Asst. Prof. OĞUZ ERYILMAZ

Personal Information

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International Researcher IDs
ScholarID: 2f0jU6UAAAAJ
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Publons / Web Of Science ResearcherID: AAL-3645-2020
ScopusID: 57200293992
Yoksis Researcher ID: 222217

Biography

Dr. Oğuz ERYILMAZ is a research associate at Marmara University, Department of Textile Engineering in Istanbul, Turkey. He was a guest research associate at RWTH Aachen University in ITA (Institut für Textiltechnik) from 2019 to 2022. His main research area is Textile-Reinforced Composites and his specific research fields are:

Radial Braiding and Automated Fiber Placement (AFP) Technology for Composite Structures

Composite Pressure Vessel Manufacturing Process for Hydrogen Storage Systems

Thermoset and Thermoplastic Composite Structures Used in Aircraft and Space

Natural Fiber Composite Application for Sustainable Transportation

His hobbies are mostly related to aviation. He has been one of the CTO's of Rocket Teams at Marmara University for 3 years. He has been making static model aircraft for 7 years. He is especially interested in commercial aircraft and fighter jet. Currently, there are 5 large body, 7 narrow-body, 7 fighter jets and 1 piston engine in his collection. He frequently visits aviation museums (Technik Museum Sinsheim, Dornier Museum Friedrichshafen, BMW Welt Museum, Turkish Air Force Museum Istanbul, etc.). Also, he enjoys watching Formula series and investigating composite technology (e.g. flexi-rear wing and aeroelasticity of composites) for F1 cars.

Education Information

Undergraduate, Istanbul University, Open And Dıstance Educatıon Faculty, YÖNETİM BİLİŞİM SİSTEMLERİ, Turkey 2022 - Continues
Undergraduate, Pamukkale University, Faculty Of Engıneerıng, Department Of Mechanıcal Engıneerıng, Turkey 2013 - Continues
Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department ofTextile Engineering, Turkey 2017 - 2022
Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department ofTextile Engineering, Turkey 2016 - 2017
Undergraduate, Bursa Uludağ University, Faculty of Engineering, Department of Textile Engineering, Turkey 2007 - 2011

Foreign Languages

English, C1 Advanced
German, B1 Intermediate

Certificates, Courses and Trainings

Vocational Training, ANSYS PrepPost (ACP) for Modelling and Analyzing Composite, ANSYS, 2020
Vocational Training, Basic Principle of KUKA Robotic KR-C2 and KR-C4 Working and Programming , ITA RWTH Aachen University, 2019
Vocational Training, ABAQUS for Adhesive and Composite Joints, ABAQUS, 2019
Vocational Training, ANSYS Workbench, ANSYS, 2018
Vocational Training, MATLAB&Simulink, UDEMY, 2018
Personal Evolution, Succesfully Accomplished All Exam Stages (DLR-1, HR, CRM, SHT-MED) of Turkish Airlines for First Officer Nominee to be Trained , Turkish Airlines, 2018
Foreign Language, IELTS, IDP IELTS Turkey, 2017
Vocational Training, SolidWorks, SolidWorks Turkey, 2017
Vocational Training, Instron 4411 Tensile Strength Tester, ITW Test ve Ölçüm Hizmetleri San. ve Tic. Ltd. Şti., 2016
Science and Technology Policy, Aviation Quality System and Certification Training, Istanbul Development Agency, 2015
Foreign Language, German Language In Line With The European Language Portfolio, American Cultural Association, 2012
Finance, E-Foreign Trade Specialist Education, Yorktrade Foreign Trade Institute, 2008

Dissertations

Doctorate, High Pressure/Fuel Vessel Reinforced with Carbon Fiber Composite Design and Production for Aerospace Applications, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department ofTextile Engineering, 2022
Postgraduate, Development of the Mechanical Properties of Composite Structures Reinforced with Carbon Fiber, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department ofTextile Engineering, 2017

Research Areas

Pressure Vessels and Piping, Finite Element Methods, Textile Materials, Textile Physics, Textile Machinery, Technical Textiles, Composites, Aeroelasticity

Academic Titles / Tasks

Research Assistant PhD, Marmara University, Faculty of Technology, Textile Engineering, 2014 - Continues
Research Assistant, Rheinisch-Westfaelische Technische Hochschule Aachen, Faculty of Mechanical Engineering, Institute of Textile Technology, Institut für Textiltechnik (ITA), 2019 - 2022

