

## Assoc. Prof. ÇAĞRI UZAY

### Personal Information

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### International Researcher IDs

ORCID: 0000-0002-7713-8951

Publons / Web Of Science ResearcherID: E-8782-2018

Yoksis Researcher ID: 198356

### Education Information

Doctorate, Cukurova University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, Turkey 2014 - 2020

Postgraduate, Cukurova University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, Turkey 2012 - 2014

Undergraduate Double Major, Cukurova University, Mühendislik Mimarlık, Otomotiv Mühendisliği, Turkey 2009 - 2012

Undergraduate, Cukurova University, Mühendislik Mimarlık, Makine Mühendisliği, Turkey 2007 - 2012

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, DEVELOPING AND TESTING OF POLYMER FOAM CORE SANDWICH STRUCTURES WITH HYBRID CARBON FIBER/WIRE MESH SHEET FACINGS, Cukurova University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, 2020

Postgraduate, A Comparison of Approaches to Involute Spur Gear Design, Cukurova University, Fen Bilimleri, Makine Mühendisliği, 2014

### Research Areas

Mechanical Engineering, Construction and Manufacturing, Machine Elements, Computer Aided Design and Manufacturing, Material, Mechanical Properties, Composites, Engineering and Technology

### Academic Titles / Tasks

Research Assistant, Cukurova University, Mühendislik Mimarlık, Makine Mühendisliği, 2014 - Continues

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

1. Effect of Fiber Architecture on the Physical and Mechanical Properties of Carbon Fiber-Reinforced Polymer Composites

Çetin A., UZAY Ç., GEREN N.

Arabian Journal for Science and Engineering, 2025 (SCI-Expanded)

- II. **Predicting the tensile stiffness and strength properties of plain woven carbon fiber/epoxy laminates: a practical analytical approach and experimental validations**  
Uzay Ç., Çetin A., Geren N., Bayramoğlu M., Tütüncü N.  
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol.31, no. 12, pp.2619-2634, 2024 (SCI-Expanded)
- III. **Predicting the indentation load of FRP facesheet / foam core sandwiches**  
Çetin A., Uzay Ç., Tütüncü N., Geren N.  
STRUCTURES, vol.62, 2024 (SCI-Expanded)
- IV. **A practical approach to predict the flexural properties of woven plain carbon fiber/epoxy laminates**  
Çetin A., Uzay Ç., Geren N., Bayramoğlu M., Tütüncü N.  
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol.30, no.9, pp.1801-1811, 2023 (SCI-Expanded)
- V. **Effects of cubic boron nitride (c-BN) nanoparticle addition on the wear properties of carbon FRP composites**  
Uzay Ç.  
MATERIALS TESTING, vol.65, no.1, pp.43-51, 2023 (SCI-Expanded)
- VI. **Physical and mechanical properties of laminar composites depending on the production methods: an experimental investigation**  
Uzay Ç., Çetin A., Geren N.  
SADHANA - ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES, vol.47, no.4, pp.1-14, 2022 (SCI-Expanded)
- VII. **Studies on mechanical and thermal properties of cubic boron nitride (c-BN) nanoparticle filled carbon fiber reinforced polymer composites**  
Uzay Ç.  
POLYMER-PLASTICS TECHNOLOGY AND MATERIALS, vol.61, no.13, pp.1439-1455, 2022 (SCI-Expanded)
- VIII. **Investigation of physical, mechanical, and thermal properties of glass fiber reinforced polymer composites strengthened with KH550 and KH570 silane-coated silicon dioxide nanoparticles**  
Uzay Ç.  
JOURNAL OF COMPOSITE MATERIALS, vol.56, no.19, pp.2995-3011, 2022 (SCI-Expanded)
- IX. **A method for the optimal design of low-density polymer foam core sandwiches using FEA and multiobjective optimization of design variables**  
Uzay Ç., Acer D. C., Geren N.  
JOURNAL OF POLYMER ENGINEERING, vol.42, no.1, pp.75-84, 2022 (SCI-Expanded)
- X. **Mechanical and thermal characterization of laminar carbon/epoxy composites modified with magnesium oxide microparticles**  
Uzay Ç.  
POLYMER COMPOSITES, vol.43, no.1, pp.299-310, 2022 (SCI-Expanded)
- XI. **A proposal to improve the competence of students within the unnecessarily complex mechanical engineering design environment**  
GEREN N., UZAY Ç., BAYRAMOĞLU M.  
INTERNATIONAL JOURNAL OF TECHNOLOGY AND DESIGN EDUCATION, vol.31, no.4, pp.741-770, 2021 (SCI-Expanded)
- XII. **Effect of stainless-steel wire mesh embedded into fibre-reinforced polymer facings on flexural characteristics of sandwich structures**  
UZAY Ç., GEREN N.  
Journal of Reinforced Plastics and Composites, vol.39, pp.613-633, 2020 (SCI-Expanded)
- XIII. **Characterization of boronized AISI 1050 steel and optimization of process parameters**  
BOZTEPE M. H., BAYRAMOĞLU M., UZAY Ç., Dagsuyu C., KOKANGÜL A., GEREN N.  
MATERIALS TESTING, vol.61, no.6, pp.549-553, 2019 (SCI-Expanded)
- XIV. **Bending behavior of sandwich structures with different fiber facing types and extremely low-density foam cores**  
Uzay Ç., Geren N., Bortepe M. H., Bayramoğlu M.

