

## **Asst. Prof. ÇAĞATAY YILMAZ**

### **Personal Information**

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### **International Researcher IDs**

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Publons / Web Of Science ResearcherID: ABI-5043-2020

Yoksis Researcher ID: 330239

### **Education Information**

Doctorate, Sabanci University, Faculty Of Engineering And Natural Sciences, Department Of Materials Science And Engineering, Turkey 2013 - 2018

Postgraduate, Sabanci University, Faculty Of Engineering And Natural Sciences, Department Of Materials Science And Engineering, Turkey 2011 - 2013

### **Dissertations**

Doctorate, Monitoring Micro-Damage Accumulation Based on Reduction in Elastic Properties Using Fiber Bragg Grating Sensors, and Acoustic Emission and Thermography Methods in Fiber Reinforced Polymeric Composites , Sabanci University, Faculty Of Engineering And Natural Sciences, Department Of Materials Science And Engineering, 2018

Postgraduate, Manufacturing of Microcapsules With Liquid Core and Their Self-Healing Performance In Epoxy for Resin Transfer Moulding, Sabanci University, Faculty Of Engineering And Natural Sciences, Department Of Materials Science And Engineering, 2013

### **Research Areas**

Mechanical Engineering, Solid Mechanics, Fracture Mechanics, Finite Element Methods, Mechanical Testing, Metallurgical and Materials Engineering, Testing and Control of Materials, Mechanical Properties, Nondestructive Testing, Composites, Adhesion and Adhesives, Polymeric Materials, Material Characterization

### **Academic Titles / Tasks**

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, Makine Mühendisliği, 2020 - Continues

### **Academic and Administrative Experience**

Head of Department, Abdullah Gul University, Mühendislik Fakültesi, Makine Mühendisliği, 2021 - Continues

Deputy Head of Department, Abdullah Gul University, Mühendislik Fakültesi, Makine Mühendisliği, 2021 - 2021

## Courses

Thermodynamics II, Undergraduate, 2020 - 2021  
Composite Materials, Undergraduate, 2020 - 2021  
Thermodynamics I, Undergraduate, 2021 - 2022  
Dynamics, Undergraduate, 2020 - 2021  
Fluid Mecahanics, Undergraduate, 2020 - 2021

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

- I. **Basalt Fiber Reinforced Polymers: A Recent Approach to Electromagnetic Interference (EMI) Shielding**  
Fareez U. N. M., Loudiy A., Erkartal M., Yilmaz Ç.  
Journal of Polymer Science, vol.63, no.1, pp.50-73, 2025 (SCI-Expanded)
- II. **Experimental and statistical damage analysis in milling of S2-glass fiber/epoxy and basalt fiber/epoxy composites**  
Sayin A. C., DANIŞMAN Ş., ERSOY E., Yilmaz Ç., Kesriklioglu S.  
Polymer Composites, vol.45, no.16, pp.15140-15158, 2024 (SCI-Expanded)
- III. **Monitoring and verification of micro-strain generated inside the laminate subjected to thermal loading through fiber bragg grating sensors and classical laminate theory**  
Yilmaz Ç., Ali H. Q., Yıldız M.  
Polymer Composites, vol.44, no.5, pp.2956-2965, 2023 (SCI-Expanded)
- IV. **The effect of different tabbing methods on the damage progression and failure of carbon fiber reinforced composite material under tensile loading**  
Ali H. Q., YILMAZ Ç., YILDIZ M.  
POLYMER TESTING, vol.111, 2022 (SCI-Expanded)
- V. **Non-destructive determination of the stiffness matrix of a laminated composite structure with lamb wave**  
YILMAZ Ç., Topal S., Ali H. Q., Tabrizi I. E., Al-Nadhari A., Suleman A., Yildiz M.  
COMPOSITE STRUCTURES, vol.237, 2020 (SCI-Expanded)
- VI. **An experimental study on tensile and bending properties of biaxial warp knitted textile composites**  
Demircan O., Yilmaz Ç., Kocaman E. S., Yildiz M.  
ADVANCED COMPOSITE MATERIALS, vol.29, no.1, pp.73-88, 2020 (SCI-Expanded)
- VII. **Experimental study on dynamic behavior of woven carbon fabric laminates using in-house piezoelectric sensors**  
Ali H. Q., Tabrizi I. E., Khan R. M. A., Zanjani J. S. M., Yilmaz Ç., Poudeh L. H., Yildiz M.  
SMART MATERIALS AND STRUCTURES, vol.28, no.10, 2019 (SCI-Expanded)
- VIII. **Semi-intrinsic self-healing performance of liquid-cored microcapsules in epoxy matrix**  
Yilmaz Ç., Yildiz M., Menciloglu Y.  
ADVANCES IN POLYMER TECHNOLOGY, vol.37, no.5, pp.1435-1443, 2018 (SCI-Expanded)
- IX. **The performance of embedded fiber Bragg grating sensors for monitoring failure modes of foam cored sandwich structures under flexural loads**  
Kocaman E. S., YILMAZ Ç., Deniz A., Yildiz M.  
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, vol.20, no.5, pp.553-577, 2018 (SCI-Expanded)
- X. **A hybrid damage assessment for E-and S-glass reinforced laminated composite structures under in-plane shear loading**  
YILMAZ Ç., Akalin C., Gunal I., Celik H., Buyuk M., Suleman A., Yildiz M.  
COMPOSITE STRUCTURES, vol.186, pp.347-354, 2018 (SCI-Expanded)
- XI. **A study on correlating reduction in Poisson's ratio with transverse crack and delamination through acoustic emission signals**  
YILMAZ Ç., Yildiz M.

