

## Asst. Prof. TUFAN GÜRKAN YILMAZ

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: V-6153-2017

ScopusID: 57194528723

Yoksis Researcher ID: 197736

### Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), Turkey 2015 - 2020

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), Turkey 2013 - 2015

Undergraduate, Yıldız Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği Bölümü, Turkey 2007 - 2012

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Çift malzemeli yeni nesil hafifletilmiş düz dişlilerin yapısal analizi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, FEN BİLİMLERİ ENSTİTÜSÜ, 2020

Postgraduate, Dişli Çarkların Bilgisayar Destekli Tasarımı, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, FEN BİLİMLERİ ENSTİTÜSÜ, 2015

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Bursa Uludağ University, ORHANGAZİ YENİKÖY ASİL ÇELİK MYO, Motorlu Araçlar ve Ulaştırma Teknolojileri Bölümü, 2022 - Continues

Lecturer PhD, Bursa Uludağ University, ORHANGAZİ YENİKÖY ASİL ÇELİK MYO, Motorlu Araçlar ve Ulaştırma Teknolojileri Bölümü, 2021 - 2022

## Academic and Administrative Experience

Head of Department, Bursa Uludağ University, ORHANGAZİ YENİKÖY ASİL ÇELİK MYO, Motorlu Araçlar ve Ulaştırma Teknolojileri Bölümü, 2022 - Continues

Assistant Director of Vocational School, Bursa Uludağ University, ORHANGAZİ YENİKÖY ASİL ÇELİK MYO, 2021 - 2021

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

- I. **Fatigue performances of helicopter gears**  
Kalay O. C., Yuce C., Doğan O., Yılmaz T. G., Karpaz E., Kopmaz O., Karpaz F.  
MATERIALS TESTING, vol.65, no.1, pp.52-62, 2023 (SCI-Expanded)
- II. **A Numerical Analysis of Hybrid Spur Gears with Asymmetric Teeth: Stress and Dynamic Behavior**  
YILMAZ T. G., KARADERE G., KARPAT F.  
MACHINES, vol.10, no.11, 2022 (SCI-Expanded)
- III. **A numerical investigation on the hybrid spur gears: Stress and dynamic analysis**  
Yılmaz T. G., Doğan O., Karpaz F.  
Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, vol.236, no.1, pp.354-369, 2022 (SCI-Expanded)
- IV. **A comparative experimental study on the impact strength of standard and asymmetric involute spur gears**  
Kalay O. C., Doğan O., YILMAZ T. G., Yüce C., KARPAT F.  
MEASUREMENT, vol.172, 2021 (SCI-Expanded)
- V. **Understanding the causes behind coracoid graft osteolysis in Latarjet procedure (finite element analysis and comparison of three fixation methods)**  
Alp N. B., DOĞAN O., YILMAZ T. G., Kalay O. C., Moussa A. A., KARPAT F., Khandaker M., Akdag G.  
ORTHOPAEDICS & TRAUMATOLOGY-SURGERY & RESEARCH, vol.106, no.1, pp.53-59, 2020 (SCI-Expanded)
- VI. **A comparative numerical study of forged bi-metal gears: Bending strength and dynamic response**  
YILMAZ T. G., DOĞAN O., KARPAT F.  
MECHANISM AND MACHINE THEORY, vol.141, pp.117-135, 2019 (SCI-Expanded)
- VII. **Stress analysis of involute spur gears with different parameters by finite element and graphical method**  
DOĞAN O., YILMAZ T. G., KARPAT F.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.4, pp.1493-1504, 2018 (SCI-Expanded)
- VIII. **A Study of Lightweight Door Hinges of Commercial Vehicles Using Aluminum Instead of Steel for Sustainable Transportation**  
YILMAZ T. G., Tufekci M., KARPAT F.  
SUSTAINABILITY, vol.9, no.10, 2017 (SCI-Expanded)
- IX. **Investigation of surface pressure and elastic deformation on external and internal spur gear**  
Gullu E., YILMAZ T. G.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.32, no.2, pp.585-591, 2017 (SCI-Expanded)

## Articles Published in Other Journals

- I. **EXPERIMENTAL AND NUMERICAL ANALYSIS OF MECHANICAL PROPERTIES OF CARBON FIBER-**

## **REINFORCED POLYMER GEARS**

DEDE F., KALAY O., YILMAZ T. G., KARPAT F.