- MATERIALS TESTING, vol.61, pp.220-230, 2019 (SCI-Expanded)
- XV. **Mechanical engineering and issues on teaching mechanical engineering design in Turkey**  
GEREN N., UZAY Ç., BAYRAMOĞLU M.  
INTERNATIONAL JOURNAL OF TECHNOLOGY AND DESIGN EDUCATION, vol.28, no.3, pp.843-866, 2018 (SCI-Expanded)
- XVI. **Introducing gear ratings and AGMA conversion factors for the steel spur gear design under bending fatigue**  
GEREN N., UZAY Ç., BAYRAMOĞLU M.  
MATERIALS TESTING, vol.59, pp.1043-1053, 2017 (SCI-Expanded)
- XVII. **Effect of post-curing heat treatment on mechanical properties of fiber reinforced polymer (FRP) composites**  
Uzay Ç., Boztepe M. H., Bayramoğlu M., Geren N.  
MATERIALS TESTING, vol.59, pp.366-372, 2017 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Investigating the Wear Behaviors of Silane Coated Silica Filled Glass/Epoxy Nanocomposites**  
UZAY Ç.  
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.23, no.1, pp.260-269, 2023 (Peer-Reviewed Journal)
- II. **Enhancing the Out-of-Plane Compressive Performance of Lightweight Polymer Foam Core Sandwiches**  
UZAY Ç.  
Sakarya Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.25, no.6, pp.1366-1375, 2021 (Peer-Reviewed Journal)
- III. **ADVANCED TECHNOLOGIES FOR FIBER REINFORCED POLYMERCOMPOSITE MANUFACTURING: A REVIEW**  
UZAY Ç., GEREN N.  
Kahramanmaraş Sütçü İmam Üniversitesi Mühendislik Bilimleri Dergisi, vol.23, no.4, pp.236-248, 2020 (Peer-Reviewed Journal)
- IV. **Failure Analysis of Low-density Polymer Foam Core Sandwich Structures under Three-point Bending Loading**  
UZAY Ç., GEREN N.  
Çukurova Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi, vol.35, no.3, pp.813-820, 2020 (Peer-Reviewed Journal)
- V. **Alternatif FML Kompozitler için Titanyum ve Elyaf/Epoksi Ara Yüzey Dayanımının İncelenmesi**  
BOZTEPE M. H., BAYRAMOĞLU M., UZAY Ç., GEREN N.  
Çukurova Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi, vol.35, no.3, pp.813-820, 2020 (Peer-Reviewed Journal)
- VI. **Impact Strength of Interply and Intraply Hybrid Laminates Based on Carbon-Aramid/Epoxy Composites**  
UZAY Ç., ACER D. C., GEREN N.  
European Mechanical Science, vol.3, no.1, pp.1-5, 2019 (Peer-Reviewed Journal)
- VII. **Design of Composite Sandwich Chassis and Application to Urban Concept Electric Vehicles**  
UZAY Ç., ACER D. C., GEREN N., AKILLI H.  
International Journal of Mechanical and Production Engineering (IJMPE), vol.6, no.9, pp.41-45, 2018 (Scopus)
- VIII. **Evaluation of Flexural Stiffness for the Lightweight Polymer Foam Core Sandwich Structures**  
UZAY Ç., ACER D. C., GEREN N., ÇETİN A.  
International Journal of Mechanical and Production Engineering (IJMPE), vol.6, no.9, pp.36-40, 2018 (Peer-Reviewed Journal)
- IX. **Intelligent Use of ISO and AGMA Gear Standards for Cost Effective Spur Gear Design**

