

## Asst. Prof. ESAD KAYA

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAG-6554-2020

ScopusID: 57190812078

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### Education Information

Doctorate, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE MÜHENDİSLİĞİ BÖLÜMÜ, Turkey 2016 - 2021

Postgraduate, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE MÜHENDİSLİĞİ BÖLÜMÜ, Turkey 2014 - 2016

Undergraduate, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE MÜHENDİSLİĞİ BÖLÜMÜ, Turkey 2008 - 2013

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, The Production of Metal Matrix Composites with Different Alternative Binders and Mechanical Behaviors, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Makina Mühendisliği , 2021

Postgraduate, Investigation of tribological and mechanical properties of cryogenic treated micro alloyed steels, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), 2016

### Research Areas

Mechanical Engineering, Tribology, Welding Methods, Material, Metallurgical and Materials Engineering, Material science and engineering, Testing and Control of Materials, Mechanical Properties, Composites, Thermal Treatment, Plating, Material Characterization, Engineering and Technology

### Academic Titles / Tasks

Research Assistant, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE MÜHENDİSLİĞİ BÖLÜMÜ, 2014 - Continues

Research Assistant, Ted University, Faculty Of Engineering, Department Of Mechanical Engineering, 2013 - 2014

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Tribomechanical characterization of ceramic reinforced composite coatings for modification of cylinder liner of heavy-duty diesel engines**  
Tat M. E., Kaya E.  
INTERNATIONAL JOURNAL OF ENGINE RESEARCH, vol.1, pp.1-17, 2024 (SCI-Expanded)
- II. **Influence of post heat treatment on tribological and microstructural properties of plasma wire arc additive manufactured maraging steels**  
Kaya E., Ulutan M., Çakır E., Buytoz S.  
MATERIALPRUEFUNG/MATERIALS TESTING, vol.1, no.1, pp.21-30, 2024 (SCI-Expanded)
- III. **Influence of Borides on microstructure and mechanical properties of a Ni alloy**  
KAYA E., Buytoz S.  
Materialpruefung/Materials Testing, vol.66, no.7, pp.1041-1052, 2024 (SCI-Expanded)
- IV. **Microstructural, Mechanical, and Tribological Characteristics of Ceramic Reinforced Al/Cu Hybrid Matrix Composites**  
Kaya E., Tokat Birgin P. Ç.  
PHYSICS OF METALS AND METALLOGRAPHY, vol.125, no.7, pp.797-808, 2024 (SCI-Expanded)
- V. **Synthesis of Y2O3 and graphite-added copper-based hybrid composites by powder metallurgy: Mechanical properties and tribological behavior**  
Tokat Birgin P. Ç., Aydın H., Kaya E.  
SCIENCE OF SINTERING, vol.0, no.0, pp.1-16, 2024 (SCI-Expanded)
- VI. **Ceramic reinforced composite coatings on cold work tool steel fabricated by wired direct energy deposited plasma**  
KAYA E.  
Surface and Coatings Technology, vol.475, 2023 (SCI-Expanded)
- VII. **Effect of High-Chromium Ferrous-Based TiC Composite Coating on Microstructural and Corrosion Properties of Steels**  
BUYTOZ S., Demiroeren H., KAYA E.  
TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS, vol.76, no.8, pp.2201-2210, 2023 (SCI-Expanded)
- VIII. **Tribomechanical and microstructural properties of cathodic arc-deposited ternary nitride coatings**  
KAYA E., ULUTAN M.  
Ceramics International, vol.48, pp.21305-21316, 2022 (SCI-Expanded)
- IX. **Enhancement on the Tool Steel's Surface Properties by Eta Carbide Distribution Mechanism of Cryogenic Treatment**  