ACTA TECHNICA CORVINIENSIS – Bulletin of Engineering, 2023 (Peer-Reviewed Journal)

- II. **Dengeli Gerilmeye Sahip Dişli Çark Çiftleri Üzerine Nümerik bir Araştırma**  
YILMAZ T. G., KARADERE G., KARPAT F.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.28, no.1, 2023 (Peer-Reviewed Journal)
- III. **FINITE ELEMENT STRESS AND MODAL ANALYSIS OF BIMETAL SPUR GEARS**  
Yılmaz T. G., Karpata F.  
Uludağ University Journal of The Faculty of Engineering, vol.24, no.3, pp.339-346, 2019 (Peer-Reviewed Journal)
- IV. **The Effect of Tooth Thickness on Root Stress of Internal Spur Gear Mechanism**  
Yılmaz T. G., Karpata F.  
International Research Journal of Engineering and Technology, vol.6, no.11, pp.2079-2083, 2019 (Peer-Reviewed Journal)
- V. **HİDRODİNAMİK RADYAL KAYMALI YATAK PERFORMANSININ FARKLI SINIR ŞARTLARI İÇİN İNCELENMESİ**  
GÜLLÜ E., YILMAZ T. G.  
Uludağ University Journal of The Faculty of Engineering, vol.23, no.3, pp.37-48, 2018 (Peer-Reviewed Journal)
- VI. **Effects of using cutter with asymmetric tip radius on root stress of thin and solid rimmed internal gear**  
Yılmaz T. G., Kalay O., Karpata F.  
International Journal of Development Research, vol.8, no.7, pp.21463-21470, 2018 (Peer-Reviewed Journal)
- VII. **STRESS ANALYSIS OF THIN RIMMED ASYMMETRIC SPUR GEARS**  
Yılmaz T. G., Kalay O., Karpata F.  
INTERNATIONAL JOURNAL OF ADVANCES ON AUTOMOTIVE AND TECHNOLOGY, vol.2, no.3, pp.143-150, 2018 (Peer-Reviewed Journal)
- VIII. **RULMANLI YATAKLARDA ETKİLİ OLAN HERTZ BASINÇLARININ VE YUVARLANMA ELEMANLARINDA OLUŞAN DEFORMASYONLARIN ANALİZİ**  
GÜLLÜ E., YILMAZ T. G.  
Uludağ University Journal of The Faculty of Engineering, vol.23, no.1, pp.111-126, 2018 (Peer-Reviewed Journal)
- IX. **KALIP YAYLARI İÇİN YORULMA TEST CİHAZI TASARIMI VE ANALİZİ**  
ÇAVDAR K., YILMAZ T. G.  
Uludağ University Journal of The Faculty of Engineering, vol.22, no.3, pp.163-178, 2017 (Peer-Reviewed Journal)
- X. **AN ALTERNATIVE METHOD TO SPECIFY UNDERCUT POINT OF INVOLUTE SPUR GEAR WITH LOW NUMBER TEETH**  
Yılmaz T. G., Yüce C., Karpata F.  
International Journal of Mechanical and Production Engineering, vol.9, no.5, pp.96-99, 2017 (Peer-Reviewed Journal)
- XI. **Mathematical Modelling of Involute Spur Gears Manufactured by Rack Cutter**  
YILMAZ T. G., GÜLLÜ E.  
Uludağ University Journal of The Faculty of Engineering, vol.21, no.1, pp.179-190, 2016 (Peer-Reviewed Journal)
- XII. **Design Optimization Of Aluminum Hinge Parts For Lightweight Vehicles Performance Durability And Manufacturability**  
Tüfekçi M., Karpata F., Yüce C., Doğan O., Yılmaz T. G., Kaya N.  
International Journal of Mechanical and Production Engineering, vol.3, no.12, pp.11-18, 2015 (Peer-Reviewed Journal)