- UZAY Ç., GEREN N.  
Mühendislik Bilimleri ve Tasarım Dergisi, vol.5, no.3, pp.643-655, 2017 (Peer-Reviewed Journal)
- X. **Advanced Material Selection Technique For High Strength and Lightweight Spur Gear Design**  
Geren N., Uzay Ç.  
European Mechanical Science, vol.1, no.4, pp.133-140, 2017 (Peer-Reviewed Journal)
- XI. **Improving the Adhesion Bonding Strength for FML Composites by Using a Extremely Thin Mesh Steels**  
BOZTEPE M. H., BAYRAMOĞLU M., UZAY Ç., GEREN N.  
European Mechanical Science, vol.1, no.4, pp.111-116, 2017 (Peer-Reviewed Journal)
- XII. **Sandviç Malzeme Geliştirmede Polimer Köpük Çekirdek Kalınlığının Eğilme Dayanımına Etkisinin Deneysel olarak Araştırılması**  
GEREN N., UZAY Ç., BOZTEPE M. H., BAYRAMOĞLU M.  
ÇUKUROVA ÜNİVERSİTESİ MÜHENDİSLİK MİMARLIK FAKÜLTESİ DERGİSİ, vol.32, no.2, pp.13-22, 2017 (Peer-Reviewed Journal)
- XIII. **A comparison of modules by using two different gear design approaches,**  
Uzay Ç., Geren N.  
Ç.Ü. Journal of Science and Engineering, vol.32, no.4, pp.47-56, 2015 (Peer-Reviewed Journal)

## Books

- I. **Enhanced Failure Behavior for Sandwiches with Hybrid Wire Mesh/FRP Face Sheets**  
UZAY Ç., GEREN N.  
in: Sandwich Composites, Fabrication and Characterization, Krishnasamy Senthilkumar, Muthukumar Chandrasekar , Thiagamani Senthil Muthu Kumar, Rangappa Sanjay Mavinkere, Siengchin Suchart, Editor, Routledge and CRC Press, Boca Raton, pp.191-212, 2022

## Refereed Congress / Symposium Publications in Proceedings

- I. **A LIGHTWEIGHT MULTIFUNCTIONAL BATTERY CASE**  
Geren N., Gökciler O. C., İbekci M. B., Uzay Ç., Bayramoğlu M.  
20th INTERNATIONAL CONFERENCE ON MACHINE DESIGN AND PRODUCTION- UMTIK 2024, Ankara, Turkey, 14 - 17 August 2024, vol.1, pp.365-379
- II. **Design and Optimization of a Wheel Hub for Lightweight Efficiency Challenge Vehicles**  
ACER D. C., UZAY Ç., GEREN N., AKILLI H.  
International Advanced Researches Engineering Congress-2017, Osmaniye, Turkey, 16 - 18 November 2017, vol.1, pp.192-200
- III. **Bending Behavior of Sandwich Structures Having Low Density PVC Foam Cores and  $\pm 45^\circ$  Carbon/Epoxy Facings**  
Uzay Ç., Geren N., Boztepe M. H., Bayramoğlu M.  
International Advanced Researches Engineering Congress-2017, Osmaniye, Turkey, 16 - 18 November 2017
- IV. **Manufacturing of Light Weigth Sandwich Structure by Using Polymer Foam Core**  
UZAY Ç., GEREN N., BOZTEPE M. H., BAYRAMOĞLU M.  
Istanbul International Conference On Progres in Applied Science 2017 – ICPAS 2017, İstanbul, Turkey, 4 - 06 January 2017, vol.1, pp.1-6
- V. **MANUFACTURING OF LIGHT WEIGHT SANDWICH STRUCTURES BY USING POLYMER FOAM CORE**  
UZAY Ç., GEREN N., BOZTEPE M. H., BAYRAMOĞLU M.  
ISTANBUL INTERNATIONAL CONFERENCE ON PROGRES IN APPLIED SCIENCE 2017 – ICPAS 2017, 4 - 06 January 2017
- VI. **INVESTIGATION OF THE ADHESION BONDING CAPABILITY BETWEEN DIFFERENT METALS AND FRP**

## COMPOSITE LAYERS

BOZTEPE M. H., BAYRAMOĞLU M., UZAY Ç., GEREN N.

ISTANBUL INTERNATIONAL CONFERENCE ON PROGRES IN APPLIED SCIENCE 2017 – ICPAS 2017, 4 - 06 January 2017

### VII. MANUFACTURING OF LIGHT WEIGHT SANDWICH STRUCTURES BY USING POLYMER FOAM CORE

Uzay Ç., Geren N., Boztepe M. H., Bayramoğlu M.

