

Asst. Prof. MUSTAFA ERKAYAOĞLU

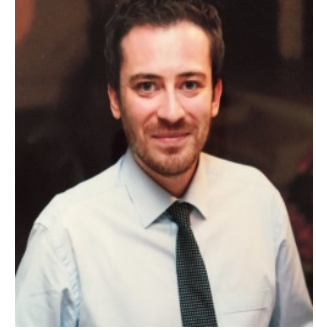
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**Office Phone:** [+90 312 210 5812](tel:+903122105812)

**Fax Phone:** [+90 312 210 5822](tel:+903122105822)

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

**Web:** <https://blog.metu.edu.tr/emustafa/>



## Education Information

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- I. Doctorate, The University of Arizona, Mining And Geological Engineering, United States Of America 2012 - 2015
- II. Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Maden Mühendisliği (YI) (Tezli), Turkey 2008 - 2011
- III. Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Mining Engineering, Turkey 2004 - 2008

## Foreign Languages

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- I. English, C1 Advanced
- II. German, C1 Advanced

## Dissertations

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- I. Doctorate, A Data Driven Mine-to-Mill Framework for Modern Mines, The University Of Arizona, Mining And Geological Engineering, 2015
- II. Postgraduate, Life cycle assessment of off-highway trucks and belt conveyors for sustainable mining, Middle East Technical University, Graduate School of Natural and Applied Sciences, Maden Mühendisliği (YI) (Tezli), 2011

## Research Areas

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Mining Engineering and Technology, Mining Operations, Mine Transport Systems, Mineral Economics, Open pit and underground production planning, Mining Methods and Mining System Analysis, Engineering and Technology

## Academic Titles / Tasks

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- I. Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Mining Engineering, 2018 - Continues
- II. Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Mining Engineering, 2017 - 2018

## Academic and Administrative Experience

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- I. Middle East Technical University, Maden Mühendisliği, 2017 - Continues

## Courses

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- I. Materials Handling and Mine Transportation, Undergraduate, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022
- II. Advanced Mining Practice II, Postgraduate, 2020 - 2021, 2021 - 2022
- III. Mine System Analysis, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021
- IV. Rock Fragmentation, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021
- V. Introduction to Rock Mechanics, Undergraduate, 2019 - 2020, 2020 - 2021, 2021 - 2022
- VI. Mine Design, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021
- VII. Mine Valuation, Undergraduate, 2018 - 2019

## Advising Theses

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- I. Erkayaoğlu M., Süreer E., Development of a Virtual Reality-Based Serious Game for Occupational Health and Safety Training in Underground Mining, Postgraduate, S.GÜRER(Student), 2021
- II. Erkayaoğlu M., IMPLEMENTATION OF DATA MINING ALGORITHMS ON ROCK MECHANICS TEST DATA FOR KNOWLEDGE DISCOVERY, Postgraduate, C.KAYDIM(Student), 2021
- III. Erkayaoğlu M., DETERMINATION OF THE OPTIMAL EQUIPMENT FLEET FOR OVERBURDEN STRIPPING OPERATION IN A SURFACE COAL MINE WITH DISCRETE EVENT SIMULATION, Postgraduate, Ş.MERT(Student), 2021
- IV. Erkayaoğlu M., Thermographic analysis of heat generation during ucs testing of rocks, Postgraduate, A.KIRMACI(Student), 2020
- V. Erkayaoğlu M., A new approach to 3-dimensional optimization of ultimate pit geometry for open pit mines with variable overall slope angles, Postgraduate, F.KÜBRA(Student), 2019
- VI. Erkayaoğlu M., Estimation of rock mass rating values with geostatistical analysis, Postgraduate, E.SELMA(Student), 2019
- VII. ERKAYAOĞLU M., KARPUZ C., Discrete event simulation of a shearer performance for a longwall operation, Postgraduate, E.YILMAZ(Student), 2018