## **Books & Book Chapters**

- I. **Biofabrication techniques for neural tissue engineering**  
Khandaker M., Progrı H., Kalay O. C., Yılmaz T. G., Yüce C., Karpata F.

in: Biomaterials for Neural Tissue Engineering, Oguzhan Gunduz, Mustafa Sengor, Cem Bulent Ustundag, Editor, Woodhead Publishing Limited, London, pp.269-313, 2023

**II. A Comparison: Root Stress Analysis of Involute Spur Gear with Asymmetric Involute and Asymmetric Trochoid**

YILMAZ T. G., KARPAT F.

in: INSAC Natural and Engineering Sciences, Mısır, Gizem Doç. Dr. Uzun, Mehmet, Dr., Editor, DUVAR YAYINEVİ, İzmir, pp.269-281, 2021

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

- I. Hibrit Dişlilerde Süren Taraf Kavrama açısının Tek Diş Rijitliğine Etkilerinin İncelenmesi**  
YILMAZ T. G., KARADERE G., KARPAT F.  
2nd International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 10 - 15 October 2022
- II. Süren taraf kavrama açısının hibrit dişlilerin oluşan gerilmelere etkileri**  
YILMAZ T. G., KARADERE G., KARPAT F.  
International Conference on Global Practice of Multidisciplinary Scientific Studies, TİFLİS, Georgia, 24 June 2022
- III. EXPERIMENTAL AND NUMERICAL ANALYSIS OF MECHANICAL PROPERTIES OF CARBON FIBER-REINFORCED POLYMER GEARS**  
KARPAT F., DEDE F., YILMAZ T. G., KALAY O.  
10th International Scientific Conference IRMES 2022, Belgrade, Serbia, 26 May 2022
- IV. STRESS ANALYSIS OF ADDITIVE MANUFACTURED LIGHTWEIGHT SPUR GEARS**  
YILMAZ T. G., Kalay O. C., KARPAT F., Ekwaro-Osire S.  
ASME 2021 International Mechanical Engineering Congress and Exposition, IMECE 2021, Virtual, Online, 1 - 05 November 2021, vol.2A-2021
- V. AN INVESTIGATION ON THE DESIGN OF FORMATE AND GENERATE FACE MILLED HYPOID GEARS**  
Yılmaz T. G., Kalay O., Karpata F., Doğanlı M., Altıntaş E.  
ASME IMECE 2020, Oregon, United States Of America, 15 - 19 November 2020
- VI. Bending Stress Analysis of Spur Gears with Different Tooth Root Radius**  
Kartal E., Doğan O., Yılmaz T. G., Turan K., Kalay O., Karpata F.  
4. Uluslararası Bilim, Mühendislik ve Teknolojide Yeni Trendler Kongresi, Sankt-Peterburg, Russia, 7 - 09 July 2020
- VII. A STUDY ON THE MODAL ANALYSIS OF SPUR GEARS**  
Turan K., Doğan O., Yılmaz T. G., Kalay O., Kartal E., Karpata F.  
2nd INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCHES, Ankara, Turkey, 4 - 05 July 2020
- VIII. Effects of the design parameters on mesh stiffness of the spur gears**  
Kalay O., Doğan O., Yılmaz T. G., Turan K., Kartal E., Karpata F.  
2nd INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCHES, Ankara, Turkey, 4 - 05 July 2020
- IX. INTERFERENCE ANALYSIS OF SPUR GEARS WITH ASYMMETRIC TROCHOID**  
Yılmaz T. G., Karpata F.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 17 - 19 December 2019
- X. AN ALTERNATIVE METHOD TO ELIMINATE UNDERCUT OF SPUR GEARS**  
Yılmaz T. G., Karpata F.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 17 - 19 December 2019
- XI. STRESS ANALYSIS OF INTERNAL SPUR GEARS WITH ASYMMETRIC TEETH**  
Yılmaz T. G., Karpata F.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 17 - 19 December 2019