- POLYMER TESTING, vol.63, pp.47-53, 2017 (SCI-Expanded)
- XII. **Monitoring the interface and bulk self-healing capability of tri-axial electrospun fibers in glass fiber reinforced epoxy composites**  
Zanjani J. S. M., Okan B. S., Yilmaz Ç., Menciloglu Y., Yildiz M.  
COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING, vol.99, pp.221-232, 2017 (SCI-Expanded)
- XIII. **Monitoring the Damage State of Fiber Reinforced Composites Using an FBG Network for Failure Prediction**  
Kocaman E. S., Akay E., Yilmaz Ç., Türkmen H. S., Misirlioglu I. B., Suleman A., Yildiz M.  
MATERIALS, vol.10, no.1, 2017 (SCI-Expanded)
- XIV. **Monitoring Poisson's Ratio Degradation of FRP Composites under Fatigue Loading Using Biaxially Embedded FBG Sensors**  
Akay E., Yilmaz Ç., Kocaman E. S., Türkmen H. S., Yildiz M.  
MATERIALS, vol.9, no.9, 2016 (SCI-Expanded)
- XV. **Monitoring Poisson's ratio of glass fiber reinforced composites as damage index using biaxial Fiber Bragg Grating sensors**  
YILMAZ Ç., Akalin C., Kocaman E. S., Suleman A., Yildiz M.  
POLYMER TESTING, vol.53, pp.98-107, 2016 (SCI-Expanded)
- XVI. **Prediction of fatigue response of composite structures by monitoring the strain energy release rate with embedded fiber Bragg gratings**  
Keulen C. J., Akay E., Melemez F. F., Kocaman E. S., Deniz A., Yilmaz Ç., BOZ T., Yildiz M., Türkmen H. S., Suleman A.  
JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES, vol.27, no.1, pp.17-27, 2016 (SCI-Expanded)
- XVII. **Effect of fiber densities on impact properties of biaxial warp-knitted textile composites**  
Demircan O., YILMAZ Ç., Kocaman E. S., Tang S., Hamada H., Yildiz M.  
JOURNAL OF REINFORCED PLASTICS AND COMPOSITES, vol.34, no.16, pp.1287-1297, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **APPLICATION OF HOOKE'S LAW TO ANGLE PLY LAMINA**  
Yilmaz Ç., Ali H. Q., Yildiz M.  
Eskişehir Technical University Journal of Science and and Technology A- Applied Sciences and Engineering, vol.23, no.4, pp.244-255, 2022 (Peer-Reviewed Journal)
- II. **A parametric study for drilling high quality holes on glass fiber composites**  
Kesriklioglu S., Yilmaz Ç.  
Journal of Advances in Manufacturing Engineering, vol.1, no.3, pp.26-32, 2022 (Peer-Reviewed Journal)
- III. **Application of Classical Lamination Theory to Fused Deposition Method 3-D Printed Plastics and Full Field Surface Strain Mapping**  
YILMAZ C., ALI H. Q., YILDIZ M.  
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.22, no.2, pp.342-352, 2022 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **ANALYSIS OF TENSILE STRENGTH OF PLA SAMPLES PRODUCED BY FUSED DEPOSITION MODELING METHOD WITH MAXIMUM STRAIN THEORY**  
Yilmaz Ç.  
12. INTERNATIONAL SUMMIT SCIENTIFIC RESEARCH CONGRESS, Gaziantep, Turkey, 29 - 31 May 2024, pp.300-310
- II. **Effect of Different Strain Rates on Out-of-Plane Mechanical Properties of PLA Samples Produced with Fused Deposition Modeling**