## Jury Memberships

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- I. Doctorate, Doctorate, Hacettepe Üniversitesi, August, 2020
- II. Post Graduate, Post Graduate, Afyon Kocatepe Üniversitesi, August, 2020
- III. Post Graduate, Post Graduate, Hacettepe Üniversitesi, June, 2019
- IV. Doctorate, Doctorate, Hacettepe Üniversitesi, May, 2019
- V. Post Graduate, Yüksek Lisans Tez Savunması, Hacettepe Üniversitesi, February, 2019
- VI. Doctoral Examination, Doktora Yeterlik Sözlü Sınavı, Eskişehir Osmangazi Üniversitesi, December, 2018
- VII. Post Graduate, Yüksek Lisans Tez Savunması, Orta Doğu Teknik Üniversitesi, September, 2018
- VIII. Doctorate, Doktora Tez Savunması, Orta Doğu Teknik Üniversitesi, September, 2018
- IX. Post Graduate, Yüksek Lisans Tez Savunması, Orta Doğu Teknik Üniversitesi, July, 2018
- X. Doctorate, Doktora Tez Savunması, Orta Doğu Teknik Üniversitesi, March, 2018
- XI. Post Graduate, Yüksek Lisans Tez Savunması, Orta Doğu Teknik Üniversitesi, January, 2018

- I. Altun N. E. , Erkayaoğlu M., Gölbaşı O., Madencilikte Süreç Farkındalığı ve Yönetimi Sertifika Programı, 2021 - 2021

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

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- I. **Developing serious games for CBRN-e training in mixed reality, virtual reality, and computer-based environments**  
Altan B., Güner S., Alsamarei A., Demir D. K. , Düzgün H. Ş. , ERKAYAOĞLU M., SÜRER E.  
International Journal of Disaster Risk Reduction, vol.77, 2022 (Journal Indexed in SCI Expanded)
- II. **A New Approach to Optimize Ultimate Geometry of Open Pit Mines with Variable Overall Slope Angles**  
Altuntov F. K. , Erkayaoğlu M.  
NATURAL RESOURCES RESEARCH, vol.30, no.6, pp.4047-4062, 2021 (Journal Indexed in SCI)
- III. **Developing a scenario-based video game generation framework for computer and virtual reality environments: a comparative usability study**  
SÜRER E., ERKAYAOĞLU M., ozturk Z. N. , Yucel F., Biyik E. A. , Altan B., Senderin B., Oguz Z., Gurer S., Duzgun H. S.  
JOURNAL ON MULTIMODAL USER INTERFACES, vol.15, no.4, pp.393-411, 2021 (Journal Indexed in SCI)
- IV. **A Discrete Event Simulation and Data-Based Framework for Equipment Performance Evaluation in Underground Coal Mining**  
YILMAZ E., ERKAYAOĞLU M.  
Mining, Metallurgy and Exploration, vol.38, no.5, pp.1877-1891, 2021 (Journal Indexed in SCI)
- V. **A Data-Driven Approach to Control Fugitive Dust in Mine Operations**  
Kahraman M. M. , Erkayaoğlu M.  
MINING METALLURGY & EXPLORATION, vol.38, no.1, pp.549-558, 2021 (Journal Indexed in SCI)
- VI. **Thermographic analysis of failure for different rock types under uniaxial loading**  
KIRMACI A., ERKAYAOĞLU M.  
GEOMECHANICS AND ENGINEERING, vol.23, no.6, pp.503-512, 2020 (Journal Indexed in SCI)
- VII. **Improving mine-to-mill by data warehousing and data mining**  
Erkayaoğlu M., Dessureault S.  
INTERNATIONAL JOURNAL OF MINING RECLAMATION AND ENVIRONMENT, vol.33, no.6, pp.409-424, 2019 (Journal Indexed in SCI)
- VIII. **Interpretation of variability of rock mass rating by geostatistical analysis: a case study in Western Turkey**  
ÖZTÜRK H., ERKAYAOĞLU M.  
ARABIAN JOURNAL OF GEOSCIENCES, vol.11, no.13, 2018 (Journal Indexed in SCI)
- IX. **Investigation of the elastic material properties of Class G cement**  
Guner D., Ozturk H., Erkayaoglu M.  
STRUCTURAL CONCRETE, vol.18, no.1, pp.84-91, 2017 (Journal Indexed in SCI)
- X. **Using integrated process data of longwall shearers in data warehouses for performance measurement**  
Erkayaoglu M., Dessureault S.  
INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY, vol.16, no.3, pp.298-310, 2017 (Journal Indexed in SCI)
- XI. **A comparative life cycle assessment of material handling systems for sustainable mining**  
Erkayaoglu M., DEMİREL N.  
JOURNAL OF ENVIRONMENTAL MANAGEMENT, vol.174, pp.1-6, 2016 (Journal Indexed in SCI)

