

## Res. Asst. PhD OĞUZ ERYILMAZ

### Personal Information

**Email:** oguz.eryilmaz@marmara.edu.tr

**Web:** <https://avesis.marmara.edu.tr/oguz.eryilmaz>

### International Researcher IDs

ScholarID: 2f0jU6UAAAAJ

ORCID: 0000-0003-0005-1142

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 Distance Education Faculty, YÖNETİM BİLİŞİM SİSTEMLERİ, Turkey 2022 - Continues

Undergraduate, Pamukkale University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 2013 - Continues

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Textile Engineering, Turkey 2017 - 2022

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Textile Engineering, Turkey 2016 - 2017

Undergraduate, Bursa Uludağ University, Faculty of Engineering, Department of Textile Engineering, Turkey 2007 - 2011

## Foreign Languages

German, B1 Intermediate

English, C1 Advanced

## 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, Successfully 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 of Textile 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 of Textile 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

Bitirme Projesi, Undergraduate, 2023 - 2024

Numerical Analysis, Undergraduate, 2023 - 2024, 2022 - 2023

Topluma Hizmet Uygulamaları, Undergraduate, 2023 - 2024

## Advising Theses

Yıldız Z., Eryılmaz O., Thermal and Morphological Characterization of Polyacrylonitrile Tow 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**  
Ovalı 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 & Book Chapters**

**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

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

**I. Aeroelastic analysis of the composite wing reinforced with carbon fiber**

Eryilmaz 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., Eryilmaz 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., Eryilmaz 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**

Olçay H., Koçak E. D., Eryilmaz 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**

Eryilmaz 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 - Denkerdorf 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**

Eryılmaz O., Sancak E., Yüksek M.

Aachen – Dresden – Denkdorf International Textile Conference, Aachen, Germany, 29 - 30 November 2018

VIII. **An Investigation on Thermal Conductivity Properties of Epoxy Based Twill Fabrics Carbon Composites**

Eryılmaz O., Ovalı S., Sancak E., Yüksek M., Akalin M.

8th International Textile Conference Evolution of Technical Textiles, İstanbul, Turkey, 14 - 16 May 2018

IX. **An Investigation on Mechanical Properties of Epoxy Based Woven Fabrics Carbon Composites**

Eryılmaz 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., Eryılmaz O., Pars A., İhlamur 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**

Eryılmaz 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., TÜBİTAK 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., TÜBİTAK Project, Development of an Algorithm for Performance Analysis of Cylindrical Composite Structures with Machine Learning, 2023 - 2024

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

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

Eryılmaz O., TÜBİTAK 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

Akalin 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