

## Assoc. Prof. EMRE İSA ALBAK

### Personal Information

**Email:** emrealbak@uludag.edu.tr

**Web:** <https://avesis.uludag.edu.tr/emrealbak>

### International Researcher IDs

ScholarID: WFmWn-kAAAAJ

ORCID: 0000-0001-9215-0775

Publons / Web Of Science ResearcherID: I-9483-2017

ScopusID: 57191051783

Yoksis Researcher ID: 206155

### Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Automotive Engineering, Turkey 2014 - 2020

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Automotive Engineering, Turkey 2012 - 2014

Undergraduate, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, Turkey 2007 - 2011

### Dissertations

Doctorate, Arka aksın yeni yaklaşımlar ile tasarımının en iyilenmesi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Otomotiv Mühendisliği, 2020

Postgraduate, Araç konfor ve yol tutuş özelliklerinin iyileştirilmesi için süspansiyon parametrelerinin incelenmesi, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Otomotiv Mühendisliği, 2014

### Research Areas

Computer Aided Design and Manufacturing, Finite Element Methods, Optimization, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, OTOMOTİV MÜHENDİSLİĞİ, 2022 - Continues

Associate Professor, Bursa Uludağ University, GEMLİK ASIM KOCABIYIK MYO, ELEKTRİK VE ENERJİ BÖLÜMÜ, 2022 - 2022

Lecturer PhD, Bursa Uludağ University, GEMLİK ASIM KOCABIYIK MYO, Elektrik ve Enerji, 2020 - 2022

Research Assistant, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Otomotiv Mühendisliği, 2013 - 2020

### Academic and Administrative Experience

Head of Department, Bursa Uludağ University, GEMLİK ASIM KOCABIYIK MYO, ELEKTRİK VE ENERJİ BÖLÜMÜ, 2021 - Continues

Head of Department, Bursa Uludağ University, GEMLİK ASIM KOCABIYIK MYO, ELEKTRİK VE ENERJİ BÖLÜMÜ, 2022 - 2025

## Courses

Hibrid Motorlu Taşıtlar Teknolojisi, Associate Degree, 2023 - 2024, 2022 - 2023  
Otomotiv Mühendisliğinde Nümerik Analiz ve Optimizasyon Yöntemleri, Postgraduate, 2022 - 2023  
Makine Elemanları, Undergraduate, 2023 - 2024, 2022 - 2023  
Elektrikli Motorlu Taşıtlar Teknolojisi, Associate Degree, 2022 - 2023  
Bilgisayar Destekli Çizim I, Associate Degree, 2021 - 2022, 2020 - 2021  
Sistem Analizi ve Tasarımı, Associate Degree, 2021 - 2022  
Taşıt Tasarımı I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
Optimizasyon Teknikleri, Undergraduate, 2022 - 2023, 2021 - 2022  
Tersine Mühendislik ve Kalite Kontrol, Associate Degree, 2021 - 2022, 2020 - 2021  
Fizik, Associate Degree, 2022 - 2023  
Bilgisayar Destekli Çizim II, Associate Degree, 2022 - 2023, 2021 - 2022, 2020 - 2021  
Taşıt Tasarımı II, Undergraduate, 2021 - 2022, 2020 - 2021  
Mesleki Matematik, Associate Degree, 2021 - 2022, 2020 - 2021  
Bilgisayar Destekli Analiz, Associate Degree, 2021 - 2022, 2020 - 2021

## Advising Theses

Albak E. İ., CHLADNI DENEYİ DESENLERİNDEN ESİNLENİLMİŞ İNCE CİDARLI DARBE SÖNÜMLEYİCİLERİN ÇARPIŞMA PERFORMANSININ İYİLEŞTİRİLMESİ, Postgraduate, M.SAİD(Student), 2024