KAYA E., KILIÇAY K., ULUTAN M.  
TRANSACTIONS OF THE INDIAN INSTITUTE OF METALS, vol.73, no.10, pp.2673-2682, 2020 (SCI-Expanded)
- X. **Microstructure and Tribological Properties of Tool Steel AISI O2 After Thorough Cryogenic Heat Treatment**  
KAYA E., KILIÇAY K., ULUTAN M.  
METAL SCIENCE AND HEAT TREATMENT, vol.62, pp.399-404, 2020 (SCI-Expanded)
- XI. **Improvement of microstructural and tribological properties of APS carbide coatings via PTA surface melting**  
KILIÇAY K., KAYA E.  
TRANSACTIONS OF THE INSTITUTE OF METAL FINISHING, vol.98, no.3, pp.129-137, 2020 (SCI-Expanded)
- XII. **Tribological and Mechanical Properties of Deep Cryogenically Treated Medium Carbon Micro Alloy Steel**  
KAYA E., ULUTAN M.  
METALS AND MATERIALS INTERNATIONAL, vol.23, no.4, pp.691-698, 2017 (SCI-Expanded)
- XIII. **Plasma transferred arc surface modification of atmospheric plasma sprayed ceramic coatings**  
ULUTAN M., KILIÇAY K., KAYA E., BAYAR İ.  
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.30, no.8, pp.3813-3818, 2016 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Tribological and Mechanical Performance Evaluation of Hybrid Reinforced Copper Composites**  
Kaya E., Tokat Birgin P. Ç.  
Journal of scientific reports-A (Online), vol.2024, no.057, pp.51-67, 2024 (Peer-Reviewed Journal)
- II. **INVESTIGATION OF THE EFFECT OF CRYOGENIC HEAT TREATMENT ON EXPERIMENTAL DYNAMIC TOUGHNESS IN Ti6Al4V ALLOYS**  
ÇİMEN C., KILIÇAY K., Kaya E.  
Eskişehir Osmangazi Üniversitesi mühendislik ve mimarlık fakültesi dergisi (online), vol.32, no.1, pp.1215-1220, 2024 (Peer-Reviewed Journal)
- III. **Dolgu Desenlerinin ve Oranlarının Ergiyik Biriktirme Modellemede PLA Malzemesinin Mekanik Performansına Olan Etkisi**  
Kaya E., Bayar İ., Akpınar A. F.  
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.13, no.3, pp.1-7, 2024 (Peer-Reviewed Journal)
- IV. **The Investigation of Production Parameters and Their Effect on the Tribomechanical Properties of the Compression Molded Polymeric Bearing Materials**  
KAYA E.  
Journal of Materials and Mechatronics:A (Online), vol.1, no.1, pp.38-49, 2023 (Peer-Reviewed Journal)
- V. **Nano WC Kompozitlerde Fe-Ni Oranın Mikroyapı ve Mekanik Özelliklere Etkisi**  
KAYA E., ULUTAN M.  
Mühendislik Bilimleri ve Tasarım Dergisi, vol.11, no.1, pp.376-393, 2023 (Peer-Reviewed Journal)
- VI. **The Effects of Different Heat Treatment and Coating Techniques on X120CrMo29-2 Martensitic Stainless Steel**  
KAYA E., ULUTAN M., Akbulut A.  
Journal of Scientific Reports-A, vol.49, no.2, pp.62-73, 2022 (Peer-Reviewed Journal)
- VII. **The evaluation Of The Non-Toxic Ferrous Matrix Based WC Reinforced Composites: A Review**  
KAYA E., ULUTAN M.  
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.18, no.2, pp.129-139, 2022 (Peer-Reviewed Journal)
- VIII. **Electrical Characteristics of Cadmium Sulfide/4-Amino-2-Methyl-Quinoline Heterojunction Structure**  
Demir R., Kaya E., Kaya I., Ulutan M.  
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.18, no.2, pp.23-28, 2022 (Peer-Reviewed Journal)
- IX. **Investigation Of Tribological And Mechanical Performance Of Cryogenic Treated Medium Carbon Steel, 38mnvs6**  
KAYA E., ULUTAN M., KILIÇAY K., BAYAR İ.  
Journal Of The Balkan Tribological Association, vol.617, no.627, pp.26-4, 2020 (Scopus)
- X. **Experimental study on Tribological Performance of SIC Composite Coating Layers**  
KILIÇAY K., ULUTAN M., KAYA E., BAYAR İ.  
Journal Of The Balkan Tribological Association, vol.26, no.2, pp.390-400, 2020 (Scopus)