Yılmaz Ç.

4.International Congress on on Scientific Research, Kırşehir, Turkey, 26 - 28 April 2024, vol.3, pp.396-401

III. **Application of biaxial fbg sensors to monitor poisson's ratio of composites as damage index**

Yılmaz Ç., Akalin C., Kocaman E., Suleman A., Yildiz M.

8th European Workshop on Structural Health Monitoring, EWSHM 2016, Bilbao, Spain, 5 - 08 July 2016, vol.2, pp.1042-1051

IV. **Local strain monitoring of fiber reinforced composites under high strain fatigue using embedded fbg sensors**

Kocaman E., Akay E., Yılmaz Ç., Törkmen H., Misirlioglu I., Suleman A., Yildiz M.

8th European Workshop on Structural Health Monitoring, EWSHM 2016, Bilbao, Spain, 7 - 10 July 2016, vol.2, pp.1052-1057

V. **Poisson's Ratio as a Damage Index Sensed by Dual-Embedded Fiber Bragg Grating Sensor**

Yılmaz Ç., Akay E., Kocaman E. S., Yildiz M.

Annual Conference and Exposition of the Society-for-Experimental-Mechanics on Experimental and Applied Mechanics, California, United States Of America, 8 - 11 June 2015, pp.17-24

## Supported Projects

Yılmaz Ç., KESRİKLİOĞLU S., TUBITAK Project, Optimization of Machining Parameters for S2-glass and Basalts Fiber Reinforced Thermoset Composites with Acoustic Emission and Milling Tool Embedded with Thin Film Thermocouple, 2021 - 2024

Yılmaz Ç., TUBITAK Project, YENİLİKÇİ FİBER VE MATRİS MALZEMESİ KULLANILARAK REÇİNE TRANSFER KALIPLAMA METODU İLE SNOWBOARD ÜRETİMİ, 2021 - 2023

## Metrics

Publication: 25

Citation (WoS): 156

Citation (Scopus): 199

H-Index (WoS): 8

H-Index (Scopus): 9

## Scholarships

Tübitak 2214-A International Research Fellowship Program for PhD Students, TUBITAK, 2017 - 2017

## Awards

Yılmaz Ç., Gürsel Sönmez Araştırma Ödülü, Sabancı Üniversitesi, June 2018

Yılmaz Ç., In-situ structural health monitoring of composite materials with embedded fiber optic sensors , Tübitak, October 2015

Yılmaz Ç., Akay E., In-situ structural health monitoring of composite materials with embedded fiber optic sensors, Ytü İeee, May 2015

## Non Academic Experience

Company, Karboard Spor Ekipmanları

University, Sabancı University Composite Technologies Center Of Excellence, Advanced Composite Manufacturing  
Laboratory  
Company, TEMSA, Structural Design  
Company, Grafentek, Ortak