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### Eğitim Bilgileri

Doktora, Brown University, Biyomedikal Mühendisliği, Amerika Birleşik Devletleri 2006 - 2011

Yüksek Lisans, Purdue University, Malzeme Mühendisliği, Amerika Birleşik Devletleri 2003 - 2005

Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, Türkiye 1998 - 2003

### Yabancı Diller

İngilizce, C1 İleri

### Yaptığı Tezler

Doktora, Anodized nanotubular titanium as an orthopedic implant and the effect of electrical stimulation, Brown University, Biyomedikal Mühendisliği, 2011

Yüksek Lisans, Stress relaxation and thermal conductivity of heat treated stand-alone hollow sphere plasma-sprayed 7.5 wt% Y2O3-ZrO2 thermal barrier coatings, Purdue University, Malzeme Mühendisliği, 2005

### Araştırma Alanları

Metalurji ve Malzeme Mühendisliği, Malzeme Bilimi ve Mühendisliği, Biyomalzemeler, Mühendislik ve Teknoloji

### Akademik Unvanlar / Görevler

Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2020 - Devam Ediyor

Dr. Öğr. Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2018 -

2020

Yrd. Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2016 - 2018

## Akademik İdari Deneyim

Fakülte Kurulu Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2021 - Devam Ediyor

Rektörlük Akademik Teşvik Değerlendirme Komisyonu Üyesi, Orta Doğu Teknik Üniversitesi, Rektörlük, 2019 - Devam Ediyor

Birim Stratejik Plan Komisyonu Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2018 - Devam Ediyor

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Biyomalzeme Ve Doku Mühendisliği Araştırma Ve Uygulama Merkezi, 2018 - Devam Ediyor

Erasmus Koordinatörü, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2018 - Devam Ediyor

Bölüm Başkan Yardımcısı, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2018 - 2022

Rektörlüğe Bağlı Komisyon Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, 2020 - 2020

## Verdiği Dersler

MATERIALS ENGINEERING DESIGN II, Lisans, 2022 - 2023, 2021 - 2022

INTRODUCTION TO METALLURGICAL AND MATERIALS ENGINEERING, Lisans, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020

POLYMER MATERIALS, Lisans, 2023 - 2024, 2022 - 2023

CHEMICAL PRINCIPLES OF PRIMARY MATERIALS PROCESSING, Lisans, 2021 - 2022, 2020 - 2021, 2019 - 2020

FOUNDATIONS OF ENGINEERING MATERIALS, Yüksek Lisans, 2022 - 2023, 2021 - 2022, 2020 - 2021

BIOMATERIALS, Lisans, 2022 - 2023, 2021 - 2022, 2020 - 2021

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CHEMICAL METALLURGY 1, Lisans, 2018 - 2019, 2017 - 2018, 2016 - 2017

SPECIAL TOPICS BIOMATERIALS, Lisans, 2019 - 2020, 2018 - 2019, 2017 - 2018

## Yönetilen Tezler

Ercan B., Stent Uygulamaları için 316L Paslanmaz Çeliğin Anodizasyonu ve in vitro Testleri, Doktora, Y.Kemal(Öğrenci), Devam Ediyor

Ercan B., DOKU MÜHENDİSLİĞİ UYGULAMALARI İÇİN İPEK PROTEİNİ SERİSİN BAZLI YAPI İSKELESİ SENTEZİ, Yüksek Lisans, A.Haliloğlu(Öğrenci), Devam Ediyor

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## Jüri Üyelikleri

Tez Savunma (Yüksek Lisans), Tez Savunma (Yüksek Lisans), Orta DoĐu Teknik Üniversitesi, Haziran, 2018

## Tasarladığı Dersler

AydoĐan Güngör E., Öztürk A., Ercan B., Kaynak C., Foundations of Engineering Materials, Yüksek Lisans, 2019 - 2020  
Ercan B., SPECIAL TOPICS BIOMATERIALS, Lisans, 2016 - 2017  
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## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Biocompatible Janus microparticle synthesis in a microfluidic device**  
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- II. **Microstructure, mechanical properties, and bone cell interactions of ZTA composites reinforced with BN**  
Buyuker G. A., TUFAN Y., Kayan G. O., ERCAN B., Akın Karadayı İ., Göller G.  
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- III. **An Edible Supercapacitor Based on Zwitterionic Soy Sauce-Based Gel Electrolyte**  
DURUKAN M. B., Keskin D., TUFAN Y., Dincer O., ÇİÇEK M. Ö., YILDIZ B., ÇINAR AYGÜN S., ERCAN B., ÜNALAN H. E.  
ADVANCED FUNCTIONAL MATERIALS, cilt.34, sa.6, 2024 (SCI-Expanded)
- IV. **Synergistic effect of nanostructured topography and CNF incorporation into silk fibroin films enhances mouse neuroblastoma cell functions**  
MİMİROĐLU D., TUFAN Y., YANIK T., ERCAN B.  
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- V. **Morphology of Nanostructured Tantalum Oxide Controls Stem Cell Differentiation and Improves Corrosion Behavior**  
Erdogan Y. K., Uslu E., Aydinol M. K., Saglam A. S. Y., Odabas S., Ercan B.  
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- VI. **Synthesis of Anisotropic Magnetic Polymeric Janus Particles by In Situ Separation of Magnetic Nanoparticles in a Microfluidic Device**  
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- VII. **Antibacterial properties and osteoblast interactions of microfluidically synthesized chitosan – SPION composite nanoparticles**

