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International Researcher IDs
ScholarID: DZFo0NAAAAAJ
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Publons / Web Of Science ResearcherID: W-5673-2019
ScopusID: 6508313906
Yoksis Researcher ID: 157169

Education Information

Post Doctorate, University of Adelaide, Faculty of Engineering, Computer and Mathematical Sciences, School of Civil, Environmental and Mining Engineering, Australia 2018 - 2019
Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Graduate School of Natural and Applied Sciences, Turkey 2013 - 2018
Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Graduate School of Natural and Applied Sciences, Turkey 2011 - 2013
Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Mining Engineering, Turkey 2005 - 2011

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Development of a new methodology for path optimization of underground mine haul roads using evolutionary algorithms, Middle East Technical University, Graduate School of Natural and Applied Sciences, 2018
Postgraduate, Fuzzy approach in preliminary design of weak rock slopes for lignite mines, Middle East Technical University, Graduate School of Natural and Applied Sciences, 2013

Research Areas

Mining Engineering and Technology, Mining Operations, Production Methods (open-pit and underground), Rock Mechanics, Excavation Techniques, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Mining Engineering, 2020 - Continues
Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Mining Engineering, 2011 - 2018

Courses

Underground Mining, Undergraduate, 2023 - 2024
Mine Design, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021
Applied Rock Mechanics: Underground Structures, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021
Surface Mining, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020
Rock Mechanics for Civil Engineers, Postgraduate, 2022 - 2023, 2021 - 2022
Introduction to Rock Mechanics, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021
Applied Rock Mechanics: Surface Structures, Undergraduate, 2022 - 2023, 2021 - 2022
Fundamentals of Theoretical Rock Mechanics, Postgraduate, 2020 - 2021

Advising Theses

Yardımcı A. G., A Unified Slope Design Framework for Different Rock Slope Failure Mechanisms, Postgraduate, M.Serhan(Student), 2024
Yardimci A. G., An Alternative Method for Pillar Stability Analysis Based On Machine Learning Assisted Geomechanical Simulations, Postgraduate, D.DUMAN(Student), 2023
Yardimci A. G., A Machine Learning Method for the Support Design in Underground Mine Haul Roads , Postgraduate, G.KUTLUBAY(Student), 2023
Yardımcı A. G., Numerical Analysis of Destressing to Mitigate the Sudden Collapse Risk of Stiff Layers in Solution Mining, Postgraduate, C.Noyan(Student), 2023

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Simulation of blast-induced ground vibrations using a machine learning-assisted mechanical framework**
YARDIMCI A. G., ERKAYAOĞLU M.
ENVIRONMENTAL EARTH SCIENCES, vol.82, no.21, 2023 (SCI-Expanded)
II. **A new protective destressing technique in underground hard coal mining**
Yardımcı A. G., Karakus M.
INTERNATIONAL JOURNAL OF ROCK MECHANICS AND MINING SCIENCES, vol.130, 2020 (SCI-Expanded)
III. **Shortest path optimization of haul road design in underground mines using an evolutionary algorithm**
YARDIMCI A. G., KARPUZ C.
APPLIED SOFT COMPUTING, vol.83, 2019 (SCI-Expanded)
IV. **Fuzzy approach for preliminary design of weak rock slopes in lignite mines**
Yardimci A. G., KARPUZ C.
BULLETIN OF ENGINEERING GEOLOGY AND THE ENVIRONMENT, vol.77, no.1, pp.253-264, 2018 (SCI-Expanded)

Articles Published in Other Journals

I. **Numerical Simulation of Stress Concentrations on Pillars in a Typical Longwall Mine**
Yardımcı A. G.
Mühendislik Bilimleri ve Tasarım Dergisi, vol.11, no.2, pp.729-742, 2023 (Peer-Reviewed Journal)

Books & Book Chapters

I. **Fuzzy Rock Mass Rating: Soft-Computing-Aided Preliminary Stability Analysis of Weak Rock Slopes**
YARDIMCI A. G., KARPUZ C.
in: Handbook of Research on Trends and Digital Advances in Engineering Geology, Ceryan Nurcihan, Editor, IGI Press, pp.97-131, 2017

