

Dr. EMRE AVUNDUK

Kişisel Bilgiler

İş Telefonu: [+90 212 285 1315](tel:+902122851315)

E-posta: eavunduk@itu.edu.tr

Web: <https://avesis.itu.edu.tr/eavunduk>

Eğitim Bilgileri

Doktora, İstanbul Teknik Üniversitesi, Maden, Maden Mühendisliği, Türkiye 2011 - 2018

Yüksek Lisans, İstanbul Teknik Üniversitesi, Maden Fakültesi, Maden Mühendisliği Bölümü, Türkiye 2009 - 2011

Yüksek Lisans, Politecnico di Torino, İtalya 2009 - 2010

Lisans, İstanbul Üniversitesi, Mühendislik Fakültesi, Maden Mühendisliği Bölümü, Türkiye 2004 - 2008

Yabancı Diller

İngilizce

Yaptığı Tezler

Yüksek Lisans, Performance analysis of EPB-TBM in difficult geological conditions for Kadikoy-Kartal metro project, İstanbul Teknik Üniversitesi, Maden Fakültesi, Maden Mühendisliği Bölümü, 2011

Yüksek Lisans, Implementing Observational Method and Remodelling of Libia Gondar Metro Station-Rome B 1 Metro Line, Politecnico Di Torino, 2010

Akademik Unvanlar / Görevler

Mühendis, İstanbul Teknik Üniversitesi, Maden, Maden Mühendisliği, 2009 - Devam Ediyor

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Possibility of using torvane shear testing device for soil conditioning optimization**
Avunduk E., Copur H., Tolouei S., Tumaç D., Balci C., Bilgin N., Shaterpour-Mamaghani A.
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY, cilt.107, 2021 (SCI-Expanded)
- II. **Investigation into the Effects of Textural Properties on Cuttability Performance of a Chisel Tool**
Tumaç D., Çopur H., Balci C., Er S., Avunduk E.
ROCK MECHANICS AND ROCK ENGINEERING, cilt.51, sa.4, ss.1227-1248, 2018 (SCI-Expanded)
- III. **Empirical modeling for predicting excavation performance of EPB TBM based on soil properties**
Avunduk E., Çopur H.
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY, cilt.71, ss.340-353, 2018 (SCI-Expanded)
- IV. **Effects of Different Cutting Patterns and Experimental Conditions on the Performance of a Conical Drag Tool**
Çopur H., BILGIN N., Balci C., Tumaç D., Avunduk E.

- ROCK MECHANICS AND ROCK ENGINEERING, cilt.50, sa.6, ss.1585-1609, 2017 (SCI-Expanded)
- V. **Predicting Performance of Raise Boring Machines Using Empirical Models**
Shaterpour-Mamaghani A., BILGIN N., Balcı C., Avunduk E., POLAT C.
ROCK MECHANICS AND ROCK ENGINEERING, cilt.49, sa.8, ss.3377-3385, 2016 (SCI-Expanded)
- VI. **Double shield TBM performance analysis in difficult ground conditions: a case study in the Gerece water tunnel, Turkey**
Shaterpour-Mamaghani A., Tumaç D., AVUNDUK E.
BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT, cilt.75, sa.1, ss.251-262, 2016 (SCI-Expanded)
- VII. **An evaluation of fine grained sedimentary materials in terms of geotechnical parameters which define and control excavation performance of EPB TBM's**
Tokgoz N., BINEN I. S., Avunduk E.
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY, cilt.47, ss.211-221, 2015 (SCI-Expanded)
- VIII. **Cuttability of coal from the Soma coalfield in Turkey**
BILGIN N., Balcı C., Çopur H., Tumaç D., Avunduk E.
International Journal of Rock Mechanics and Mining Sciences, cilt.73, ss.123-129, 2015 (SCI-Expanded)
- IX. **Prediction of roadheader performance by artificial neural network**
Avunduk E., Tumaç D., ATALAY A. K.
TUNNELLING AND UNDERGROUND SPACE TECHNOLOGY, cilt.44, ss.3-9, 2014 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **Effect of Clogging on EPB TBM Performance: A Case Study in Akfirat Waste Water Tunnel, Turkey**
Avunduk E., Copur H.
GEOTECHNICAL AND GEOLOGICAL ENGINEERING, cilt.37, sa.6, ss.4789-4801, 2019 (ESCI)