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- VIII. **Selenite-Incorporated Amorphous Calcium-Magnesium Carbonate Nanoparticles Reduce Bacterial Growth**  
Göçtü Y., Oral C. M., ERCAN B.  
ACS Applied Nano Materials, cilt.6, sa.18, ss.16286-16296, 2023 (SCI-Expanded)
- IX. **Multifunctional Silk Fibroin/Carbon Nanofiber Scaffolds for In Vitro Cardiomyogenic Differentiation of Induced Pluripotent Stem Cells and Energy Harvesting from Simulated Cardiac Motion**  
Tufan Y., Öztatlı H., Doğanay D., Büyüksungur A., Çiçek M. Ö., Döş I. T., Berberoğlu Ç., Ünal H. E., Garıpcan B., Ercan B.  
ACS Applied Materials and Interfaces, cilt.15, sa.36, ss.42271-42283, 2023 (SCI-Expanded)
- X. **3D Printing of Extracellular Matrix-Based Multicomponent, All-Natural, Highly Elastic, and Functional Materials toward Vascular Tissue Engineering**  
Isik M., Karakaya E., Arslan T. S., Atila D., Erdogan Y. K., Arslan Y. E., Eskizengin H., Ercan B., Nemutlu E., Eylem C. C., et al.  
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- XI. **Fabrication and in vitro characterization of antibacterial magneto-luminescent core-shell bioactive glass nanoparticles**  
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- XII. **Fabrication and biological properties of magnetic bioactive glass nanoparticles**  
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CERAMICS INTERNATIONAL, cilt.49, sa.8, ss.12925-12933, 2023 (SCI-Expanded)
- XIII. **Anodized Nanostructured 316L Stainless Steel Enhances Osteoblast Functions and Exhibits Anti-Fouling Properties**  
ERDOĞAN Y. K., ERCAN B.  
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- XIV. **Impregnation of polyethylene terephthalate (PET) grafts with BMP-2 loaded functional nanoparticles for reconstruction of anterior cruciate ligament**  
Karahaliloglu Z., ERCAN B., HAZER B.  
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- XV. **Decellularized Bone Extracellular Matrix-Coated Electrospun PBAT Microfibrous Membranes with Cell Instructive Ability and Improved Bone Tissue Forming Capacity**  
Karakaya E., Erdoğan Y. K., Arslan T. S., Arslan Y. E., Odabaş S., Ercan B., Emregül E., Derkuş B.  
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- XVI. **Enhanced bioactivity and low temperature degradation resistance of yttria stabilized zirconia/clay composites for dental applications**  
Tufan Y., Park J., Öztürk A., Ercan B.  
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- XVII. **THE SURFACE MODIFICATION OF 316L STAINLESS STEEL AND IN VITRO TESTS FOR CARDIOVASCULAR STENT APPLICATION**  
ERDOĞAN Y. K., ERCAN B.  
TISSUE ENGINEERING PART A, cilt.28, 2022 (SCI-Expanded)
- XVIII. **ELECTRICALLY CONDUCTIVE BIODEGRADABLE SILK FIBROIN/CARBON NANOFIBER SCAFFOLDS FOR CARDIAC TISSUE ENGINEERING**  
TUFAN Y., Oztatli H., GARİPCAN B., ERCAN B.  
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- XIX. **Microfluidic Methods in Janus Particle Synthesis**  
Saqib M., Tran P. A., ERCAN B., ERDEM E. Y.  
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- XX. **Nanophase surface arrays on poly (lactic-co-glycolic acid) upregulate neural cell functions**

Mimiroğlu D., Yanık T., Ercan B.

