

## Prof. SEDAT KARABAY

### Personal Information

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### Education Information

Doctorate, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Makine Mühendisliği Anabilim Dalı, Turkey 1995 - 2000

Post Graduate, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Maden Mühendisliği (YI) (Tezli), Turkey 1982 - 1986

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Kocaeli Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2008 - Continues

Research Assistant, Kocaeli Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 1984 - 1986

### Academic and Administrative Experience

Kocaeli Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2008 - Continues

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

- I. **Dynamic Finite Element Analysis on Single Impact Plastic Deformation Behavior Induced by SMAT Process in 7075-T6 Aluminum Alloy**  
YARAR E., ERTÜRK A. T. , KARABAY S.  
Metals and Materials International, 2021 (Journal Indexed in SCI)
- II. **Investigation of the effects of ultrasonic assisted drilling on tool wear and optimization of drilling parameters**  
Yarar E., Karabay S.  
CIRP Journal of Manufacturing Science and Technology, vol.31, pp.265-280, 2020 (Journal Indexed in SCI)
- III. **Machining behavior of multiple layer polymer composite bearing with using different drill bits**  
ERTÜRK A. T. , VATANSEVER F., YARAR E., KARABAY S.  
Composites Part B: Engineering, vol.176, 2019 (Journal Indexed in SCI)
- IV. **Improving mechanical properties of AlSi10Mg aluminum alloy using ultrasonic melt treatment combined with T6 heat treatment**  
VATANSEVER F., ERTÜRK A. T. , KARABAY S.  
Kovove Materialy, vol.57, no.1, pp.33-43, 2019 (Journal Indexed in SCI)
- V. **Failure analysis of wire-breaks in aluminum conductor production and investigation of early failure reasons for transmission lines**

KARABAY S., ERTÜRK A. T. , ZEREN M., YAMANOĞLU R., KARAKULAK E.

ENGINEERING FAILURE ANALYSIS, vol.83, pp.47-56, 2018 (Journal Indexed in SCI)

- VI. **Vibration noise harshness of a light truck driveshaft, analysis and improvement with six sigma approach**  
ERTÜRK A. T. , KARABAY S., BAYNAL K., Korkut T.  
Acta Physica Polonica A, vol.131, no.3, pp.477-480, 2017 (Journal Indexed in SCI)
- VII. **Determination of Zr Inoculation Effect on Improving Thermal Resistivity of EC Grade Aluminum**  
ERTÜRK A. T. , GÜVEN E. A. , KARABAY S.  
Transactions of the Indian Institute of Metals, vol.68, no.4, pp.535-541, 2015 (Journal Indexed in SCI)
- VIII. **Influence of Different Heat Treatments on the Solid Particle Erosion Behavior of Aluminum Alloy AA 7075 in Industrial Applications**  
KARABAY S., Bayraklılar M. S. , BALCI E.  
ACTA PHYSICA POLONICA A, vol.127, no.4, pp.1052-1054, 2015 (Journal Indexed in SCI)
- IX. **Manufacturing of Al-Zr thermal-resistant alloys for transmission lines**  
ERTÜRK A. T. , GÜVEN E. A. , KARABAY S.  
Acta Physica Polonica A, vol.127, no.4, pp.1292-1294, 2015 (Journal Indexed in SCI)
- X. **Processing damages of material components of aerial conductors and their tribological behaviors under dry friction**  
FEYZULLAHOĞLU E., KARABAY S.  
ARCHIVES OF CIVIL AND MECHANICAL ENGINEERING, vol.14, no.4, pp.682-690, 2014 (Journal Indexed in SCI)
- XI. **Determination of early failure sources and mechanisms for Al 99.7% and Al-Mg-Si alloy bare conductors used in aerial transmission lines**  
KARABAY S., FEYZULLAHOĞLU E.  
ENGINEERING FAILURE ANALYSIS, vol.38, pp.1-15, 2014 (Journal Indexed in SCI)
- XII. **Increasing Lightning Strength of Optical Ground Conductors**  
Karabay S.  
TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS, vol.67, no.1, pp.105-114, 2014 (Journal Indexed in SCI)
- XIII. **THE EFFECT OF HEAT TREATMENTS ON THE SOLID-PARTICLE EROSION BEHAVIOR OF THE ALUMINUM ALLOY AA2014**  
Karabay S.  
MATERIALI IN TEHNOLOGIJE, vol.48, no.1, pp.141-147, 2014 (Journal Indexed in SCI)
- XIV. **Enhancement on Al-Mg-Si alloys against failure due to lightning arc occurred in energy transmission lines**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
Engineering Failure Analysis, vol.31, pp.153-160, 2013 (Journal Indexed in SCI)
- XV. **Modification of Conductive Material AA6101 of OPGW Conductors against Lightning Strikes**  
KARABAY S.  
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.59, pp.451-461, 2013 (Journal Indexed in SCI)
- XVI. **Detecting Groan Sources in Drum Brakes of Commercial Vehicles by TVA-FMEA: A Case Study**  
KARABAY S., BAYNAL K., Igdeli C.  
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.59, no.6, pp.375-386, 2013 (Journal Indexed in SCI)
- XVII. **A Study on the Derivation of Parametric Cutting Force Equations in Drilling of GFRP Composites**  
OKUTAN E., KARABAY S., SINMAZÇELİK T., AVCU E.  
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.59, no.2, pp.97-105, 2013 (Journal Indexed in SCI)
- XVIII. **Performance testing of an optical ground wire composite**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
Materiali in Tehnologije, vol.47, no.1, pp.119-124, 2013 (Journal Indexed in SCI)
- XIX. **THE COMPARISON OF SOLID PARTICLE EROSION BEHAVIORS OF AA-1070 AND AA-6101 ALLOYS**