Courses

Undergraduate
Bitirme Projesi, Undergraduate, 2023 - 2024
Numerical Analysis, Undergraduate, 2023 - 2024, 2022 - 2023
Topluma Hizmet Uygulamaları, Undergraduate, 2023 - 2024

Supervised Theses

Yıldız Z., Eryılmaz O., Thermal and Morphological Characterization of Polyacrylonitrile Tov Precursors for Stabilization Reaction Progression in Carbon Fiber Production, Postgraduate, G.İnce(Student), 2024

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Revalorization of cellulosic fiber extracted from the waste stem of Brassica oleracea var. botrytis L. (cauliflower) by characterizing for potential composite applications**
ERYILMAZ O.
International Journal of Biological Macromolecules, vol.266, 2024 (SCI-Expanded)

II. **Micro drilling characterization of the carbon and carbon-aramid (hybrid) composites**
Şen M., Eryılmaz O., Bakır B.
POLYMER COMPOSITES, vol.45, pp.5449-5459, 2024 (SCI-Expanded)

III. **Sustainable fabric printing by using pre-consumed cellulosic textile wastes: The effect of waste particle content**
YILDIZ Z., KARTAL İ., KOÇAK E. D., Ozer B., Kus B. N., ERYILMAZ O.
Journal of Cleaner Production, vol.448, 2024 (SCI-Expanded)

IV. **Exploring the potential of sustainable natural cellulosic fiber from Sorghumbicolor (Sorghumvulgare var. technicus) stem for textile and composite applications**
Ovalı S., ERYILMAZ O., Uyanık S.
Cellulose, vol.31, no.5, pp.3289-3302, 2024 (SCI-Expanded)

V. **FEA and experimental ultimate burst pressure analysis of type IV composite pressure vessels manufactured by robot-assisted radial braiding technique**
ERYILMAZ O., Oz M. E., Jois K. C., Sackmann J., Gries T.
International Journal of Hydrogen Energy, vol.50, pp.597-612, 2024 (SCI-Expanded)

VI. **Multi-objective Process Optimization of Micro-drilling Parameters on Carbon and Carbon–Aramid (Hybrid) Fabric Composites**
ŞEN M., ERYILMAZ O., BAKIR B.
Arabian Journal for Science and Engineering, 2024 (SCI-Expanded)

VII. **Effect of silane coupling treatments on mechanical properties of epoxy based high-strength carbon fiber regular (2 x 2) braided fabric composites**
ERYILMAZ O., SANCAK E.
POLYMER COMPOSITES, vol.42, no.12, pp.6455-6466, 2021 (SCI-Expanded)

VIII. **Evaluation of the interaction between proliferation, oxidant-antioxidant status, Wnt pathway, and apoptosis in zebrafish embryos exposed to silver nanoparticles used in textile industry**
Eryılmaz O., Ates P. S., Unal I., Ustundag U. V., Bay S., Alturfan A. A., Yiğitbaşı T., Emekli-Alturfan E. I., Akalin M.
JOURNAL OF BIOCHEMICAL AND MOLECULAR TOXICOLOGY, vol.32, 2018 (SCI-Expanded)

Articles Published in Other Journals

I. **INVESTIGATION AND ANALYSIS OF NEW FIBER FROM ALLIUM FISTULOSUM L. (SCALLION) PLANT'S TASSEL AND ITS SUITABILITY FOR FIBER-REINFORCED COMPOSITES**
ERYILMAZ O., OVALI S.
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.29, no.1, pp.51-66, 2024 (Peer-Reviewed Journal)

II. **Physical and Chemical Properties of a New Cellulose Fiber Extracted from the Mentha pulegium L. (Pennyroyal) Plant's Stem**
Ovali S., ERYILMAZ O.
Çukurova Üniversitesi Mühendislik Fakültesi dergisi, vol.39, no.1, pp.211-220, 2024 (Peer-Reviewed Journal)

III. **Investigation of the Water–Based Ink Hold onto the Thermoplastic Composites Reinforced with Sisal Fibers**
ERYILMAZ O., SÖNMEZ S., OVALI S., kumar j.
Journal of Textile Science Fashion Technology, vol.5, no.3, 2020 (Peer-Reviewed Journal)

