Dr. Öğr. Üyesi BERZAH YAVUZYEĞİT

Kişisel Bilgiler

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Publons / Web Of Science ResearcherID: KEH-5769-2024
ScopusID: 57845759600

Eğitim Bilgileri

Post Doktora, University of Portsmouth, Faculty of Science and Health, School of Pharmacy and Biomedical Sciences, İngiltere 2022 - 2024
Doktora, The University of Manchester, Faculty of Science and Engineering, School of Materials, İngiltere 2018 - 2023
Yüksek Lisans, The University of Manchester, Faculty of Science and Engineering, School of Materials, İngiltere 2017 - 2018
Lisans, Kocaeli Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği, Türkiye 2010 - 2014

Biyografi

Berzah Yavuzyegit is a materials scientist specializing in the mechanical behaviour of a diverse range of materials, encompassing both metals and non-metallic substances. With expertise in various mechanical tests such as tensile and bending, advanced electron microscopy techniques, and the design of testing rigs, he delves into the microstructures and deformation mechanisms of materials under different conditions, including corrosive environments and varying temperatures. Proficient in programming with Python and Matlab, Yavuzyegit excels in advanced techniques such as X-ray Computed Tomography for 3D material characterization and electron microscopy, including SE, BSE, and EBSD, for detailed analysis. Holding a Ph.D. in Mechanics of Materials from the University of Manchester, his research focused on comprehending the deformation mechanisms of magnesium alloys. Beyond research, Yavuzyegit has practical experience in biomaterials, specifically exploring the mechanical and corrosion behaviour of biodegradable magnesium implants.

Research Interest

My current focus is on biomaterials, specifically studying microscale deformation mechanisms. Utilizing my expertise in mechanical tests, advanced electron microscopy, and testing rig design, I'm investigating the fatigue behavior of metals, with a particular emphasis on biomaterials. Drawing from my experience in exploring the mechanical and corrosion behavior of biodegradable magnesium implants, my ongoing work aims to provide insights into the fatigue dynamics of metallic biomaterials, contributing to a deeper understanding of material behavior in practical applications.

For more information, please visit my website: https://www.berzahyavuzyegit.com/

Yaptığı Tezler

Doktora, Investigation of the Deformation Mechanisms of Magnesium Alloys at Room Temperature and Elevated Temperature, The University of Manchester, Faculty of Science and Engineering, School of Materials, 2023
Yüksek Lisans, Investigation of Kink Bands Formation under Compression in Carbon Fibre Reinforced Composites, The University of Manchester, Faculty of Science and Engineering, School of Materials, 2018

Araştırma Alanları

Mekanik, Metalurji ve Malzeme Mühendisliği, Malzeme Bilimi ve Mühendisliği, Mekanik Özellikler, Kompozitler, Biyomalzemeler, Fiziksel Metalurji, Malzeme Karakterizasyonu, Mekanik Metalurji, Metalik Malzemeler, Yüzey Bitirme İşlemleri, Mühendislik ve Teknoloji

Akademik Unvanlar / Görevler

Dr. Öğr. Üyesi, Recep Tayyip Erdoğan Üniversitesi, Mühendislik ve Mimarlık Fakültesi, Makine Mühendisliği, 2023 - Devam Ediyor
Araştırmacı, University of Portsmouth, 2022 - 2024

Verdiği Dersler

Metallerin Yüksek Sıcaklıktaki Deformasyonu ve Süperplastisite, Yüksek Lisans, 2023 - 2024
Mühendislik Uygulamaları için İleri Python Programlama, Yüksek Lisans, 2024 - 2025

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **Sporopollenin Capsules as Biomimetic Templates for the Synthesis of Hydroxyapatite and β-TCP**
De Mori A., Quizon D., Dalton H., Yavuzyegit B., Cerri G., Antonijevic M., Roldo M.
BIOMIMETICS, cilt.9, sa.3, 2024 (SCI-Expanded)
II. **Mapping plastic deformation mechanisms in AZ31 magnesium alloy at the nanoscale**
Yavuzyegit B., AVCU E., Smith A. D., Donoghue J. M., Lunt D., Robson J. D., Burnett T. L., da Fonseca J. Q., Withers P. J.
Acta Materialia, cilt.250, 2023 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

I. **Evaluation of Corrosion Performance of AZ31 Mg Alloy in Physiological and Highly Corrosive Solutions**
Yavuzyegit B., Karali A., De Mori A., Smith N., Usov S., Shashkov P., Bonithon R., Blunn G.
ACS Applied Bio Materials, cilt.7, sa.3, ss.1735-1747, 2024 (ESCI)
II. **Effect of micro blasting process parameters on 3D surface topography and surface properties of**

zirconia (Y-TZP) ceramics
Yetik O., Yavuzyegit B., YILDIRAN AVCU Y., Koçoğlu H., Pekkan G., Sarıdağ S., Guney M., AVCU E.
Engineering Reports, cilt.3, sa.7, 2021 (ESCI)