## Books & Book Chapters

- I. **Laser Welding of Lightweight Aerospace Alloys**  
Kaya E., Kılıçay K.  
in: Advances in Manufacturing for Aerospace Alloys , Selim Gürgen, Editor, Springer Nature, Zug, pp.135-162, 2024
- II. **Compression Molding Method for Ulumina-Reinforced UHMWPE-Based Composites**  
KAYA E., KILIÇAY K.  
in: Modern Manufacturing Processes for Aircraft Materials, Gürgen Selim, Pruncu Catalin I., Editor, Elsevier, pp.29-42, 2023
- III. **Green Applications with an Advanced Manufacturing Method: Cold Spray Deposition Technology**

Kılıçay K., Dayı S. C., Kaya E., Gürgen S.

in: Advanced Manufacturing Methods: Smart Processes and Modeling for Optimization, Catalin Pruncu, Jamal Zbitou, Editor, CRC, New York , New York, pp.28-56, 2022

**IV. Aluminum-Lithium Alloys in Aircraft Structures**

Kaya E., Sheikhı M. R., Gürgen S., Kuşhan M. C.

in: Materials, Structures & Manufacturing for Aircraft, Melih Cemal Kuşhan, Selim Gürgen, Mehmet Alper Sofuoğlu, Editor, Springer Nature, Zürich, pp.1-25, 2022

## **Refereed Congress / Symposium Publications in Proceedings**

- I. Microstructural and Hardness Behaviour Evaluation of Zinc Borate Reinforcement on Ultra-High Molecular Weight Polyethylene**  
Kaya E.  
7. Uluslararası Mühendislik Bilimleri Ve Multidisipliner Yaklaşımlar Kongresi, İstanbul, Turkey, 25 May 2024, pp.175-182
- II. Plazma Transferli Ark Kaynak Tekniği ile Yüzey Özellikleri Geliştirilmiş Ti6Al4V Alaşımının Mikroyapısal ve Mekanik Özelliklerinin İncelenmesi**  
GÜLEÇ T., KILIÇAY K., KAYA E.  
10th International Congress on Engineering and Technology Management, İstanbul, Turkey, 14 - 15 October 2023
- III. The Determination of Microstructural and Mechanical Properties of Surface Alloyed Cold Work Tool Steels**  
KAYA E.  
6th International Iron and Steel Symposium (UDCS'23), Karabük, Turkey, 11 - 12 May 2023
- IV. The Analytical Calculation of Hertz Contact Pressure for the ASTM G99 Type Wear Test**  
KAYA E.  
6th International Iron and Steel Symposium (UDCS'23), Karabük, Turkey, 11 May - 12 June 2023
- V. Micromechanical Evaluation of the Plasma Assisted Hard Facing Metal Matrix Composite Coatings**  
KAYA E.  
3th International Congress of Engineering and Natural Sciences, Konya, Turkey, 24 - 25 May 2023
- VI. Investigation of the Effect of Different Process Parameters on the Machinability of Ti6Al4V Alloy By Finite Element Method**  
KAYA E., KILIÇAY K.  
3. International Conference on Materials Science, Mechanical and Automotive Engineerings and Technology , IMSMATEC'20, (Online Sempozyum), 24 - 26 June 2020
- VII. Effect of Hertzian Contact Pressure on Tribological Behaviour of Mild Carbon Steel**  
GÜLEŞEN M., KILIÇAY K., KAYA E.  
Proceedings of XII International scientific conference "Tribology for Mechanical Engineering" TRIBOMASH 2018, Moscow, Russia, Russia, 19 - 21 October 2018
- VIII. Experimental Investigation of Different Hard Carbide Layers Coated by Flame Spray Technic on 90MnCrV8**  
KILIÇAY K., BAYAR İ., KAYA E., ULUTAN M.  
The International Conference on Materials Science, Mechanical and Automotive Engineerings and Technology, İzmir, Turkey, İzmir, Turkey, 10 - 12 April 2018
- IX. Effect of Different Heat Inputs on Microstructure and Hardness in PTA Layers**  
KILIÇAY K., BAYAR İ., KAYA E., ULUTAN M.  
The International Conference on Materials Science, Mechanical and Automotive Engineerings and Technology, İzmir, Turkey, İzmir, Turkey, 10 - 12 April 2018
- X. A Comparative Study of Quantitative Image Analyze and X-Ray Diffraction Methods for Carbide Amount in composite coatings on steel**  
KILIÇAY K., KAYA E., BAYAR İ., ULUTAN M.