## Articles Published in Other Journals

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- I. **Madencilik Sektöründe İş Sağlığı ve Güvenliği Yönetimi için Veri Entegrasyonu Uygulaması**  
Erkayaoğlu M.  
Çukurova Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, vol.35, no.1, pp.105-114, 2020 (National Refreed University Journal)
- II. **Comparison of off-highway trucks and belt conveyors in an open pit coal mine using life cycle assessment Bir açık ocak kömür madeninde kamyon ve bantlı konveyörün yaşam döngüsü değerlendirme metodu ile karşılaştırılması**  
Erkayaoğlu M., Demirel N.  
Madencilik, vol.50, no.3, pp.25-34, 2011 (Refereed Journals of Other Institutions)
- III. **Bir Açık Kömür Madeninde Kamyon ve Bantlı Konveyörün Yaşam Döngüsü Değerlendirme Metodu ile Karşılaştırılması**  
ERKAYAOĞLU M., DEMİREL N.  
TMMOB Madencilik Dergisi, vol.50, pp.25-34, 2011 (Other Refereed National Journals)

## Books & Book Chapters

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- I. **Advanced Analytics for Rock Breaking**  
Erkayaoğlu M.  
in: Advanced Analytics in Mining Engineering, Ali Soofastaei, Editor, Springer Nature, Zürich, pp.479-493, 2022

## Refereed Congress / Symposium Publications in Proceedings

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- I. **Serious Game Development for CBRNe Training: A Comparative Analysis in Virtual Reality and Computer-Based Environments**  
Altan B., Güner S., Alsamarei A., Demir D. K. , Düzgün Ş., Erkayaoğlu M., Sürer E.  
SICC Series 2020-2nd Scientific International Conference on CBRNe, Rome, Italy, 10 - 12 December 2020
- II. **Developing a Scenario-Based Video Game Generation Framework: Preliminary Results**  
Sürer E., Erkayaoğlu M., Öztürk Z. N. , Yücel F., Bıyık E. A. , Altan B., Şenderin B., Oğuz Z., Güner S., Düzgün H. Ş.  
15th Summer Workshop on Multimodal Interfaces (eINTERFACE'19), Ankara, Turkey, 8 July - 02 August 2019, pp.19-25
- III. **An operational data based framework for longwall shearer performance measurement**  
YILMAZ E., ERKAYAOĞLU M.  
The 39th International Symposium 'xxApplication of Computers and Operations Research in the Mineral Industry'xx APCOM 2019, Wroclaw, Poland, 4 - 06 July 2019, pp.481-490
- IV. **Initial crack detection of Brazilian discs by thermal change for different types of rock specimens**  
Kırmacı A., Erkayaoğlu M., Karpuz C.  
26th International Mining Congress and Exhibition of Turkey, IMCET 2019, Antalya, Turkey, 16 - 19 April 2019, pp.399-407
- V. **Use of Geospatial Queries for Optimum Drilling and Blasting Practices in Surface Mining**  
Erkayaoğlu M.  
Mine Planning and Equipment Selection, Santiago, Chile, 20 - 22 November 2018, pp.57-67
- VI. **Development of a Dust Violation Control Tool from Plant Data**  
ERKAYAOĞLU M.  
18th Symposium on Environmental Issues and Waste Management in Energy and Mineral Production, Santiago, Chile, 20 - 22 November 2018