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

- I. **Correlation between objective and subjective tests for vehicle ride comfort evaluations**  
Boke T. A., Albak E. İ., Kaya N., Bozkurt R., Ergul M., Ozturk D., Emiroglu S., Öztürk F.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART D-JOURNAL OF AUTOMOBILE ENGINEERING, vol.237, no.4, pp.706-721, 2023 (SCI-Expanded)
- II. **Optimization design for circular multi-cell thin-walled tubes with discrete and continuous design variables**  
Albak E. İ.  
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol.30, no.24, pp.5091-5105, 2023 (SCI-Expanded)
- III. **Prediction and Optimization of the Design and Process Parameters of a Hybrid DED Product Using Artificial Intelligence**  
Calli M., Albak E. İ., Öztürk F.  
APPLIED SCIENCES-BASEL, vol.12, no.10, 2022 (SCI-Expanded)
- IV. **Prediction and optimization of the design decisions of liquid cooling systems of battery modules using artificial neural networks**  
Bulut E., Albak E. İ., Sevilgen G., Öztürk F.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.46, no.6, pp.7293-7308, 2022 (SCI-Expanded)
- V. **Optimization for multi-cell thin-walled tubes under quasi-static three-point bending**  
Albak E. İ.  
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.44, no.5, 2022 (SCI-Expanded)
- VI. **MULTI-OBJECTIVE OPTIMIZATION OF LIQUID COOLING SYSTEM FOR A TWELVE-CELL BATTERY MODULE**  
Bulut E., Albak E. İ., Sevilgen G., Öztürk F.  
HEAT TRANSFER RESEARCH, vol.53, no.4, pp.15-32, 2022 (SCI-Expanded)
- VII. **A new approach for battery thermal management system design based on Grey Relational Analysis**

### **and Latin Hypercube Sampling**

Bulut E., Albak E. İ., Sevilgen G., Öztürk F.

CASE STUDIES IN THERMAL ENGINEERING, vol.28, 2021 (SCI-Expanded)

- VIII. **Crashworthiness design and optimization of nested structures with a circumferentially corrugated circular outer wall and inner ribs**  
Albak E. İ.  
THIN-WALLED STRUCTURES, vol.167, 2021 (SCI-Expanded)
- IX. **Optimal design of differential mount using nature-inspired optimization methods**  
Albak E. İ., Solmaz E., Öztürk F.  
MATERIALS TESTING, vol.63, no.8, pp.764-769, 2021 (SCI-Expanded)
- X. **Multi-objective crashworthiness optimization of thin-walled multi-cell tubes with different wall lengths**  
Albak E. İ.  
INTERNATIONAL JOURNAL OF CRASHWORTHINESS, vol.26, no.4, pp.438-455, 2021 (SCI-Expanded)
- XI. **Crashworthiness design for multi-cell circumferentially corrugated thin-walled tubes with sub-sections under multiple loading conditions**  
Albak E. İ.  
THIN-WALLED STRUCTURES, vol.164, 2021 (SCI-Expanded)
- XII. **Multiobjective crashworthiness optimization of graphene type multi-cell tubes under various loading conditions**  
Albak E. İ., Solmaz E., Yıldız A. R., Öztürk F.  
Journal of the Brazilian Society of Mechanical Sciences and Engineering, vol.43, no.5, 2021 (SCI-Expanded)
- XIII. **Simplified optimization model and analysis of twist beam rear suspension system**  
Albak E. İ., Solmaz E., Öztürk F.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART D-JOURNAL OF AUTOMOBILE ENGINEERING, vol.235, no.5, pp.1434-1445, 2021 (SCI-Expanded)
- XIV. **Enhancing a twist beam suspension system conceptual design using population-based optimization methods**  
Albak E. İ., Solmaz E., Öztürk F.  
MATERIALS TESTING, vol.62, no.7, pp.672-677, 2020 (SCI-Expanded)
- XV. **Effects of sections added to multi-cell square tubes on crash performance**  
Albak E. İ.  
MATERIALS TESTING, vol.62, no.5, pp.471-479, 2020 (SCI-Expanded)
- XVI. **Butterfly optimization algorithm for optimum shape design of automobile suspension components**  
Yildiz B. S., Yıldız A. R., Albak E. İ., Abderazek H., Sait S. M., Bureerat S.  
MATERIALS TESTING, vol.62, no.4, pp.365-370, 2020 (SCI-Expanded)
- XVII. **Impact attenuator conceptual design using lightweight materials and meta-modeling technique**  
Albak E. İ., Solmaz E., Kaya N., Öztürk F.  
MATERIALS TESTING, vol.61, no.7, pp.621-626, 2019 (SCI-Expanded)
- XVIII. **Integrated model-based approach for the optimisation of vehicle ride comfort and handling characteristics: integrated vehicle dynamics model design**  
Pir F., Albak E. İ., Öztürk F., Kaya N., Korkmaz I.  
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.71, pp.154-173, 2016 (SCI-Expanded)
- XIX. **Design of improved energy absorbing pads to reduce occupant injuries in vehicle side impact**  
Yildizhan M., Efendioğlu B., Kaya N., Öztürk I., Albak E. İ., Öztürk F.  
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.71, pp.174-190, 2016 (SCI-Expanded)