Refereed Congress / Symposium Publications in Proceedings

I. **Production Sequence Analysis of an Overhand Cut-And-Fill Mine in a Narrow-Vein Type Orebody Using Numerical Modeling**
Yardimci A. G., Erkayaoğlu M.
15th ISRM Congress 2023 & 72nd Geomechanics Colloquium, Salzburg, Austria, 9 - 14 October 2023, vol.1, pp.1923-1928
II. **Parametric Analysis of Three-Dimensional Stress Distribution on a Typical Longwall Panel**
Yardimci A. G.
Kayamek2022, Isparta, Turkey, 26 - 28 May 2022, pp.1-8
III. **Rock Mass Classification & Determination of Geomechanical Properties in Beypazarı Trona Field**
Konuk C. N., Gölbaşi O., Yardimci A. G., Beşir T., Kayhan H. E.
Kayamek2022, Isparta, Turkey, 26 - 28 May 2022, pp.1-7
IV. **Determination of Strength Parameters for Specimens Prepared by 3D Printed Discontinuity Planes**
Kirmaci A., Erkayaoğlu M., Yardimci A. G.
27th International Mining Congress and Exhibition (IMCET 2022), Antalya, Turkey, 22 - 25 March 2022, pp.213-225
V. **Parametric study of high-level nuclear waste storage in underground hard rock caverns**
Altıntaş T. E., Abduljabar A. A. A., Yardimci A. G.
27th International Mining Congress and Exhibition (IMCET 2022), Antalya, Turkey, 22 - 25 March 2022, pp.708-717
VI. **Prediction of failure mode in weak rock slopes using fuzzy slope mass rating**
YARDIMCI A. G., Karpuz C.
14th International Congress on Rock Mechanics and Rock Engineering, ISRM 2019, Foz do Iguaçu, Brazil, 13 - 18 September 2019, pp.3667-3673
VII. **A modified methodology for preliminary design of weak rock slopes in lignite mines**
Yardimci A. G., Karpuz C.
26th International Mining Congress and Exhibition of Turkey, IMCET 2019, Antalya, Turkey, 16 - 19 April 2019, pp.1079-1087
VIII. **Optimized Path Planning in Underground Mine Ramp Design Using Genetic Algorithm**
YARDIMCI A. G., KARPUZ C.
26th International Symposium on Mine Planning Equipment Selection, MPES2017, Lulea, Sweden, 28 - 30 August 2017
IX. **Optimization of Underground Haul Roads Using an Evolutionary Algorithm**
YARDIMCI A. G., KARPUZ C.
25th International Mining Congress and Exhibition of Turkey, IMCET 2017, Turkey, 12 - 14 April 2017
X. **Shortest Path Estimation Considering Kinematical Constraints of Main Haulage Roads in Underground Mines A Heuristic Algorithm**

YARDIMCI A. G., KARPUZ C.
6th International Conference on Computer Applications in the Minerals Industries, CAMI2016, İstanbul, Turkey, 5 - 07 October 2016

XI. **Quality Assessment of Backfill Performance for an Underground Iron Mine in Turkey**
Yardimci A. G., Tutluoğlu L., Karpuz C., Ozturk H., Güner D.
Ground Support 2016, Lulea, Sweden, 12 - 14 September 2016

XII. **Crown Pillar Optimization for Surface to Underground Mine Transition in Erzincan Bizmisen Iron Mine**
YARDIMCI A. G., TUTLUOĞLU L., KARPUZ C.
50th US Rock Mechanics / Geomechanics Symposium (ARMA 2016), Houston, United States Of America, 26 - 29 June 2016

XIII. **A Contemporary Approach in Geotechnical Slope Stability Analysis: Lithological Implicit Modelling**
Yardimci A. G., Basarir H.
24th INTERNATIONAL MINING CONGRESS OF TURKEY, Antalya, Turkey, 14 - 17 April 2015, pp.710-716