- VII. **DEVELOPMENT OF IMMEDIATE RESPONSE PLAN FOR FUGITIVE DUST IN COAL MINES**  
KAHRAMAN M. M. , ERKAYAOĞLU M.  
ISME 2017 International Symposium on Mining and Environment, Muğla, Turkey, 27 - 29 September 2017
- VIII. **Estimation of Rock Mass Rating by IDW Method for Mine Design**  
ERKAYAOĞLU M., ÖZTÜRK H.  
8.th Internation Research and Practice Conference Innovations in Mining, St. Petersburg, Russia, 15 - 17 May 2017
- IX. **Data warehousing and big data applications in mining industry**  
ERKAYAOĞLU M.  
IMCET 2017 NEW TRENDS IN MINING 25th INTERNATIONAL MINING CONGRESS OF TURKEY, Antalya, Turkey, 11 - 14 April 2017, pp.242-249
- X. **Development of Data-Oriented Equipment Maintenance Policy for Surface Mining**  
ERKAYAOĞLU M., DEMİREL N.  
6th International Conference on Computer Applications in the Minerals Industries, İstanbul, Turkey, 5 - 07 October 2016, pp.1-6
- XI. **Sustainability Comparison of Mining Industries by Life Cycle Assessment for Turkey and European Union**  
DEMİREL N., ERKAYAOĞLU M.  
16th International Symposium on Environmental Issues and Waste Management in Energy and Mineral Production (SWEMP) / International Symposium on Computer Applications (CAMI), İstanbul, Turkey, 5 - 07 October 2016
- XII. **Drilling and Blasting Technology of Modern Mines**  
ERKAYAOĞLU M., DÜZGÜN Ö.  
8th Drilling and Blasting Symposium, İstanbul, Turkey, 19 November 2014 - 20 November 2015, pp.41-50
- XIII. **Life Cycle Assessment and Its Implementation for Sustainable Material Handling in Surface Mining**  
ERKAYAOĞLU M., DEMİREL N.  
22nd World Mining Congress, İstanbul, Turkey, 11 - 16 September 2011, vol.1, pp.459-464
- XIV. **Proceedings of the 22nd International Mining Congress and Exhibition of Turkey**  
DEMİREL N., Erkayaoğlu M., Erdem Ö.  
22nd International Mining Congress and Exhibition of Turkey, Ankara, Turkey, 11 - 13 May 2011, pp.0-422
- XV. **Comparison of CO2 emission related to off highway trucks and belst conveyors in an open pit coal mine**  
ERKAYAOĞLU M., DEMİREL N.  
22nd International Mining Congress and Exhibition of Turkey, Ankara, Turkey, 11 - 13 May 2011, pp.409-415
- XVI. **Comparison of CO2emission related to off-highway trucks and belt conveyors in an open pit coal mine**  
Erkayaoğlu M., DEMİREL N.  
22nd International Mining Congress and Exhibition of Turkey, IMCET 2011, Ankara, Turkey, 11 - 13 May 2011, pp.409-415

## Supported Projects

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- I. Gölbaşı O., Erkayaoğlu M., Project Supported by Other Private Institutions, Çöpler Sahası Madencilik Operasyonları için Standart Çalışma Prosedürlerinin Oluşturulması, 2021 - 2022
- II. Erkayaoğlu M., Gölbaşı O., Sürer E., Demirel N., EU Supported Other Project, Mixed Reality Application for Improving Mine Safety Culture in Underground Mining (MR4MS), 2021 - 2022
- III. Sürer E., Erkayaoğlu M., H2020 Project, eNOTICE - European Network Of CBRN TraIning CEnters, 2017 - 2022
- IV. Erkayaoğlu M., Project Supported by Other Private Institutions, TÜPRAG firmasının Kışladağ altın işletmesinde yürütülen patlatma faaliyetlerinin çevresel etki etüdü, 2021 - 2021
- V. Erkayaoğlu M., Project Supported by Other Private Institutions, Arzu Kuzey ve Derya cevher oluşumlarını için güvenli açık ocak şev açılarının belirlenmesi, 2021 - 2021