Books

I. **Preimpregnated natural fiber preforms**
Yildiz Z., Eryilmaz O.
in: Multiscale Textile Preforms and Structures for Natural Fiber Composites, Mohamad Midani,Tamer Hamouda,Ahmed H. Hassanin,Abdel-Fattah M. Seyam, Editor, Elsevier Science, Oxford/Amsterdam , New York, pp.327-340, 2023

II. **Braided natural fiber preforms**
Eryilmaz O., Sancak E.
in: Multiscale Textile Preforms and Structures for Natural Fiber Composites, Mohamad Midani,Ahmed H. Hassanin,Tamer Hamouda,Abdel-Fattah M. Seyam, Editor, Elsevier Science, Oxford/Amsterdam , New York, pp.221-237, 2023

III. **Chapter 12: Preimpregnated Natural Fiber Preforms**
YILDIZ Z., ERYILMAZ O.
in: Multiscale Textile Preforms and Structures for Natural Fiber Composites, Mohamad Midani, Tamer Hamouda, Ahmet H. Hassanin, Abdal-Fattah M. Seyam, Editor, Woodhead Publishing, Elsevier, pp.327-340, 2023

Papers Published in Refereed Scientific Meetings

I. **Aeroelastic analysis of the composite wing reinforced with carbon fiber**
Eryılmaz O., Öz M. E.
ÇANKAYA INTERNATIONAL CONGRESS ON SCIENTIFIC RESEARCH, Ankara, Turkey, 10 - 12 April 2023, pp.1217-1228

II. **Inline contactless optical measuring of glass fiber properties and retrofitting an adaptive cooling system for glass fiber production**
Eberhardt B., Akdere M., Doğan B., Eryılmaz O.
Aachen Reinforced, Aachen, Germany, 17 - 19 October 2022, pp.1-2

III. **Investigation of Spacer Fabric as Vibration Reduction Material in Rocket Avionic Systems by Using Finite Element Method**
Öz M. E., Yıldırım Y. E., Eryılmaz O.
8. International Fiber and Polymer Research Symposium (8. ULPAS), Eskişehir, Turkey, 18 - 19 June 2021, pp.1-2

IV. **Investigation of Thermal Characteristics of the Polyurethane Composites Reinforced with the Fibers Obtained from Agricultural Wastes**
Olcay H., Koçak E. D., Eryılmaz O.
ICNF 2021 - 5th International Conference on Natural Fibers, Lisbon, Portugal, 17 - 19 May 2021, pp.193-195

V. **Insulation of Parachute Mechanism of Glass Fiber Reinforced Composite Rocket Body Produced by Filament Winding Method with FR Fabrics**
Eryılmaz O., Yıldırım Y. E., Demir E., Öz M. E.
Uşak Üniversitesi TTO 1.Ar-Ge ve Tasarım Proje Pazarı: UTTO, Uşak, Turkey, 14 - 16 October 2020, pp.1-19

VI. **Development of Bio-Composite Structures for Interior Noise Reduction in Automobiles**
Sancak E., Özen M. S., Yüksek M., Usta I., Atak O., Beyit A., Pars A., Eryilmaz O.
Aachen – Dresden – Denkendorf International Textile Conference, Aachen, Germany, 29 - 30 November 2018

VII. **Comparison of Mechanical Properties of Epoxy Composites Reinforced with Hybrid (Carbon-Aramid) and Carbon Woven Fabrics**

Eryilmaz O., Sancak E., Yüksek M.
Aachen – Dresden – Denkendorf International Textile Conference, Aachen, Germany, 29 - 30 November 2018

VIII. **An Investigation on Thermal Conductivity Properties of Epoxy Based Twill Fabrics Carbon Composites**
Eryilmaz O., Ovali S., Sancak E., Yüksek M., Akalin M.
8th International Textile Conference Evolution of Techinical Textiles, İstanbul, Turkey, 14 - 16 May 2018

IX. **An Investigation on Mechanical Properties of Epoxy Based Woven Fabrics Carbon Composites**
Eryilmaz O., Akalin M., Yüksek M., Sancak E.
14th Asian Textile Conference, Victoria-City, Hong Kong, 27 - 30 June 2017