Supported Projects

YARDIMCI A. G., JAFAROVA F., Project Supported by Higher Education Institutions, Experimental and Numerical Investigation of Coal Cleats in Longwall Mines based on Discrete Fracture Networks, 2023 - Continues
Gölbaşı O., Yardımcı A. G., Project Supported by Other Private Institutions, Eti Soda Beypazarı Trona Sahasında Trona ve Kömür Yatakları Arasında Kalan Formasyonun Sıvı Geçirimlilik Değerlendirmesi , 2023 - 2023
YARDIMCI A. G., KONUK C. N., Project Supported by Higher Education Institutions, Numerical analysis of destressing in stiff layers to mitigate sudden collapse risk in a solution mine, 2022 - 2023
Erkayaoğlu M., Yardimci A. G., Project Supported by Other Private Institutions, Niğde Özyurt Projesi Açık İşletme ve Pasa Dökümü Duraylılık Araştırması, 2022 - 2023
Erkayaoğlu M., Yardimci A. G., Project Supported by Other Private Institutions, Niğde Özyurt Sahasının Kaya Kütle Karakterizasyonu ve Jeomekanik Parametrelerin Tespiti, 2022 - 2022
Erkayaoğlu M., Yardimci A. G., Project Supported by Other Private Institutions, Tüprag Kışladağ Altın Maden Ocağında Üretim Patlatmalarına Bağlı Yer Titreşimlerinin Gümüşkol Köyü Üzerinde Yapısal Hasar Riskinin Araştırılması, 2021 - 2022
Gölbaşı O., Yardimci A. G., Project Supported by Other Private Institutions, Beypazarı Trona Yatakları Kaya Kütle Karakterizasyonu ve Üretim Açıklıklarının Nümerik Simülasyonlarla İncelenmesi, 2020 - 2022
Erkayaoğlu M., Yardimci A. G., Project Supported by Other Private Institutions, Akçansa Çanakkale İli Ezine İlçesi Bozalan Köyü Yakınındaki Hammadde Ocağında Üretim Patlatmalarına Bağlı Yer Titreşimlerinin Botaş Doğalgaz Boru Hattı Üzerinde Yapısal Hasar Riskinin Araştırılması ve Titreşim Kontrollü Patlatma Tasarımı, 2021 - 2021
Erkayaoğlu M., Yardimci A. G., Project Supported by Other Private Institutions, Kızıltepe Altın-Gümüş Madeni Arzu Kuzey ve Derya Cevher Oluşumları Açık Ocak İşletme Projesinde Uygulanacak Duraylı Şev Açılarının Belirlenmesi, 2021 - 2021
Erkayaoğlu M., Karpuz C., Tutluoğlu L., Yardimci A. G., Project Supported by Other Private Institutions, Balıkesir Sındırgı ilçesinde yer alan altın sahasında yeraltı madenciliği üretim yöntemi seçimi ve stabilite çalışmaları, 2020 - 2020

Scientific Refereeing

ADVANCES IN CIVIL ENGINEERING, Journal Indexed in SCI-E, December 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, December 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, November 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, September 2021
PHYSICS AND CHEMISTRY OF THE EARTH, Journal Indexed in SCI-E, August 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, August 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, May 2021

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, May 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, April 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, April 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, January 2021
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, December 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, October 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, September 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, June 2020
INTERNATIONAL JOURNAL OF ROCK MECHANICS & MINING SCIENCES, Journal Indexed in SCI-E, June 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, May 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, April 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, February 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, February 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, February 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, January 2020
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, November 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, October 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, August 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, June 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, May 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, February 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, February 2019
ARABIAN JOURNAL OF GEOSCIENCES, Journal Indexed in SCI-E, January 2019
ENVIRONMENTAL EARTH SCIENCES, Journal Indexed in SCI-E, February 2018
APPLIED SOFT COMPUTING JOURNAL, Journal Indexed in SCI-E, June 2014

Metrics

Publication: 19
Citation (WoS): 29
Citation (Scopus): 55
H-Index (WoS): 3
H-Index (Scopus): 4

Scholarships

2219 - International Postdoctoral Research Fellowship Program for Turkish Citizens, TUBITAK, 2018 - 2019

Non Academic Experience

Ministry, Republic of Turkey Ministry of Transport and Infrastructure, Directorate General of Infrastructure Investments / Research Center Directorate
ULAŞTIRMA VE ALTYAPI BAKANLIĞI
Fe-Ni Madencilik Ltd. Şti.