## USED IN POWER TRANSMISSION LINES IN TURKEY

AVCU E., FİDAN S., KARABAY S., SINMAZÇELİK T.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.27, no.4, pp.865-874, 2012 (Journal Indexed in SCI)

- XX. **ACSS/TW aerial high-temperature bare conductors as a remedy for increasing transmission line capacity and determination of processing parameters for manufacturing**  
Karabay S.  
MATERIALS & DESIGN, vol.30, no.3, pp.816-825, 2009 (Journal Indexed in SCI)
- XXI. **Importance of early detection of maintenance problems in rotating machines in management of plants: Case studies from wire and tyre plants**  
KARABAY S., Uzman I.  
ENGINEERING FAILURE ANALYSIS, vol.16, no.1, pp.212-224, 2009 (Journal Indexed in SCI)
- XXII. **Influence of AIB2 compound on elimination of incoherent precipitation in artificial aging of wires drawn from redraw rod extruded from billets cast of alloy AA-6101 by vertical direct chill casting**  
Karabay S.  
MATERIALS & DESIGN, vol.29, no.7, pp.1364-1375, 2008 (Journal Indexed in SCI)
- XXIII. **Performance testing of a constructed drilling dynamometer by deriving empirical equations for drill torque and thrust on SAE 1020 steel**  
Karabay S.  
MATERIALS & DESIGN, vol.28, no.6, pp.1780-1793, 2007 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **PID ve Bulanık Mantık Kontrol Sistemleri ile İki Tekerlekli Kendini Dengeleyebilen Robotik Sistem Tasarımı**  
PEÇE F., YARAR E., KARABAY S.  
Kocaeli Üniversitesi Fen Bilimleri Dergisi, 2020 (Other Refereed National Journals)
- II. **Transmisyon hatlarını koruyan opgw konstrüksiyonları ve yıldırım düşmelerine karşı tasarım kriteri**  
KARABAY S., ERTÜRK A. T. , GÜVEN E. A.  
Metal Dünyası, vol.3, no.226, pp.72-77, 2012 (Other Refereed National Journals)
- III. **Kompozit İletken Konstrüksiyonlarında Elastisite E Ve Termik Uzama Katsayısı Parametrelerinin Hesaplanması**  
KARABAY S., GÜVEN E. A.  
Metal Dünyası, vol.1, no.212, pp.124-127, 2011 (Other Refereed National Journals)
- IV. **Ekstrüzyon Mamullerinde Eloksoal Sonrası Görülen Bantlı Yapıların Nedenleri**  
KARABAY S., ERTÜRK A. T. , GÜVEN E. A.  
Metal Dünyası, vol.10, no.221, pp.106-109, 2011 (Other Refereed National Journals)
- V. **Uluslararası İletken Piyasalarından Talep Gören Al 59 1120 ve AA 6101 İletken Alaşımları ve Fiziksel Özellikleri**  
KARABAY S., GÜVEN E. A.  
Metal Dünyası, vol.2, no.213, pp.106-110, 2011 (Other Refereed National Journals)
- VI. **Orta ve Yüksek Gerilim Enerji Kablolarında Çok Telli Alüminyum İletkenlerinin Soğuk Haddeleme İşleminde Ovallık Sorunu ve Önlenmesi**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
Metal Dünyası, vol.9, no.220, pp.96-100, 2011 (Other Refereed National Journals)
- VII. **Isıya dayanıklı Al-Zr alaşımlı iletkenlerin teknik karakteristikleri ve geleneksel iletkenlerle karşılaştırılması**  
KARABAY S., TAYŞI Y., YILMAZ M.  
Mühendis ve Makina, vol.46, no.540, pp.12-19, 2005 (Other Refereed National Journals)
- VIII. **Enerji nakil hatlarında kullanılan OPT-GW kompozit iletkeninin tasarımı ve imalat teknikleri**

KARABAY S., TAYŞI Y., YILMAZ M.