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- XXI. **Nanostructured modifications of titanium surfaces improve vascular regenerative properties of exosomes derived from mesenchymal stem cells: Preliminary in vitro results**  
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- XXII. **Development of electrically conductive porous silk fibroin/carbon nanofiber scaffolds**  
Tufan Y., Öztatlı H., Garipcan B., Ercan B.  
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- XXIII. **Osteogenic Properties of 3D-Printed Silica-Carbon-Calcite Composite Scaffolds: Novel Approach for Personalized Bone Tissue Regeneration**  
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- XXIV. **Calcium carbonate polymorph dictates in vitro osteoblast proliferation**  
Oral C. M., ERCAN B., KAPUSUZ D.  
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- XXV. **Fabrication and cellular interactions of nanoporous tantalum oxide**  
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Journal of Biomedical Materials Research - Part B Applied Biomaterials, cilt.108, sa.7, ss.2743-2753, 2020 (SCI-Expanded)
- XXVI. **Facile control of hydroxyapatite particle morphology by utilization of calcium carbonate templates at room temperature**  
Oral Ç. M., Çalışkan A., Kapsuz D., ERCAN B.  
Ceramics International, cilt.46, sa.13, ss.21319-21327, 2020 (SCI-Expanded)
- XXVII. **Mineral-Doped Poly(L-lactide) Acid Scaffolds Enriched with Exosomes Improve Osteogenic Commitment of Human Adipose-Derived Mesenchymal Stem Cells**  
Gandolfi M. G., Gardin C., Zamparini F., Ferroni L., Esposti M. D., Parchi G., ERCAN B., Manzoli L., Fava F., Fabbri P., et al.  
NANOMATERIALS, cilt.10, sa.3, 2020 (SCI-Expanded)
- XXVIII. **Synthesis of calcium carbonate microspheres via inert gas bubbling for orthopedic applications**  
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- XXIX. **Comprehensive Evaluation of the Biological Properties of Surface-Modified Titanium Alloy Implants**  
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- XXX. **Efficient fabrication of ultrafine-grained 316L stainless steel surfaces for orthopaedic applications**  
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- XXXI. **Ti6Al4V foams having nanotubular surfaces for orthopaedic applications**  
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- XXXII. **Fabrication of micropit structures on Ti6Al4V alloy using fluoride-free anodization for orthopedic applications**  
Izmir M., ERCAN B.  
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- XXXIII. **Anodization of titanium alloys for orthopedic applications**  
Izmir M., Ercan B.  
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- XXXIV. **Interaction of anodized Ti6Al7Nb with simulated body fluid**  
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- XXXVI. **Addition of Selenium Nanoparticles to Electrospun Silk Scaffold Improves the Mammalian Cell Activity While Reducing Bacterial Growth**  
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- XXXVII. **Antimicrobial performance of mesoporous titania thin films: role of pore size, hydrophobicity, and antibiotic release**  
Atefyekta S., Ercan B., Karlsson J., Taylor E., Chung S., Webster T. J., Andersson M.  
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- XXXVIII. **Understanding the Role of Polymer Surface Nanoscale Topography on Inhibiting Bacteria Adhesion and Growth**  
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- XXXIX. **Antibacterial Nanostructured Polyhydroxybutyrate Membranes for Guided Bone Regeneration**  
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- XL. **Adding MgO nanoparticles to hydroxyapatite-PLLA nanocomposites for improved bone tissue engineering applications**  
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- XLV. **Effects of different sterilization techniques and varying anodized TiO<sub>2</sub> nanotube dimensions on bacteria growth**  
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- XLVI. **Using mathematical models to understand the effect of nanoscale roughness on protein adsorption for improving medical devices**  
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- LIII. **The effect of biphasic electrical stimulation on osteoblast function at anodized nanotubular titanium surfaces**  
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- VIII. **Enhanced cellular functions on nanophase tantalum oxide surfaces**  
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- X. **Synthesis of magnetic bioactive glass**  
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- XX. **Enhanced Stability of Hollow Calcium Carbonate Microspheres via Polymorphic Control for Orthopedic Applications**  
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- XXI. **Development of Silk Fibroin/CNF Scaffolds for Cardiac Patch Applications**  
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- XLIII. MgO Nanoparticles Enhance Osteoblast Functions on Hydroxyapatite Nanocomposites for Antibacterial Orthopedic Tissue Engineering Applications**  
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- XLIV. Enhanced Attachment and Proliferation of Fibroblasts on Anodized 316L Stainless Steel with Nanopit Arrays**  
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- XLV. Antibacterial Polyhydroxybutyrate (PHB) Membranes for Guided Bone Regeneration**  
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- LIII. Using Magnesium Oxide Nanoparticles to Improve Inhomogeneous Soft and Hard Tissue Growth**  
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- LIV. Reduced Adhesion of Macrophages On Nanotubular PDMS Molds for Catheter Applications**  
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## **Desteklenen Projeler**

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## Metrikler

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Atıf (WoS): 1520

Atıf (Scopus): 2007

H-İndeks (WoS): 21

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## Akademi Dışı Deneyim

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