### **Articles Published in Other Journals**

- I. **Optimization of a circular multi-cell crash box by multi-objective particle swarm optimization using**

### **multiple search strategies**

Albak E. İ., Solmaz E., Öztürk F.

Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.27, no.1, pp.119-134, 2022 (Peer-Reviewed Journal)

### **II. Investigation for Crashworthiness Performance of Single-cell and Multi-cell Crash Boxes Designed with Aluminum, Magnesium and Steel Materials**

Albak E. İ.

Çukurova Üniversitesi Mühendislik Fakültesi dergisi, vol.36, no.2, pp.523-534, 2021 (Peer-Reviewed Journal)

### **III. Değişken kesite sahip burulma kirişli süspansiyon sistemlerinin kinematik performansının incelenmesi**

Albak E. İ., Solmaz E., Öztürk F.

Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.25, no.3, pp.1287-1296, 2020 (Peer-Reviewed Journal)

### **IV. Dinamik Simülasyonlarda Ağ Örgüsü Geometrik Şeklinin Basınç Davranışına Etkisinin Araştırılması**

Haciosmanoğlu H., Sevilgen G., Albak E. İ.

ACADEMIC PLATFORM-JOURNAL OF ENGINEERING AND SCIENCE, vol.8, no.3, pp.555-564, 2020 (Peer-Reviewed Journal)

### **V. Optimum Design Of Brake Pedal Using Topology Optimization Method Intended For Weight Reduction On The Formula SAE Car**

Albak E. İ.

Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, vol.11, no.1, pp.328-334, 2019 (Peer-Reviewed Journal)

### **VI. LIGHTWEIGHT FOAM IMPACT ATTENUATOR DESIGN FOR FORMULA SAE CAR**

Albak E. İ., Solmaz E., Kaya N., Öztürk F.

Turkish Journal of Engineering, vol.2, no.1, pp.17-21, 2018 (Peer-Reviewed Journal)

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

### **I. OPTIMIZATION OF FORMULA SAE ELECTRIC VEHICLE BRAKE PEDAL USING GREY WOLF OPTIMIZER**

Albak E. İ.

1. INTERNATIONAL MARMARA SCIENTIFIC RESEARCH AND INNOVATION CONGRESS , İstanbul, Turkey, 21 - 22 August 2021, pp.351-357

### **II. GEOMETRIC STRUCTURES USED IN MULTI-CELL THIN- WALLED TUBES: A REVIEW OF RECENT STUDIES**

Albak E. İ.

International Conference of Strategic Research on Scientific Studies and Education, Antalya, Turkey, 26 - 29 May 2021, pp.544-551

### **III. SELECTION OF THE ELECTRIC MOTOR FOR A CONCEPT ELECTRIC VEHICLE USING A MULTI-CRITERIA DECISION-MAKING METHOD**

Albak E. İ.

INTERNATIONAL ASIAN CONGRESS ON CONTEMPORARY SCIENCES-V, Nakhchivan, Azerbaijan, 1 - 02 June 2021, pp.174

### **IV. Formula SAE Aracı Aks Taşıyıcı Akson Topoloji Optimizasyonu**

ALBAK E. İ.