- XII. **Effects of Drive Side Pressure Angle on Gear Fatigue Crack Propagation Life for Spur Gears With Symmetric and Asymmetric Teeth**  
Karpas F., Dođan O., Yılmaz T. G., Yüce C., Kalay O., Karpas E., Kopmaz O.  
ASME IMECE 2019 Volume 9: Mechanics of Solids, Structures, and Fluids, Utah, United States Of America, 11 - 14 November 2019
- XIII. **FINITE ELEMENT ANALYSIS OF HUMAN SCAPULA COMPARISON OF SCREW, WEDGE PLATE, AND ENDOBUTTON FIXATION METHODS**  
KARPAT F., ALP N. B., KALAY O., DOĐAN O., YILMAZ T. G., Khandaker M., Moussa A. A.  
ASME IMECE 2019, SALT LAKE CITY, United States Of America, 8 - 14 November 2019
- XIV. **Stress and Mesh Stiffness Evaluation of Bimaterial Spur Gears**  
Karpas F., Yılmaz T. G., Dođan O., Kalay O.  
ASME IMECE 2019 Volume 2B: Advanced Manufacturing, Utah, United States Of America, 11 - 14 November 2019
- XV. **Bending Stress Comparison of Asymmetric and Asymmetric Trochoid Spur Gear**  
Yılmaz T. G., Karpas F., Kalay O.  
Alternative Energy Sources, Materials Technologies (AESMT'19), Sofija, Bulgaria, 3 - 04 June 2019, pp.129-130
- XVI. **Influence of Root Geometry on Bending Stress for Involute Spur Gears**  
Yılmaz T. G., Karpas F.  
7th International Conference on Mechanics and Industrial Engineering (ICMIE'xx18), Madrid, Spain, 16 - 18 August 2018
- XVII. **Stress Analysis of Internal Gear Pairs with Unequal Tooth Thickness**  
Yılmaz T. G., Karpas F.  
2018 9th International Conference on Mechanical and Aerospace Engineering (ICMAE), Budapest, Hungary, 10 - 13 July 2018, pp.478-482
- XVIII. **STRESS ANALYSIS OF THIN RIMMED ASYMMETRIC SPUR GEARS**  
Yılmaz T. G., Kalay O., Karpas F.  
INTERNATIONAL CONFERENCE ON PROGRESSES IN AUTOMOTIVE TECHNOLOGIES, İstanbul, Turkey, 10 - 12 May 2018, pp.74-81
- XIX. **A CASE STUDY: AN ALTERNATIVE APPROACH TO WEIGHT REDUCTION OF SPUR GEAR PAIR WITH USING NON-STANDARD TOOTH THICKNESS**  
Yılmaz T. G., Karpas F.  
9th International Automotive Technologies Congress-OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.731-736
- XX. **IMPROVEMENT OF LOADING CAPACITY OF INTERNAL SPUR GEAR WITH USING ASYMMETRIC TROCHOID PROFILE**  
YILMAZ T. G., DOĐAN O., Yuce C., KARPAT F.  
ASME International Mechanical Engineering Congress and Exposition, Tama, Japan, 3 - 09 November 2017
- XXI. **An Alternative Method to Specify Undercut Point of Involute Spur Gear with Low Number Teeth**  
Yılmaz T. G., Yüce C., Karpas F.  
ISERD, 218th International Conference on Recent Innovations in Engineering and Technology (ICRIET), Florence, Italy, 21 - 22 July 2017
- XXII. **Prototype Conveyor Line Monitoring System**  
Yüce C., Yılmaz T. G., Karpas F., Yavuz N.  
ISERD, 218th International Conference on Recent Innovations in Engineering and Technology (ICRIET), Florence, Italy, 21 - 22 July 2017
- XXIII. **Stress Analysis of Thin Rimmed Spur Gear with Asymmetric Trochoid**  
Yılmaz T. G., Dođan O., Karpas F.  
6TH INTERNATIONAL CONFERENCE ON MECHANICS AND INDUSTRIAL ENGINEERING (ICMIE'xx17), Rome, Italy, 8 - 10 June 2017
- XXIV. **Entegre Bir Diđli Çark Tasarım Metodolojisinin Geliştirilmesi**  
Yılmaz T. G., Güllü E., Karpas F.  
8.OTOMOTİV TEKNOLOJİLERİ KONGRESİ, Bursa, Turkey, 23 - 24 May 2016
- XXV. **DESIGN AND ANALYSIS OF INTERNAL GEARS WITH DIFFERENT RIM THICKNESS AND SHAPES**