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **Experimental investigation of double scroll cutting pattern by using button cutting tool of raise boring machines**
Çopur H., Shaterpour-Mamaghani A., Gümüş A., Tumaç D., Balcı C., Kocbay A., Erdogan T., Avunduk E.
EUROCK 2021 Conference on Rock Mechanics and Rock Engineering from Theory to Practice, Turin, Virtual, İtalya, 20 - 25 Eylül 2021, cilt.833
- II. **Possibility of using vane shear testing device for optimizing soil conditioning**
ÇOPUR H., AVUNDUK E., Tolouei S., TUMAÇ D., BALCI C., BİLGİN N., SHATERPOUR MAMAGHANI A.
World Tunnel Congress, WTC 2019 and the 45th General Assembly of the International Tunnelling and Underground Space Association, ITA-AITES 2019, Naples, İtalya, 3 - 09 Mayıs 2019, ss.1954-1963
- III. **Investigation of vibration patterns occurred during tbm excavation and rock cutting tests**
ATEŞ U., ÇOPUR H., SHATERPOUR MAMAGHANI A., AVUNDUK E., BINEN S.
Rock Dynamics Summit, RDS 2019, Okinawa, Japonya, 7 - 11 Mayıs 2019, ss.729-734
- IV. **Determining the Effects of Physical, Mechanical and Textural Properties of Metamorphic Stones on a Chisel Tool Performance**
TUMAÇ D., ÇOPUR H., BALCI C., SHATERPOUR MAMAGHANI A., Er S., AVUNDUK E.
10th Asian Rock Mechanics Symposium The ISRM International Symposium for 2018, 29 Ekim - 03 Kasım 2018
- V. **Unrelieved Spesific Energy Estimation from PLCM and FLCM Linear Rock Cutting Tests and Comparison with Rock Properties**
BALCI C., ÇOMAKLI R., BİLGİN N., ÇOPUR H., TUMAÇ D., AVUNDUK E.
ITA - AITES WORLD TUNNEL CONGRESS, 21 - 26 Nisan 2018
- VI. **Effect of Soil Conditioning on Performance of an EPB TBM: from Laboratory to Mahmutbey-Mecidiyekoy Metro Tunnels in Turkey**

ÇOPUR H., AVUNDUK E., TUMAÇ D., BALCI C., BİLGİN N., SHATERPOUR MAMAGHANI A., TOLOUEI S., Erkuş G., Acun S., Ateş U.

World Tunnel Congress (WTC 2018), 21 - 26 Nisan 2018

- VII. **Determining the effects of physical, mechanical and textural properties of metamorphic stones on a chisel tool performance**
Tumaç D., Çopur H., Balcı C., Shaterpour-Mamaghani A., Er S., Avunduk E.
10th Asian Rock Mechanics Symposium, ARMS 2018, Singapore, Singapur, 29 Ekim - 03 Kasım 2018
- VIII. **Effect of Adhesion on EPB TBM Performance**
AVUNDUK E., ÇOPUR H., Tolouei S., Gümüş U., Altay U.
World Tunnel Congress 2017, Bergen, Norveç, 9 - 15 Haziran 2017
- IX. **TBM Performance Prediction using PLCM and Comparison with TBM field Performance Parameters**
COMAKLI R., Balcı C., BILGIN N., Çopur H., Tumaç D., Avunduk E.
World Tunnel Congress (WTC 2017), Bergen, Norveç, 1 - 04 Mayıs 2017, ss.7-0
- X. **Effect of Conditioning on Soil Workability Determined by Mini-Slump and Flow Table Tests**
Avunduk E., Tumaç D., Tolouei S., Çopur H., Balcı C., BILGIN N.
World Tunnel Congress (WTC 2017), Bergen, Norveç, 1 Temmuz - 04 Ocak 2017, ss.10-0
- XI. **EPB TBM performance in Ayvali Waste Water Tunnel through marl clay sand and shallow overburden**
ÇINAR M., KAHYA Ş., AVUNDUK E., TOLOUEI S., GEDİKLİ A., ÇOPUR H.
2nd International Conference on Tunnel Boring Machines in Difficult Grounds, İstanbul, Türkiye, 16 - 18 Kasım 2016, ss.201-215
- XII. **Effect of Difficult Ground Conditions on Double Shield TBM Performance**
Avunduk E., MAMAGHANI A. S., Tumaç D.
9th Asian Rock Mechanics Symposium-ARMS9, Bali, Endonezya, 18 - 20 Ekim 2016, ss.10-0
- XIII. **Determining the effect of texture coefficient on performance wire machines of diamond**
TUMAÇ D., ER S., AVUNDUK E., BAŞYİĞİT M., ÇOPUR H., BALCI C.
9th Asian Rock Mechanics Symposium "ARMS9", Balvi, Letonya, 18 - 20 Ekim 2016
- XIV. **Determining the Effect of Texture Coefficient on Performance of Diamond Wire Machines**
Tumaç D., ER S., Avunduk E., BASYIGIT M., Çopur H., Balcı C.
9th Asian Rock Mechanics Symposium-ARMS9, Bali, Endonezya, 01 Ekim 2016 - 04 Ekim 2016, ss.8-0
- XV. **Full-scale linear cutting experiments with a conical cutter for simulating different cutting patterns**
Çopur H., BILGIN N., Balcı C., Tumaç D., AVUNDUK E., MAMAGHANI A.
International Symposium on International Society for Rock Mechanics, ISRM 2016, Cappadocia, Türkiye, 29 - 31 Ağustos 2016, cilt.1, ss.153-158
- XVI. **Investigation of the effect of textural properties towards predicting sawing performance of diamond wire machines**
Tumaç D., AVUNDUK E., Çopur H., Balcı C., ER S.
International Symposium on International Society for Rock Mechanics, ISRM 2016, Cappadocia, Türkiye, 29 - 31 Ağustos 2016, cilt.1, ss.211-216
- XVII. **Foam Optimization and Relationship between Foam Use and EPB TBM Performance**
Tolouei S., Avunduk E., Çopur H., Tumaç D., Balcı C., BILGIN N., ÇINAR M., Kahya S.
3rd Eastern European Tunnelling Conference (EETC 2016), Prague, Çek Cumhuriyeti, 1 - 04 Haziran 2016, ss.8-0
- XVIII. **Predicting Cutting Performance of Chisel Tools by Using Physical and Mechanical Properties of Natural Stones**
Çopur H., Balcı C., BILGIN N., Tumaç D., Avunduk E.
European Rock Mechanics Symposium (EUROCK 2012, ISRM International Symposium), Stockholm, İsveç, 01 Mayıs 2016, ss.14-0
- XIX. **Investigation of the effect of textural properties towards sawability performance of diamond wire machines**
TUMAÇ D., AVUNDUK E., ER S., ÇOPUR H., BALCI C.
2016 ISRM International Symposium "EUROCK 2016", Niğde, Türkiye, 28 - 31 Ocak 2016, cilt.1, ss.211-215