4. Uluslararası Mühendislik, Mimarlık Ve Tasarım Kongresi, 23 - 24 April 2019, pp.242-250

### **V. Formula SAE aracı için darbe sönümleyici optimizasyonu**

ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.

9th International Automotive Technologies Congress, 7 - 08 May 2018, pp.1759-1765

### **VI. Burulma kirişinin arka aks süspansiyon sistemi üzerindeki etkilerinin incelenmesi**

ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.

9th International Automotive Technologies Congress, 7 - 08 May 2018, pp.1753-1758

### **VII. Subjective and objective evaluations of vehicle ride comfort based on road tests**

Böke T. A., ALBAK E. İ., KAYA N., Bozkurt R., Ergül M., Emiroğlu S., ÖZTÜRK F.

- 9th International Automotive Technologies Congress, 7 - 08 May 2018, pp.64-75
- VIII. **Extraction of road profile data to use for vehicle ride comfort evaluation**  
ALBAK E. İ., KAYA N., Bozkurt R., Böke T. A., Ergül M., Ayaz C., ÖZTÜRK F.  
9th International Automotive Technologies Congress, 7 - 08 May 2018, pp.76-82
- IX. **MATERIALS AND GEOMETRIC STRUCTURES USED IN IMPACT ATTENUATORS**  
ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.  
International Conference on Engineering Technologies (ICENTE'17), Konya, Turkey, 7 - 09 December 2017, pp.126
- X. **Investigation of spring stiffness and damper damping coefficient on vehicle ride comfort**  
Albak E. İ., Solmaz E., Kaya N., Öztürk F.  
International Conference on Engineering Technology, Konya, Turkey, 7 - 09 December 2017, pp.125
- XI. **Materials and geometric structures used in impact attenuators**  
ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.  
International Conference on Engineering Technology, Konya, Turkey, 7 - 09 December 2017, pp.126
- XII. **Süspansiyon Parametrelerinin Değişiminin Araç yol Tutuşuna Etkilerinin İncelenmesi**  
ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.  
ISTEC 2016, 13 - 15 July 2016
- XIII. **SÜSPANSİYON PARAMETRELERİNİN DEĞİŞİMİNİNARAÇ YOL TUTUŞUNA ETKİLERİNİN İNCELENMESİ**  
ALBAK E. İ., SOLMAZ E., KAYA N., ÖZTÜRK F.  
International Science and Technology Conference, Viyana, Austria, 13 - 15 July 2016, pp.905-913
- XIV. **ARAÇ YAN ÇARPIŞMA ENERJİ SÖNÜMLEYİCİSİNİN OPTİMUM TASARIMI**  
ALBAK E. İ., Yıldızhan M., Efendioğlu B., ÖZTÜRK İ., SOLMAZ E., KAYA N., ÖZTÜRK F.  
OTEKON 2016 - 8.Otomotiv Teknolojileri Kongresi, Turkey, 23 - 24 May 2016
- XV. **ARAÇ ARKA AKS SÜSPANSİYON KİRİŞİ OPTİMİZASYONU**  
ALBAK E. İ., Ersoy O., Bahar S., Özer M. R., Ayçiçek A., SOLMAZ E., KAYA N., ÖZTÜRK F.  
OTEKON 2016 - 8.Otomotiv Teknolojileri Kongresi, Turkey, 23 - 24 May 2016
- XVI. **Araç Yan Çarpışma Enerji Sönümleyicilerin Optimum Tasarımı: Kapı Darbe Sönümleyici Tasarımı ve Analizi**  
Yıldızhan M., Efendioğlu B., ÖZTÜRK İ., ALBAK E. İ., KAYA N., ÖZTÜRK F.  
7. Otomotiv Teknolojileri Kongresi – OTEKON 2014, Bursa, Turkey, 26 May 2014 - 27 May 2016
- XVII. **FORMULA SAE ARACI KOMPOZİT EMME MANİFOLDU ÜRETİMİ**  
Durgun İ., Albak E. İ., Ünsal E., Karamangil M. İ., Sevilgen G., Kuş A., Solmaz E., Öztürk F.  
ULUSLAR ARASI KATILIMLI III. EGE KOMPOZİT MALZEMELER SEMPOZYUMU, İzmir, Turkey, 5 - 07 November 2015, pp.214-221
- XVIII. **Optimum design of vehicle parts using simulation based approaches and approximation techniques**  
ÖZTÜRK İ., ALBAK E. İ., YILDIZHAN M., EFENDİOĞLU B., SOLMAZ E., KAYA N., ÖZTÜRK F.  
International Symposium on Engineering, Artificial Intelligence Applications, Girne, Cyprus (Kkct), 4 - 06 November 2015, pp.60-61
- XIX. **Araç Yol Tutuş Ve Konfor Özelliklerinin Model Tabanlı Analizi Ve Optimizasyonu**  
PİR F., ALBAK E. İ., KAYA N., ÖZTÜRK F., korkmaz İ.  
7.Otomotiv Teknolojileri Kongresi, Turkey, 26 - 27 May 2014
- XX. **Araç Konfor Özelliklerinin Testler ve Sayısal Model İle Analizi**  
PİR F., ALBAK E. İ., KAREN İ., KAYA N., ÖZTÜRK F., Korkmaz İ.  
7. Otomotiv Teknolojileri Kongresi – OTEKON 2014, Bursa, Turkey, 26 - 27 May 2014
- XXI. **Uludağ Racing Takımı Formula SAE Aracı Araç Dinamiği Simülasyonları**  
ALBAK E. İ., KARAMANGİL M. İ., SEVİLGEN G., KAYA N., KUŞ A., YİĞİT A., ÖZTÜRK F.  
Uludağ Üniversitesi Bilgilendirme ve AR-GE Günleri, Turkey, 12 - 13 November 2013