1st International Symposium On Innovative Approches In Scientific Studies, Antalya, Turkey, Antalya, Turkey, 11 - 13 April 2018

**XI. Numerical and Analytical Analysis of Hertz Contact Pressure in ASTM G99 Wear Test**

KAYA E., KILIÇAY K., ULUTAN M.

1st International Symposium On Innovative Approches In Scientific Studies, Antalya, Turkey, Antalya, Turkey, 11 - 13 April 2018

**XII. Precise Measurement of Wear Rate Method for ASTM G-99 Wear Test**

KAYA E., KILIÇAY K., BAYAR İ., ULUTAN M.

1st International Symposium On Innovative Approches In Scientific Studies, Antalya, Turkey, Antalya, Turkey, 11 - 13 April 2018

**XIII. Investigation of Process Parameters of AISI 304 Fiber Cut with Fiber Laser**

BAYAR İ., KILIÇAY K., KAYA E., ULUTAN M., AKMAN D.

International Congress On Applied Science And technology, Astech'2017, Malaga, Spain, Malaga, Spain, 17 - 20 April 2017

**XIV. Investigation of Microstructure and Tribological Properties of Molybdenum Coatings**

BAYAR İ., ULUTAN M., KILIÇAY K., KAYA E.

International Congress On Applied Science And technology, Astech'2017, Malaga, Spain, Malaga, Spain, 17 - 20 April 2017

**XV. Investigation of Tribological and Mechanical Performance of Cryogenic Treated Medium Carbon Steel, 38MnVS6**

KAYA E., ULUTAN M., KILIÇAY K., BAYAR İ.

3rd International Iron and Steel Symposium (UDCS'17), Karabük, Turkey, Karabük, Turkey, 3 - 05 April 2017, pp.460-464

**XVI. Experimental Study on Tribological Performance of SiC Composite Coating Layers**

KILIÇAY K., ULUTAN M., KAYA E., BAYAR İ.

3rd International Iron Steel Symposium (UDCS'17), Karabük, Turkey, Karabük, Turkey, 3 - 05 April 2017

**XVII. EFFECT OF AUSTENITIZATION TEMPERATURE ON TRIBOLOGICAL BEHAVIOUR OF MICRO ALLOYED STEEL**

ULUTAN M., KILIÇAY K., KAYA E.

International Conference on Material Science and Technology in Cappadocia(IMSTEC 2016), 6 - 08 April 2016

## Expert Reports

**I. Bilirkişi Raporu**

Kuşhan M. C., Ay G. M., Kaya E.

Eskişehir Tüketici Mahkemesi, pp.3, Eskişehir, 2022

## Supported Projects

ULUTAN M., KAYA E., Project Supported by Higher Education Institutions, Farklı Alternatif Bağlayıcı Metal Matrisli Kompozitlerin Üretilmesi Ve Mekanik Davranışlarının Araştırılması, 2019 - 2022

ULUTAN M., KAYA E., Project Supported by Higher Education Institutions, Kriyojenik buzul işlem uygulanmış mikro alaşımlı çeliklerin tribolojik ve mekanik özelliklerinin incelenmesi, 2015 - 2016

## Scientific Refereeing

INTERNATIONAL JOURNAL OF PRECISION ENGINEERING AND MANUFACTURING, SCI Journal, January 2023

MATERIAL SCIENCE AND TECHNOLOGY, SCI Journal, November 2022

ACS OMEGA, SCI Journal, July 2022

SURFACE AND COATINGS TECHNOLOGY, SCI Journal, July 2022

CRYOGENICS, SCI Journal, February 2022

SURFACE & COATINGS TECHNOLOGY, SCI Journal, January 2022

INTERNATIONAL JOURNAL OF PRECISION ENGINEERING AND MANUFACTURING, SCI Journal, November 2021

JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, SCI Journal, October 2021

SURFACE & COATINGS TECHNOLOGY, SCI Journal, October 2021

INTERNATIONAL JOURNAL OF PRECISION ENGINEERING AND MANUFACTURING, SCI Journal, September 2021

SURFACE & COATINGS TECHNOLOGY, SCI Journal, August 2021

SURFACE & COATINGS TECHNOLOGY, SCI Journal, May 2021

## **Metrics**

Publication: 45

Citation (WoS): 35

Citation (Scopus): 55

H-Index (WoS): 3

H-Index (Scopus): 4