVELİ K.

31st Int. Geological Cong. Rio de Janeiro, Brazil, Rio-De-Janeiro, Brazil, 6 - 17 August 2000

- **Fractal Analysis of Natural and Synthetic Fracture Surfaces of Geothermal Reservoir Rocks**

Babadađlı T., DEVELİ K.

2000 World Geothermal Congress, Kyushu-Tohoku, Japan, Kyushu-Tohoku, 28 May - 10 June 2000

- **Fracture Surface Characterization by Fractal Methods and Effect of Fractal Dimension on Fluid Transport Efficiency**

Babadađlı T., DEVELİ K.

12th Petroleum Cong. and Exh. of Turkey, Ankara, Turkey, Ankara, Turkey, 12 - 15 October 1998

- **Analysis of Fracture Development and Propagation Using Fractal Methods**

Babadađlı T., DEVELİ K.

12th Petroleum Cong. And Exh. of Turkey, Ankara, Turkey, Ankara, Turkey, 12 - 15 October 1998

Supported Projects

Develi K., Sipahi M. T. , Project Supported by Higher Education Institutions, Güney Dođu Anadolu Bölgesindeki Hidrokarbon Potansiyeli Olan Ankonvansiyonel Formasyonun Süreksizlik Özelliklerinin Hidromekanik Araştırılması ve Sonuçların Simulasyon ile Modellenmesi, 2020 - Continues

Develi K., BABADAĞLI T., Sipahi M. T. , Project Supported by Higher Education Institutions, Trakya Bölgesi Sıkı Kumtaşı ve Gaz Şeyli Geleneksel Olmayan Ankonvansiyonel Rezervuarları Örneğinde Pürüzlü Saydam Yapay ve Doğal Çatlak Replikaları Boyunca Proppant Taşınım ve Yerleşiminin Laboratuvar Modellemesi, 2020 - Continues
Develi K., Project Supported by Higher Education Institutions, Quantitative and Visual Analysis of Proppant Transport in Rough Fractures and Aperture Stability, 2015 - 2018
Develi K., TUBITAK Project, Çatlaklı ortamların mekanik ve hidrolik modellemesi için pürüzlülüğün deneysel ve teorik yöntemlerle sayısal tanımı, 1998 - 2002

Scientific Refereeing

BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT, SCI Journal, February 2019
YERBİLİMLERİ/HACETTEPE ÜNİVERSİTESİ YERBİLİMLERİ UYGULAMA VE ARAŞTIRMA MERKEZİ DERGİSİ,
National Scientific Refreed Journal, October 2017
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES, SCI Journal, July 2015
YERBİLİMLERİ/HACETTEPE ÜNİVERSİTESİ YERBİLİMLERİ UYGULAMA VE ARAŞTIRMA MERKEZİ DERGİSİ,
National Scientific Refreed Journal, June 2010
ENGINEERING GEOLOGY, SCI Journal, April 2002

Mobility Activity

Post Doc, Post Doc, University of Alberta, Canada, 2008 - 2008

Citations

Total Citations (WOS):229
h-index (WOS):7