Lect. PhD ÇAĞRI YILMAZ

Personal Information

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International Researcher IDs
ScholarID: nBQDb1gAAAAJ
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Publons / Web Of Science ResearcherID: I-7047-2017
ScopusID: 57226302299
Yoksis Researcher ID: 246319

Education Information

Doctorate, Akdeniz University, Faculty Of Engineering, Department of Mechanical Engineering, Turkey 2016 - 2022
Postgraduate, Universitaet Duisburg Essen, Faculty of Engineering, Makine Mühendisliği, Germany 2008 - 2010
Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 2002 - 2007

Biography

I received my undergraduate degree in Mechanical Engineering from Middle East Technical University (METU) in 2007 with a high honor certificate. In the last year of my undergraduate education, I worked as a student assistant in the modeling simulation department at TÜBİTAK-SAGE in Ankara. I completed my master's degree in Mechanical Engineering at Duisburg-Essen University in Germany in 2010. I worked for a while in the "Intellisipline" project at the mechanic department during my master's degree. Afterward, I worked in the manufacturing department as an intern at ThyssenKrupp MillServices & Systems in Duisburg. I completed my master's thesis named "Adaptation of T-Data data management software package to Microsoft .Net Framework Technology" in 2010 in Trützchler Spinning firm in Mönchengladbach, Germany, under the T-Data project. Later, I worked as a research assistant in the Distributed Artificial Intelligence Laboratory (Dai-Labor) of the Technical University of Berlin between 2011-2014. I worked on robot systems and smart grids at Dai-Labor. I have been working as a lecturer in the Mechatronics Department of Akdeniz University Vocational School of Technical Sciences since February 2016. I completed my doctoral study in the field of Acoustics and Vibration at Akdeniz University Mechanical Engineering Department in May 2022. My doctoral thesis is about the investigation on acoustic force sensitivity using the theory of Multi-Frequency Atomic Force Microscopy (MF-AFM). Nowadays, I have been conducting theoretical studies on measurement of acoustic forces and tip-sample interaction forces using AFM.

Foreign Languages

English, C1 Advanced

German, B1 Intermediate

Certificates, Courses and Trainings

Vocational Course, IOP Publishing Peer Review Certificate , IOP Publishing , 2024
Vocational Training, D1 Temel Bina Akustiği Uzmanlığı , TMMOB Fizik Mühendisleri Odası , 2023
IT, Certificate of Participation, Seminar on ICT Policies and Future Trends in Networking, Distributed Artificial Intelligence Laboratory, Technische Universtaet Berlin, 2013
IT, Certificate of Participation, Seminar on ICT Policies, Trends and Challenges, Distributed Artificial Intelligence Laboratory, Technische Universitaet Berlin, 2013
Education Management and Planning, Yüksek Onur Belgesi, ODTÜ Makine Mühendisliği, 2007
Education Management and Planning, Eğitim Programı, TAI - Tusaş Havacılık ve Uzay Sanayii A.Ş., 2006
Education Management and Planning, Eğitim Programı, Türk Traktör, 2005

Dissertations

Doctorate, Çoklu Frekanslı Atomik Kuvvet Mikroskopi Teorisinin Akustik Kuvvetin Hassas Ölçümü için Uygulanması, Akdeniz University, Faculty Of Engineering, Department of Mechanical Engineering, 2022
Postgraduate, T-Data data yönetim yazılım paketinin Microsoft .Net Framework Teknolojisine uyarlanması, Universitaet Duisburg Essen, Makine Mühendisliği, Mekatronik, 2010

Research Areas

Acoustics and Noise Control, Modeling and Simulation of Dynamic Systems, Mechanical Vibrations, Differential Equations

Academic Titles / Tasks

Lecturer PhD, Akdeniz University, Technical Sciences Vocational School, Department of Electronics and Automation, 2022 - Continues
Lecturer, Akdeniz University, Technical Sciences Vocational School, Department of Electronics and Automation, 2016 - 2022
Research Assistant, Technische Universitaet Berlin, Distributed Artificial Intelligence Laboratory (Dai-Labor), Agent Core Technologies, Distributed Artificial Intelligence Laboratory (Dai-Labor) Mekatronik, 2011 - 2014