MÜHENDİS VE MAKİNA, vol.45, no.530, pp.37-42, 2004 (Other Refereed National Journals)

- IX. **Alüminyum iletken imalat sanayiinde AIB2 ve AIB12 ön-alaşımalarının 99.5- 99.7Al ve AlMg0.7Si alaşımları üzerindeki iletkenlik tesirlerinin araştırılması**

KARABAY S., YILMAZ M.

METALURJİ, no.132, pp.56-62, 2003 (Other Refereed National Journals)

- X. **AA-6101 Alaşımının yüksek gerilim çıplak havai hatlarında AAAC iletkeni olarak kullanımı**

KARABAY S., ZEREN M., YILMAZ M.

METALURJİ, no.132, pp.56-62, 2003 (Other Refereed National Journals)

## Books & Book Chapters

- I. **Mekanik Titreşimler Cilt 1**

KARABAY S.

Birsen Yayınevi, 2017

- II. **Mekanik Titreşimler Cilt 2**

KARABAY S.

Birsen Yayınevi, 2017

## Refereed Congress / Symposium Publications in Proceedings

- I. **KAĞIT İŞLETMELERİNDE KESTİRİMCİ BAKIM UYGULAMALARI ve TİTREŞİMANALİZİ**

Dereoğlu F., YARAR E., KARABAY S.

International Marmara Sciences Congress (Spring) 2020, 19 - 20 June 2020

- II. **Micro Diameter Aluminum Conductor Wire Manufacturing for Advanced Technology Application**

ERTÜRK A. T. , Ocak N., KARABAY S., Akyüz O., GÜVEN E. A.

9. ULUSLARARASI ALUMİNYUM SEMPOZYUMU, İstanbul, Turkey, 10 - 11 October 2019, vol.1, pp.341-343

- III. **Optimization of Cutting Parameters with Taguchi Method for Drilling of Composites**

Yarar E., Vatansever F., Ertürk A. T. , Karabay S.

IV. International Academic Research Congress (INES), Antalya, Turkey, 30 October - 03 November 2018

- IV. **SUPERPLASTIC FORMING OF ALUMINUM ALLOYS**

VATANSEVER F., ERTÜRK A. T. , KARABAY S.

3rd International Energy and Engineering Congress and Exhibition (UEMK 2018), Gaziantep, Turkey, 18 - 19 October 2018, pp.338-343

- V. **DESIGN and ANALYSIS of a MAGNETORHEOLOGICAL DAMPER**

Olçay E., ERTÜRK A. T. , VATANSEVER F., KARABAY S.

3rd International Energy and Engineering Congress and Exhibition (UEMK 2018), Gaziantep, Turkey, 18 - 19 October 2018, pp.329-337

- VI. **Effect of Cooling Rate on the Microstructural and Mechanical Properties of Aluminum Alloys**

ERTÜRK A. T. , VATANSEVER F., KARABAY S.

3rd International Conference on Engineering Technology and Applied Sciences (ICETAS), Üsküp, Macedonia, 17 - 21 July 2018, pp.31

- VII. **The Effect of Ultrasonic Melt Treatment on the Microstructural and Mechanical Properties of Aluminum Alloys**

VATANSEVER F., ERTÜRK A. T. , KARABAY S.

3rd International Conference on Engineering Technology and Applied Sciences (ICETAS), 17 - 21 July 2018, pp.32

- VIII. **EXPERIMENTAL STUDY ON ULTRASONIC ASSISTED DRILLING OF AA6061-T6**

YARAR E., KARABAY S.