- XX. **Rock Mechanical Aspects of Excavation Related to Raise Boring Machine. A Typical Example from Asikoy Underground Mine, Kastamonu, Turkey**
Shaterpour Mamaghani A., Avunduk E., BILGIN N.
EUROCK 2015, Salzburg, Avusturya, 7 - 10 Ekim 2015, ss.1-7
- XXI. **The Effect of Mechanical Properties on Performance of Diamond Wire Machines**
Tumaç D., Avunduk E., BASYIGIT M., Çopur H., Balcı C., ER S.
Fifth Thailand Symposium on Rock Mechanics- Thairock 2015, Bangkok, Tayland, 1 - 04 Ekim 2015, ss.389-395
- XXII. **Physico-Mechanical Property Tests Towards Performance Prediction of Chain Saw Machines**
Tumaç D., Avunduk E., BASYIGIT M., Çopur H., Balcı C., ER S.
Fifth Thailand Symposium on Rock Mechanics- Thairock 2015, Bangkok, Tayland, 1 - 04 Ekim 2015, ss.381-387
- XXIII. **Cutter Forces Measurement with PLCM Using Mini Conical Pick: Comparison with the Theoretical and Empirical Models**
POLAT C., Balcı C., COMAKLI R., Avunduk E., Tumaç D., Çopur H., BILGIN N.
ITA World Tunnel Congress (WTC 2015), Dubrovnik, Hırvatistan, 1 - 04 Mayıs 2015, ss.8-0
- XXIV. **A New Generation of Portable Linear Rock Cutting Machine (PLCM) and Comparison with Full Scale Linear Rock Cutting Tests**
Balcı C., COMAKLI R., POLAT C., Tumaç D., Avunduk E., Çopur H., BILGIN N.
ITA World Tunnel Congress (WTC 2015), Dubrovnik, Hırvatistan, 1 - 04 Mayıs 2015, ss.10-0
- XXV. **Cutter Forces Measurement with (PLCM©) Using Mini Disc Cutters: Comparison with the Theoretical Models**
COMAKLI R., Balcı C., BILGIN N., Çopur H., Tumaç D., POLAT C., Avunduk E.
ITA World Tunnel Congress (WTC 2015), Dubrovnik, Hırvatistan, 01 Mayıs 2015, ss.10-0
- XXVI. **Cutting performance of chain saw and diamond wire machines in beige marble quarry**
AVUNDUK E., Tumaç D., BASYIGIT M., ER S., Çopur H., Balcı C.
8th Asian Rock Mechanics Symposium, ARMS 2014, Sapporo, Japonya, 14 - 16 Ekim 2014, ss.1573-1578
- XXVII. **Pre-investigation to determine the effects of rock properties on performance of chain saw and diamond wire machines**
Tumaç D., AVUNDUK E., ER S., BASYIGIT M., Çopur H., Balcı C., YASAN I.
8th Asian Rock Mechanics Symposium, ARMS 2014, Sapporo, Japonya, 14 - 16 Ekim 2014, ss.1564-1572
- XXVIII. **Amasya-Suluova Bölgesinde Bir Kömür Ocağının Galeri Kazıları İçin Kollu Galeri Açma Makinesi Seçimi ve Performans Tahmini**
Çopur H., Balcı C., Tumaç D., Avunduk E., COMAKLI R., POLAT C.
Türkiye 19. Kömür Kongresi Sempozyumu, İstanbul, Türkiye, 21 - 23 Mayıs 2014, ss.87-104
- XXIX. **Comparison of the Empirical and Artificial Neural Network Models to Estimate Performance of Roadheaders**
Tumaç D., Avunduk E.
3rd International Symposium on Underground Excavations for Transportation, UYAK 2013, İstanbul, Türkiye, 29 - 30 Kasım 2013, ss.91-98
- XXX. **Experimental comparison of single and double scroll cutting patterns by using chisel cutting tools of chain saw machines**
AVUNDUK E., Tumaç D., Çopur H., Balcı C., BILGIN N.
3rd ISRM Symposium on Rock Characterisation, Modelling and Engineering Design Methods, SINOROCK 2013, Shanghai, Çin, 18 - 20 Haziran 2013, ss.729-734
- XXXI. **Estimation of the performance of chain saw machines from shore hardness and the other mechanical properties**
Tumaç D., AVUNDUK E., Çopur H., BILGIN N., Balcı C.
3rd ISRM Symposium on Rock Characterisation, Modelling and Engineering Design Methods, SINOROCK 2013, Shanghai, Çin, 18 - 20 Haziran 2013, ss.261-265
- XXXII. **Rock Mechanics Aspects Related to Cutting Efficiency of Mechanical Excavators in Complex Geology**
BILGIN N., Balcı C., Çopur H., Tumaç D., Avunduk E.
European Rock Mechanics Symposium (EUROCK 2012, ISRM International Symposium), Stockholm, İsveç, 1 - 04