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

I. **EFFECTS OF STANDOFF DISTANCE AND PROCESSING DURATION PARAMETERS ON PRIMARY DEFORMATION ZONE IN WATER JET PEENING OF Ti6Al4V ALLOY**
Armağan M., Çalım E., Yavuzyeğit B., Yildiran Avcu Y., Abakay E., Avcu E.
8. Asia Pacific International Modern Sciences Congress, New Delhi, Hindistan, 11 - 12 Eylül 2023

II. **Enhanced Corrosion Resistance of the AZ31 Magnesium Alloy with Electrochemical Oxidised (ECO) Ceramic Coatings**
Yavuzyeğit B., Karali K., Denori A., Bonithon R., Smith N., Shashkov P., Blunn G.
33rd Annual Conference of the European Society for Biomaterials , Chur, İsviçre, 4 Eylül - 08 Kasım 2023

III. **Grain Scale Strain Mapping of Deformation in Mg Alloys at Room and Elevated Temperatures by High Resolution Digital Image Correlation**
Withers P., Yavuzyeğit B., Fonseca J., Smith A., Donoghue J., Lunt D., Robson J., Burnett T.
17th International Conference on Advances in Experimental Mechanics, Glasgow, İngiltere, 30 Ağustos - 01 Eylül 2023

IV. **Corrosion Behaviour of a Coated AZ31 Mg Alloy under Static and Cyclic Loading in Four Point Bending Tests**
Yavuzyeğit B., Karali K., Bonithon R., Smith N., Shashkov P., Blunn G.
17th International Conference on Advances in Experimental Mechanics, Glasgow, İngiltere, 30 Ağustos - 01 Kasım 2023

V. **An in situ study of deformation mechanisms in AZ31 and WE43 Mg alloy at elevated temperatures**
Yavuzyeğit B., Avcu E., Smith A., Donoghue J., Lunt D., Robson J., Burnett T., Da Fonseca J., Withers P.
International Conference on Strength of Materials, Metz, Fransa, 26 Haziran - 01 Temmuz 2022

VI. **An in-situ study of grain boundary migration and sliding in AZ31 magnesium at elevated temperatures**
Yavuzyeğit B., Avcu E., Smith A., Donoghue J., Lunt D., Robson J., Burnett T., Da Fonseca J., Withers P.
Junior Euromat 2022, Coimbra, Portekiz, 19 - 22 Temmuz 2022

VII. **Fully automated small-scale thermomechanical testing in-situ within an SEM for increased temporal resolution**
Smith A., Donoghue J., Candeas A., Martinez F., Lunt D., Yavuzyeğit B., Withers P., Preuss M.
18th European Mechanics of Materials Conference , Oxford, İngiltere, 4 - 06 Nisan 2022

VIII. **Creep Deformation Mechanisms of AZ31 Magnesium Alloys at Room Temperature by High Resolution Digital Image Correlation**
Yavuzyeğit B., Avcu E., Donoghue J., Smith A., Lunt D., Robson J., Burnett T., Withers P.
14th International Conference on Advances in Experimental Mechanics, Belfast, İngiltere, 10 - 12 Eylül 2019

IX. **Creep Deformation Mechanisms of AZ31 Magnesium Alloys at Room Temperature by High Resolution Digital Image Correlation**
Yavuzyeğit B., Withers P., Burnett T.
PG Conference 2019, Manchester, İngiltere, 09 Mayıs 2019 - 10 Mayıs 2020

X. **Investigation of Kink Bands Formation under Compression Stress in Carbon Fibre Reinforced Composites, PGR Conference**
Yavuzyeğit B., Withers P.
PG Conference 2017, Manchester, İngiltere, 17 - 18 Mayıs 2018

XI. **The effects of erodent size and acceleration pressure on the surface topography in the micro sandblasting process of Ti6Al4V alloy**
Yetik O., Yildiran Avcu Y., Yavuzyeğit B., Avcu E.

16th International Materials Symposium , Denizli, Türkiye, 12 - 14 Ekim 2016

XII. **The effects of acceleration pressure and particle impingement angle on the 3D surface topography and the surface properties in the preparation process of monolithic zirconias with micro sand blasting**
Yetik O., Yavuzyeğit B., Yildiran Avcu Y., Pekkan G., Saridağ S., Avcu E.
16th International Materials Symposium , Denizli, Türkiye, 12 - 14 Ekim 2016

XIII. **The effects of shot peening parameters on the surface roughness of the Ti6Al4V alloy**
Yildiran Avcu Y., Yetik O., Yavuzyeğit B., Avcu E.
16th International Materials Symposium, Denizli, Türkiye, 12 - 14 Ekim 2016

XIV. **The effects of erodent particle size and acceleration pressure on the 3d surface topography and the surface properties in the preparation process of conventional Zirconias with micro sand blasting**
Yavuzyeğit B., Yetik O., Yildiran Avcu Y., Pekkan G., Saridağ S., Avcu E.
16. international materials symposium, Denizli, Türkiye, 12 - 14 Ekim 2016

Bilimsel Hakemlikler

INTERNATIONAL JOURNAL OF PLASTICITY, SCI Kapsamındaki Dergi, Haziran 2024

Metrikler

Yayın: 18
Atıf (Scopus): 18
H-İndeks (Scopus): 2