II. INTERNATIONAL ACADEMIC RESEARCH CONGRESS, 18 - 21 October 2017

- IX. **THE EFFECTS OF ULTRASONIC ASSISTED DRILLING ON TOOL WEAR**  
YARAR E., KARABAY S.  
II. INTERNATIONAL ACADEMIC RESEARCH CONGRESS, 18 - 21 October 2017
- X. **Forgability of Aluminum 7075 Alloy in Closed Die**  
YARAR E., GÜVEN E. A. , BALCI E., KARABAY S., ELTUT S. B.  
II. INTERNATIONAL ACADEMICRESEARCH CONGRESS, 18 - 21 October 2017
- XI. **Yüksek Sıcaklıklarda Dayanımı Artırılmış Alüminyum İlekten İmalatı**  
ERTÜRK A. T. , GÜVEN E. A. , KARABAY S., Uncu Ü. G. , Binbuğa İ.  
8.Alüminyum Sempozyumu, İstanbul, Turkey, 5 - 06 October 2017, vol.1, pp.286-289
- XII. **The effects on the surface roughness of Tool coating in Drilling of AA6061-T6**  
YARAR E., KARABAY S., GÜVEN E. A.  
III International Conference on Engineering an Natural Science, Budapest, Hungary, 3 - 07 May 2017, vol.2, pp.546
- XIII. **Effect of Ultrasonic Melt Treatment on the Hardness of AA7075 Aluminum Alloy**  
VATANSEVER F., ERTÜRK A. T. , GÜVEN E. A. , KARABAY S.  
III International Conference on Engineering an Natural Sciences, Budapest, Hungary, 3 - 07 May 2017, vol.2, pp.177
- XIV. **Grain Refinement Of AA2014 Aluminum Alloy Using Ultrasonic Vibration**  
VATANSEVER F., GÜVEN E. A. , ERTÜRK A. T. , KARABAY S.  
III International Conference on Engineering an Natural Sciences, Budapest, Hungary, 3 - 07 May 2017, vol.2, pp.248
- XV. **Forging Analysis Of AA2014 Alloy Under Different Conditions By Using Finite Elements Method**  
GÜVEN E. A. , YARAR E., KARABAY S.  
III International Conference on Engineering an Natural Science, Budapest, Hungary, 3 - 07 May 2017, vol.2, pp.238
- XVI. **Noise Vibration Harshness Analysis of a Light Truck Driveshaft and Improving with Six Sigma Approach**  
ERTÜRK A. T. , KARABAY S., BAYNAL K., Korkut T.  
6th International Advances in Applied Physics and Materials Science Congress & Exhibition (APMAS2016), 1 - 03 June 2016
- XVII. **Ultrasonic Assisted Drilling of Aluminium 7075 T6**  
Yarar E., Karabay S.  
International Conference on Engineering and Natural Sciences, Sarajevo, Bosnia And Herzegovina, 24 - 28 May 2016
- XVIII. **Performance testing of an optical ground wire composites designed and manufactured for transmission lines and telecommunication systems**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
20th Jubilee Conference On Materials and Technology, 18 - 20 October 2012
- XIX. **Transmisyon Hatlarında Kullanılan Çelik Telli Mamullerin Rotary Ekstrüzyon Yöntemiyle Ömürlerinin Artırılması**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
International Iron Steel Symposium, Karabük, Turkey, 2 - 04 April 2012, vol.2, pp.651-658
- XX. **Transmisyon hatlarında kullanılan çelik telli mamüllerin rotary ekstrüzyon yöntemiyle ömürlerinin artırılması**  
KARABAY S., GÜVEN E. A. , ERTÜRK A. T.  
Uluslararası Demir Çelik Sempozyumu, 2 - 04 April 2012, vol.1, pp.651-658

## Supported Projects

KARABAY S., Project Supported by Higher Education Institutions, MANYETOROLOJİK SÖNÜM ELEMANI GELİŞTİRİLMESİ, 2018 - 2019

KARABAY S., Project Supported by Higher Education Institutions, ALÜMİNYUM VE ALAŞIMLARININ GAZ GİDERME İŞLEMİNDE ULTRASONİK TİTREŞİMLERİN KULLANILMASI, 2017 - 2018

KARABAY S., Project Supported by Higher Education Institutions, ALÜMİNYUM ALAŞIMLARININ İÇ YAPISININ

İNCELTİLMESİ İŞLEMİNİN OPTİMİZE EDİLMESİ, 2016 - 2017

KARABAY S., Project Supported by Higher Education Institutions, ULTRASONİK TİTREŞİM UYGULAMALI DELME  
PROSESLERİNDE TİTREŞİM, KUVVET VE YÜZEY ANALİZLERİ, 2015 - 2016

KARABAY S., Project Supported by Higher Education Institutions, Ultrasonik titreşimlerin kesme parametrelerine etkisi,  
2013 - 2014

## **Citations**

Total Citations (WOS):138

h-index (WOS):7