## Supported Projects

Sevilgen G., Kılıç M., Etemoğlu A. B., Karpat F., Kaya N., Sürmen A., Karamangil M. İ., Kuş A., Çavdur F., Cindoruk S. S., et al,

TUBITAK Project, TÜBİTAK 1004 (Mükemmeliyet Merkezi Destek Programı) Elektrikli Taşıtlar İçin Batarya Teknolojileri Araştırma ve Geliştirme Platformu (BATEG), 2022 - 2026  
ALBAK E. İ., Project Supported by Higher Education Institutions, İnce cidarlı çok hücreli yapıların çarpışma dayanımlarının incelenmesi ve optimizasyonu, 2021 - 2023  
Öztürk F., Kaya N., Albak E. İ., TUBITAK Project, Araç Süspansiyon Konforu Değerlendirme Sistemi , 2016 - 2019  
Öztürk F., Kaya N., Albak E. İ., TUBITAK Project, Yeni Arka Süspansiyon Sisteminin Banko Seviyesinde Yol Sinyali ile Yorulması, 2015 - 2016  
Öztürk F., Kaya N., Albak E. İ., Öztürk İ., TUBITAK Project, İç trim parçalarında kullanılan çarpışma sönmüleyicilerin parametrik optimizasyonu, 2015 - 2015

## Scientific Refereeing

International Journal of Automotive Science and Technology, Other Journals, May 2021  
ÇANAKKALE ONSEKİZ MART ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ DERGİSİ, National Scientific Refreed Journal, March 2021  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, December 2020  
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, SCI Journal, November 2020  
International Journal of Automotive Science and Technology, Other Journals, October 2020  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, September 2020  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, September 2020  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, August 2020  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, June 2020  
STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION, SCI Journal, May 2020  
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, SCI Journal, March 2020  
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, SCI Journal, January 2020

## Metrics

Publication: 50  
Citation (WoS): 244  
Citation (Scopus): 274  
H-Index (WoS): 8  
H-Index (Scopus): 8

## Non Academic Experience

Other, Bursa Uludağ University, Otomotiv Mühendisliği  
Other, Bursa Uludağ University  
DTA Mühendislik