- VI. Erkayaoğlu M., Project Supported by Other Private Institutions, Çanakkale ili Ezine ilçesinde işletilen kireçtaşı ocağında yaptığı patlatmaların çevresel etkilerinin değerlendirilmesi, 2021 - 2021
- VII. Erkayaoğlu M., Project Supported by Other Private Institutions, Yozgat ili Akdağmadeni ilçesinde yer alan kurşun-cinko cevheri modelleme çalışmaları, 2020 - 2021
- VIII. ERKAYAOĞLU M., KAYDIM C., LISTIANI I. A. , ÖZDEMİR E. O. , Project Supported by Higher Education Institutions, Kaya Mekaniği Laboratuvar Deney Sonuçları için Veri Ambarı Oluşturulması / Development of a Data Warehouse for Rock Mechanics Laboratory Testing, 2019 - 2021
- IX. Erkayaoğlu M., Project Supported by Other Private Institutions, Ardıç sahasındaki patlatma faaliyetleri sırasında ortaya çıkabilecek çevresel etkilerin değerlendirilmesi, 2020 - 2020
- X. Erkayaoğlu M., Karpuz C., Tutluoğlu L., Yardımcı 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
- XI. Karpuz C., Erkayaoğlu M., Project Supported by Other Private Institutions, Sümela Manastırı Kaya Islahı Projesi Değerlendirme Raporu, 2019 - 2020
- XII. KARPUZ C., ERKAYAOĞLU M., KIRMACI A., Project Supported by Higher Education Institutions, FARKLI TİP KAYA NUMUNELERİNİN STATİK DEFORMABİLİTE DENEYLERİ SIRASINDA ÇATLAK GELİŞİMİNİN TERMAL KAMERA İLE İZLENMESİ, 2018 - 2020
- XIII. Erkayaoğlu M., Project Supported by Other Private Institutions, META NIKEL 625 ve 2000711277 nolu Ruhsat Sahalarının İncelenmesi, 2019 - 2019
- XIV. Erkayaoğlu M., Project Supported by Other Private Institutions, YK Enerji Revize Dekapaj Simülasyonu, 2019 - 2019
- XV. Erkayaoğlu M., Project Supported by Other Private Institutions, META Nikel Potansiyel Kaynak Değerlendirmesi, 2019 - 2019
- XVI. Karpuz C., ERKAYAOĞLU M., Project Supported by Other Private Institutions, Slope Stability Investigations for Kütahya Tavşanlı Gold Mine Final Report, 2019 - 2019
- XVII. Karpuz C., Erkayaoğlu M., Topal T., Bilgin H. A. , Project Supported by Other Official Institutions, Alicin, Çeltikçi ve Kınık Tünellerinden oluşan Çamlıdere-İvedik İsale Hattı civarında yapılması muhtemel Patlatmalı Taşocağı İşletmelerinin Tünelere Etkisinin Araştırılması, 2018 - 2019
- XVIII. Erkayaoğlu M., Project Supported by Other Private Institutions, YK Enerji Kuzey Sahaları Maden Simülasyonu, 2018 - 2018
- XIX. Karpuz C., Erkayaoğlu M., Tutluoğlu L., Yılmaz E., Project Supported by Other Private Institutions, Ahiboz Linyit Sahasında Şev Stabilitesi Çalışması, 2018 - 2018
- XX. Karpuz C., Erkayaoğlu M., Bilgin H. A. , Project Supported by Other Private Institutions, Kırıkkale ili Bahşili ilçesi Sarıkaya köyü sınırları içerisinde yer alan taş ocağında yapılacak patlatma çalışmalarının Kültür varlıklarına Etkisinin araştırılması, 2018 - 2018
- XXI. ERKAYAOĞLU M., Project Supported by Other Private Institutions, Kef Ocağı Kaya Mekaniği Deneyleri, 2018 - 2018
- XXII. Karpuz C., Erkayaoğlu M., Tutluoğlu L., Project Supported by Other Private Institutions, Slope Stability Investigations For Main Field Pit of Tufanbeyli Lignite Mine, 2017 - 2018
- XXIII. Karpuz C., ERKAYAOĞLU M., Project Supported by Other Official Institutions, Kömür Nakliye Maliyet (NAKMAL) Modelinin Güncellenmesi, 2017 - 2017
- XXIV. Erkayaoğlu M., Karpuz C., Project Supported by Other Private Institutions, Özkoyuncu Madencilik Kayseri Mentesh yeraltı demir cevheri rezerv tahmini ve maden işletme projesi, 2012 - 2013