KARPAT F., Ekwaro-Osire S., YILMAZ T. G., Dogan O., Yuce C.

ASME International Mechanical Engineering Congress and Exposition (IMECE2015), Texas, United States Of America, 13 - 19 November 2015

**XXVI. Otomobil Kapı Menteşesinin Bilgisayar Destekli Tasarımı Analizi ve Doğrulanması**

TÜFEKÇİ M., YILMAZ T. G., YÜCE C., DOĞAN O., KARPAT F.

XIII. Otomotiv ve Yan Sanayi Sempozyumu ve Sergisi, İstanbul, Turkey, 13 - 14 November 2015, pp.33-41

**XXVII. Design Optimization of Aluminum Hinge Parts for Lightweight Vehicles Performance Durability and Manufacturability**

TÜFEKÇİ M., KARPAT F., YÜCE C., DOĞAN O., YILMAZ T. G., KAYA N.

2015 IIER 19th International Conference on Recent Innovations in Engineering and Technology (ICRIET2015), 23 October 2015

**XXVIII. Effect of Rim Thickness on Tooth Root Stress and Mesh Stiffness of Internal Gears**

Karpat F., Engin B., Doğan O., Yüce C., Yılmaz T. G.

ASME 2014 International Mechanical Engineering Congress and Exposition, Montreal, Canada, 14 - 20 November 2014, vol.11

**XXIX. EFFECTS OF RIM THICKNESS ON TOOTH ROOT STRESS AND MESH STIFFNESS OF INTERNAL GEARS**

KARPAT F., Engin B., Dogan O., Yuce C., YILMAZ T. G.

ASME International Mechanical Engineering Congress and Exposition (IMECE), Montreal, Canada, 14 - 20 November 2014

**XXX. EXPERIMENTAL VERIFICATION AND FINITE ELEMENT ANALYSIS OF AUTOMOTIVE DOOR HINGE**

Dogan S., Guven C., KARPAT F., YILMAZ T. G., Dogan O.

ASME International Mechanical Engineering Congress and Exposition (IMECE2014), Montreal, Canada, 14 - 20 November 2014

**XXXI. Otobüs Koltuğu Geliştirilmesi**

ERASLAN M., CİBELEK N., POLAT E., KONAK C., AYDOĞDU K., YILMAZ T. G., ÖZMUTLU S.

7. OTOMOTİV TEKNOLOJİLERİ KONGRESİ, Bursa, Turkey, 26 - 27 May 2014

## Supported Projects

YILMAZ T. G., TUBITAK Project, Aks Sistemlerinin Dinamik Simülasyonunun Yapılması ve Simülasyonun Doğrulanması ve İyileştirilmesi için Test Düzeneği Kurulması, 2018 - Continues

KAYA N., KARPAT F., YILMAZ T. G., Industrial Thesis Project, Hafif Ticari Araç Kapıları İçin Modüler Menteşe Tasarımı Optimizasyonu ve Prototip İmalatı Projesi, 2015 - 2016

## Scientific Refereeing

ADVANCES IN MECHANICAL ENGINEERING, SCI Journal, March 2022

## Metrics

Publication: 54

Citation (WoS): 99

Citation (Scopus): 132

H-Index (WoS): 6

H-Index (Scopus): 8

## Non Academic Experience

Major SKT