Mayıs 2012, ss.13-0

XXXIII. Effect of some Geotechnical Properties on TBM Performance

Avunduk E., Çopur H., BILGIN N., Balcı C., Tumaç D.

European Rock Mechanics Symposium (EUROCK 2012, ISRM International Symposium), Stockholm, İsveç, 1 - 04

Mayıs 2012, ss.9-0

XXXIV. Sürekli Yüzey Kazıcıların Seçim Kriterleri, Yenice-Sivas Barit Madeni

BILGIN N., Çopur H., Balcı C., Tumaç D., Avunduk E., Ergunalp D.

Türkiye 3. Maden Makinaları Sempozyumu, İzmir, Türkiye, 5 - 06 Mayıs 2011, ss.1-10

XXXV. Zincirli Kesme Makinelerinin Performans Tahmini İçin Görgül Bir Model

Çopur H., Balcı C., BILGIN N., Tumaç D., Avunduk E., Demirel Ş., Şimşek A.

Türkiye 3. Maden Makinaları Sempozyumu, İzmir, Türkiye, 5 - 06 Mayıs 2011, ss.55-65

XXXVI. A Deterministic Model for Predicting and Optimizing Performance of Chain Saw Machines

Çopur H., Balcı C., BILGIN N., Tumaç D., Avunduk E., Saracoglu M., Serter A.

The 22nd World Mining Congress and Expo, İstanbul, Türkiye, 1 - 04 Mayıs 2011, ss.175-181

XXXVII. Experience Gained on Mechanized Tunnelling in Istanbul and Some Recommendations for Mining Industry

BILGIN N., Çopur H., Balcı C., Tumaç D., Avunduk E.

The 22nd World Mining Congress and Expo, İstanbul, Türkiye, 1 - 04 Mayıs 2011, ss.155-159

XXXVIII. Field and laboratory studies on performance of chain saw machines

Çopur H., Balcı C., Tumaç D., BILGIN N., AVUNDUK E.

European Rock Mechanics Symposium, EUROCK 2010, Lausanne, İsveç, 15 - 18 Haziran 2010, ss.823-826

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