ISTANBUL INTERNATIONAL CONFERENCE ON PROGRES IN APPLIED SCIENCE 2017 ? ICPAS 2017, İstanbul, Turkey, 4 - 06 January 2017, vol.1, no.1, pp.1-6

### VIII. A TRANSLATION TECHNIQUE: DIMENSIONLESS RATINGS AND CONVERSION FACTORS BETWEEN ISO AND AGMA GEAR STANDARDS

Geren N., Uzay Ç.

ASME International Mechanical Engineering Congress and Exposition (IMECE2016), Arizona, United States Of America, 11 - 17 November 2016

### IX. Significant influence of rating the spur gear design results obtained from iso and agma standards

Uzay Ç., Geren N., Çetin A.

1st International Mediterranean SCIENCE AND ENGINEERING CONGRESS, Adana, Turkey, 26 - 28 October 2016

### X. Adhesion Surface Bonding Capability of Different Metal Sheets for Fiber Metal Laminate FML Applications

Uzay Ç., Boztepe M. H., Bayramoğlu M., Geren N.

1st International Mediterranean Science and Engineering Congress, Adana, Turkey, 26 - 28 October 2016

### XI. Significant Influence of Rating the Spur Gear Design Results Obtained from ISO and AGMA Standards

Uzay Ç., Geren N., Çetin A.

1st International Mediterranean Science and Engineering Congress, Adana, Turkey, 26 - 28 October 2016, pp.3864-3870

### XII. METHOD FOR RATING AND CONVERTING TEXT BOOK SPUR GEAR DESIGN RESULTS TO ISO GEAR STANDARDS

Uzay Ç., Geren N.

The 17th International Conference on Machine Design and Production, Bursa, Turkey, 12 - 15 July 2016

## Supported Projects

AKILLI H., AKSOY M., GEREN N., DURHASAN T., BOZTEPE M. H., UZAY Ç., ÖZKAN G. M., Project Supported by Higher Education Institutions, Yerli Elektrikli Hafif Otomobil Tasarım ve İmalatı, 2016 - 2019

BAYRAMOĞLU M., UZAY Ç., GEREN N., BOZTEPE M. H., Project Supported by Higher Education Institutions, FML Kompozitler de Metal Plakalara Uygulanan Yüzey İşlemlerinin Tutunma Dayanımına Etkilerinin Araştırılması, 2017 - 2018

GEREN N., UZAY Ç., BOZTEPE M. H., BAYRAMOĞLU M., ACER D. C., Project Supported by Higher Education Institutions, Sandviç Panellerin Sonlu Elemanlar Yöntemi ile Modellenmesi Analiz Edilmesi ve Sonuçların Deneysel Verilerle Karşılaştırılması, 2017 - 2018

AKILLI H., UZAY Ç., Project Supported by Higher Education Institutions, Charpy Test Cihazı Onarımı ve Bakımı, 2017 - 2017

BAYRAMOĞLU M., GEREN N., BOZTEPE M. H., UZAY Ç., Project Supported by Higher Education Institutions, FML Kompozitler de Tutunma Yüzeyinin İyileştirilmesi, 2016 - 2016

GEREN N., BOZTEPE M. H., UZAY Ç., BAYRAMOĞLU M., Project Supported by Higher Education Institutions, Elektrikli araç şasisleri için hafif sandviç panel geliştirilmesi, 2016 - 2016

## Patent

Geren N., Bayramoğlu M., Özkan G. M., Uzay Ç., Çetin A., Acer D. C., Diker İ., İbekci M. B., Termal Yönetim Ve Kendini

İyileştirme (Tamir Etme) Özellikli Kompozit Batarya Muhafaza Kutusu, Patent, CHAPTER H Electricity, The Invention  
Registration Number: 2024/002940 , Standard Registration, 2024

Geren N., Bayramođlu M., Özkan G. M., Uzay Ç., Çetin A., Acer D. C., Diker İ., İbekci M. B., COMPOSITE BATTERY  
ENCLOSURE WITH THERMAL MANAGEMENT AND SELF-HEALING (REPAIRING) FEATURES, Patent, CHAPTER H  
Electricity, The Invention Registration Number: PCT/TR2024/050272 , Standard Registration, 2024

## Metrics

Publication: 45

Citation (WoS): 27

Citation (Scopus): 48

H-Index (WoS): 4

H-Index (Scopus): 4

## Non Academic Experience

Tensor Mühendislik Arge Danışmanlık San. ve Tic. Ltd. Şti., Yönetim Kurulu Üyesi (Özel Sektör)

Business Establishment Private, TEMSA GLOBAL A.Ş., Ar-Ge Proje Mühendisi

TEMSA GLOBAL A.Ş., ARGE MÜHENDİSİ