

Assoc. Prof. Umut KARAGÜZEL

Personal Information

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International Researcher IDs

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Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Turkey 2010 - 2016

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Turkey 2008 - 2010

Undergraduate, Istanbul Technical University, Turkey 2003 - 2008

Foreign Languages

English, C2 Mastery

German, B1 Intermediate

Dissertations

Doctorate, Frezeyle tornalama operasyonunun geometrik, kuvvet ve ısıl modellenmesi, Istanbul Technical University, Fen Bilimleri Enstitüsü, 2016

Postgraduate, Zirkonyum esash kalın camısı metalin frezelenmesinin sonlu elemanlar analizi, Istanbul Technical University, Fen Bilimleri Enstitüsü, 2010

Research Areas

Mechanical Engineering, Construction and Manufacturing, Mechanical, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, 2023 - Continues

Associate Professor, Isik University, 2022 - 2023

Assistant Professor, Isik University, 2016 - 2023

Research Assistant, Istanbul Technical University, 2009 - 2016

Courses

Undergraduate

Makine Elemanları, Undergraduate, 2024 - 2025

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Process design and experimental study on drilling operations of a hybrid aluminum/carbon fiber reinforced polymer/titanium composite**
Kayıhan M., KARAGÜZEL U., Bakkal M.
Materials and Manufacturing Processes, vol.39, no.11, pp.1630-1637, 2024 (SCI-Expanded)
- II. **Transient multi-domain thermal modeling of interrupted cutting with coated tools**
Karaguzel U.
International Journal of Advanced Manufacturing Technology, vol.116, no.1-2, pp.345-361, 2021 (SCI-Expanded)
- III. **Effect of scanning strategies and laser parameters on metal-composite joining**
Kuzu A. T., Karaguzel U., Erbay B., Bakkal M.
Materials and Manufacturing Processes, vol.36, no.10, pp.1199-1207, 2021 (SCI-Expanded)
- IV. **A thermo-mechanical model of drill margin-borehole surface interface contact conditions in dry drilling of thick CFRP laminates**
Karpay Y., Karagüzel U., Bahtiyar O.
International Journal of Machine Tools and Manufacture, vol.154, 2020 (SCI-Expanded)
- V. **Effects of turn-milling conditions on chip formation and surface finish**
Rahimzadeh Berenji K., KARAGÜZEL U., Özlü E., Budak E.
CIRP Annals, vol.68, no.1, pp.113-116, 2019 (SCI-Expanded)
- VI. **Investigating effects of milling conditions on cutting temperatures through analytical and experimental methods**
KARAGÜZEL U., Budak E.
Journal of Materials Processing Technology, vol.262, pp.532-540, 2018 (SCI-Expanded)
- VII. **Effects of tool axis offset in turn-milling process**
KARAGÜZEL U., Uysal E., Budak E., Bakkal M.
Journal of Materials Processing Technology, vol.231, pp.239-247, 2016 (SCI-Expanded)
- VIII. **Increasing tool life in machining of difficult-to-cut materials using nonconventional turning processes**
KARAGÜZEL U., Olgun U., Uysal E., Budak E., Bakkal M.
International Journal of Advanced Manufacturing Technology, vol.77, no.9-12, pp.1993-2004, 2015 (SCI-Expanded)
- IX. **Analytical modeling of turn-milling process geometry, kinematics and mechanics**
KARAGÜZEL U., Uysal E., Budak E., Bakkal M.
International Journal of Machine Tools and Manufacture, vol.91, pp.24-33, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Heat partition evaluation during dry drilling of thick CFRP laminates with polycrystalline diamond drills**
Shariar F., KARAGÜZEL U., Karpay Y.
Manufacturing Letters, vol.41, pp.483-493, 2024 (ESCI)
- II. **Sıcak Dövme Kalıplarına Infrared (Kızıl Ötesi) Yöntemi ile Ön Isıtma Uygulanmasına Yönelik Deneysel ve Teorik Analiz**
KARAGÜZEL U., KUZU A. T., Korap V., Çilingir H., BAKKAL M.
Makina Tasarım ve İmalat Dergisi, vol.18, no.1, pp.9-23, 2020 (Peer-Reviewed Journal)
- III. **Ti6Al4V ALAŞIMININ TALAŞLI İMALATI SIRASINDA TERMAL KAMERA İLE SICAKLIK ÖLÇÜMÜ VE**

SONLU ELEMENLARLA MODELLENMESİ

KARAGÜZEL U.

Mühendislik Bilimleri ve Tasarım Dergisi, vol.7, 2019 (Peer-Reviewed Journal)

IV. Consistent Simulation Strategy for Heat Sources and Fluxes in Milling

Putz M., Oppermann C., Semmler U., Bräunig M., KARAGÜZEL U.

Procedia CIRP, vol.62, 2017 (Scopus)

V. Mechanical and Thermal Modeling of Orthogonal Turn-milling Operation

KARAGÜZEL U., BAKKAL M., BUDAK E.

Procedia CIRP, vol.58, pp.287-292, 2017 (Scopus)

VI. Modeling of Heat Fluxes During Machining and Their Effects on Thermal Deformation of the Cutting Tool

Putz M., Schmidt G., Semmler U., Oppermann C., Bräunig M., KARAGÜZEL U.

Procedia CIRP, vol.46, 2016 (Scopus)

VII. Investigating eccentricity effects in turn-milling operations

Uysal E., KARAGÜZEL U., Budak E., Bakkal M.

Procedia CIRP, vol.14, pp.176-181, 2014 (Scopus)

Papers Published in Refereed Scientific Meetings

I. EXPERIMENTAL INVESTIGATION OF FORCE, TORQUE AND TEMPERATURE VALUES DURING HOLE DRILLING OF CFRP COMPOSITE

KARAGÜZEL U.

2nd International Conference on Scientific Research and Innovation, Turkey, 11 September 2021

II. Analytical and Numerical Modeling of Heat Dissipation in Dry Drilling of Thick CFRP Laminates

KARAGÜZEL U., KARPAT Y., Bahtiyar O.

9th International Symposium on Machining (UTIS 2018), Turkey, 08 November 2018

III. Development of Turn-Milling Machine Tool Program Parameters Based On Basic Cutting Geometry

Kaveh R. B., KARAGÜZEL U., ÖZLÜ E., BUDAK E.

8th International Symposium on Machining (UTIS 2017), Turkey, 02 November 2017

IV. Heat Sources and Fluxes in Milling: Comparison of Numerical, Analytical and Experimental Results

Putz M., Oppermann C., Bräunig M., KARAGÜZEL U.

16th CIRP Conference on Modeling of Machining Operations, France, 15 June 2017

V. Modeling and Measurement of Cutting Temperatures in Milling

KARAGÜZEL U., Bakkal M., Budak E.

7th CIRP Conference on High Performance Cutting, HPC 2016, Chemnitz, Germany, 31 May - 02 June 2016, vol.46, pp.173-176

VI. Process modeling of turn-milling using analytical approach

KARAGÜZEL U., Bakkal M., Budak E.

3rd CIRP Conference on Process Machine Interactions, PMI 2012, Nagoya, Japan, 29 - 30 October 2012, vol.4, pp.131-139

Peer Reviews in Scientific Publications

INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, Journal Indexed in SCI-E, January 2023