## Activities in Scientific Journals

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- I. Bilimsel Madencilik Dergisi, Committee Member, 2018 - 2019

## Memberships / Tasks in Scientific Organizations

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- I. Turkish National Society for Rock Mechanics, Board Member, 2019 - Continues, Turkey

## Scientific Refereeing

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- I. Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, January 2022
- II. ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, Journal Indexed in SCI-E, October 2021
- III. Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, December 2020
- IV. Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, July 2020
- V. TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, October 2019
- VI. Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, September 2019
- VII. International Journal of Oil, Gas and Coal Technology, SCI Journal, January 2019
- VIII. Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, National Scientific Refreed Journal, January 2019
- IX. Journal of Civil Engineering and Management, SCI Journal, January 2019
- X. Journal of Cleaner Production, SCI Journal, December 2018
- XI. Industrial Marketing Management, Journal Indexed in SSCI, November 2018
- XII. International Journal of Oil, Gas and Coal Technology, SCI Journal, September 2018
- XIII. International Journal of Oil, Gas and Coal Technology, SCI Journal, August 2018
- XIV. International Journal of Oil, Gas and Coal Technology, SCI Journal, July 2018
- XV. International Journal of Oil, Gas and Coal Technology, SCI Journal, July 2018
- XVI. International Journal of Oil, Gas and Coal Technology, SCI Journal, July 2018
- XVII. International Journal of Oil, Gas and Coal Technology, SCI Journal, May 2018
- XVIII. International Journal of Oil, Gas and Coal Technology, SCI Journal, May 2018
- XIX. International Journal of Oil, Gas and Coal Technology, SCI Journal, March 2018
- XX. International Journal of Oil, Gas and Coal Technology, SCI Journal, February 2018
- XXI. International Journal of Oil, Gas and Coal Technology, SCI Journal, February 2018
- XXII. International Journal of Oil, Gas and Coal Technology, SCI Journal, January 2018
- XXIII. Engineering Failure Analysis, SCI Journal, May 2017
- XXIV. Engineering Failure Analysis, SCI Journal, January 2017
- XXV. European Journal of Industrial Engineering, SCI Journal, December 2016
- XXVI. International Journal of Oil, Gas and Coal Technology, SCI Journal, September 2016
- XXVII. Journal of Cleaner Production, SCI Journal, August 2016
- XXVIII. IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING, SCI Journal, July 2016
- XXIX. Bioresources Technology, SCI Journal, May 2016

## Edit Congress and Symposium Activities

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- I. 27th International Symposium on Mine Planning and Equipment Selection - MPES 2018, Session Moderator, Santiago, Chile, 2018
- II. 18th Symposium on Environmental Issues and Waste Management in Energy and Mineral Production SWEMP 2018, Session Moderator, Santiago, Chile, 2018

## Citations

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I. Total Citations (WOS): 39

II. h-index (WOS): 3

### Coaching Duties

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### Refereeing Duties

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