X. **Mechanical and Electromagnetic Shielding Properties of Stainless Steel Yarn Reinforced Composites**
Sancak E., Usta I., Yüksek M., Uzun M., Eryilmaz O., Pars A., Ihlamur M.
14th Asian Textile Conference, Victoria-City, Hong Kong, 27 - 30 June 2017

XI. **An Investigation of the Mechanical Properties of the Composite Structures with Reinforced Carbon Fiber**
Eryilmaz O., Akalin M., Yüksek M., Sancak E.
10th Asian-Australasian Conference on Composite Materials (ACCM-10), Busan, South Korea, 16 - 19 October 2016

Supported Projects

Yıldız Z., Eryılmaz O., İnce G., Project Supported by Higher Education Institutions, Thermal and Morphological Characterization of Polyacrylonitrile (PAN) Tow Precursors for Stabilization Reaction Progression in Carbon Fiber Production, 2023 - 2024

Eryılmaz O., Okur B., Atik A. R., Koçak C. B., TUBITAK Project, Investigation of mechanical and sound absorption properties of thermoplastic composites made of fibers obtained from cauliflower stems using pumice stone and PLA, 2023 - 2024

Eryılmaz O., Kebabcıoğlu B. E., TUBITAK Project, Development of an Algorithm for Performance Analysis of Cylindrical Composite Structures with Machine Learning, 2023 - 2024

Eryılmaz O., Parlak E., TUBITAK Project, Production of Wool Fiber Reinforced Biocomposite with 3D Printing and Testing of Flammability Properties, 2023 - 2024

Eryılmaz O., Gezer M., TUBITAK Project, Structural health monitoring of the composite parts in minesweeping robot with wireless strain sensor, 2023 - 2024

Sancak E., Eryılmaz O., Yıldız Z., Doğan B., TÜBİTAK International Multi-Cooperation Project, Development of a production technology to reduce carbon fiber costs by using thermochemical pretreatment, 2022 - 2024

Doğan B., TUBITAK Project, Optimization and Model Based Control of Cooling System Used in Glass Fiber Manufacturing, 2021 - 2024

Eryılmaz O., Project Supported by Other Official Institutions, Analysis of the Fiber Lay-Up Behavior in the Dome Area of Braided Composite Pressure Vessels (CPV) Produced by Radial Braiding and Novel Multi Filament Winding (MFW) Methods, 2021 - 2022

Eryılmaz O., Öz M. E., TUBITAK Project, Using Spacer Fabric as a Method of Reducing Vibration in Rocket Electronics Systems, 2021 - 2022

Eryılmaz O., TUBITAK Project, Design, Production and Mechanical Properties of Carbon Fiber Reinforced Composite Pressure Vessel Produced by Radial Braiding and Braidtrusion Methods, 2020 - 2021

Eryılmaz O., Project Supported by Other Official Institutions, High Pressure/Fuel Vessel Reinforced with Carbon Fiber Composite Design and Production for Aerospace Applications, 2019 - 2020

Akalın M., Eryılmaz O., Project Supported by Higher Education Institutions, Development of Mechanical Properties of the Composites with Reinforced Carbon Fiber, 2016 - 2018

Memberships / Tasks in Scientific Organizations

Society for the Advancement of Material and Process Engineering (SAMPE), Member, 2021 - Continues, United States Of America

Scientific Consultations

BTSO ve BUTEKOM, Scientific Consultancy, Marmara University, Faculty of Technology, Textile Engineering, Turkey, 2023 - 2024

Metrics

Publication: 29
Citation (WoS): 10
Citation (Scopus): 13
H-Index (WoS): 2
H-Index (Scopus): 2

Scholarships

Analysis of the Fiber Lay-Up Behavior in the Dome Area of Braided Composite Pressure Vessels (CPV) Produced by Radial Braiding and Novel Multi Filament Winding (MFW) Methods, Official Institutions of Foreign Countries, 2021 - 2022
Design, Production and Mechanical Properties of Carbon Fiber Reinforced Composite Pressure Tanks with Radial Braiding and Braidtrusion Methods, TUBITAK, 2020 - 2021
High Pressure/Fuel Vessel Reinforced with Carbon Fiber Composite Design and Production for Aerospace Applications, YOK, 2019 - 2020
An Investigation on Mechanical Properties of Epoxy Based Woven Fabrics Carbon Composites, TUBITAK, 2017 - 2017

Non Academic Experience

RWTH Aachen Üniversitesi, Araştırma Görevlisi