Courses

Makine Dinamiği , Undergraduate, 2023 - 2024
Dinamik, Undergraduate, 2023 - 2024
Bilgisayar Destekli Çizim II, Associate Degree, 2022 - 2023
Mekanizma Tekniği , Undergraduate, 2023 - 2024
Bilgisayar Destekli Üretim , Associate Degree, 2022 - 2023
CNC Teknolojisi, Associate Degree, 2022 - 2023
Makine Elemanları , Associate Degree, 2020 - 2021
Kalite Güvence ve Standartları, Associate Degree, 2018 - 2019
Sistem Analizi ve Tasarımı II, Associate Degree, 2018 - 2019
Mekatroniğin Temelleri, Associate Degree, 2018 - 2019
Sistem Analizi ve Tasarımı I, Associate Degree, 2018 - 2019

Bilgisayar Destekli Çizim I, Associate Degree, 2016 - 2017
Bilgisayar Donanımı, Associate Degree, 2016 - 2017
Temel İmalat İşlemleri, Associate Degree, 2016 - 2017
Endüstriyel Robotlar, Associate Degree, 2015 - 2016

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Theoretical and Experimental Approaches for Fluidic AFM Operations and Rheological Measurements Using Micro-cantilevers: A Review (Accepted)**
Yılmaz Ç.
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.46, no.1, pp.1-20, 2024 (SCI-Expanded)

II. **Observable responses of micro-cantilever array to dynamic acoustic forces at higher mode in the broadband frequency window**
Yilmaz Ç., Sahin R., Topal E. S.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS, PART E: JOURNAL OF PROCESS MECHANICAL ENGINEERING, vol.3, no.2, pp.1-9, 2022 (SCI-Expanded)

III. **Exploring the static acoustic force sensitivity using AFM micro-cantilever under single- and bimodal-frequency excitation**
YILMAZ Ç., ŞAHİN R., TOPAL E. S.
MEASUREMENT SCIENCE AND TECHNOLOGY, vol.32, no.11, 2021 (SCI-Expanded)

Articles Published in Other Journals

I. **A multi-modal nonlinear dynamic model to investigate time-domain responses of a micro-cantilever in fluids**
Yilmaz Ç.
Engineering Research Express, vol.6, no.2, pp.1-14, 2024 (ESCI)

II. **Virial and Energy Dissipation in Measurement of Dynamic Acoustic Forces Using Bimodal-frequency Excitation of Micro-cantilever Array**
Yilmaz C., Topal E. S.
Academic Perspective Procedia , vol.4, no.1, pp.332-340, 2021 (Conference Book)

III. **Theoretical study on the sensitivity of dynamic acoustic force measurement through monomodal and bimodal excitations of rectangular micro-cantilever**
Yılmaz Ç., Şahin R., Topal E. S.
ENGINEERING RESEARCH EXPRESS, vol.3, no.4, 2021 (ESCI)

IV. **Amplitude Responses at Flexural Eigenmodes in Dynamic Acoustic Force Measurement Using Multimodal Excitation Schemes**
YILMAZ Ç., TOPAL E. S.
European Journal of Science and Technology, no.28, pp.120-125, 2021 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Exploiting a Multifrequency Duffing-Mathieu Oscillator to Explore the Effect of Driving Force Strength on Hydrodynamic Sensitivity of a Micro-cantilever**
Yılmaz Ç.
The Third International Conference on Applied Mathematics in Engineering (ICAME'24), Balıkesir, Turkey, 26 - 28 June 2024, pp.1

II. **Observing the Static Responses of the Carbon Nanotube under Electrostatic Forces based on the Forced Rayleigh-Lienard Oscillator**
Yılmaz Ç.
13th International Congress On Engineerıng, Architecture And Design, İstanbul, Turkey, 8 - 09 June 2024, pp.1

III. **Implementation of a Forced Helmholtz-Duffing Oscillator to Monitor Energy Dissipation Process under Van Der Waals Forces**
Yılmaz Ç.
VI. International Conference On Natural Sciences and Technologies, Antalya, Turkey, 30 May - 01 June 2024, pp.1

IV. **A nonlinear analysis of rotating micro-cantilever dynamics based on Van der Pol-Rayleigh-Duffing oscillator considering Coriolis effect**
Yılmaz Ç.
The Fifth International Engineering Research Symposium, Düzce, Turkey, 7 - 09 March 2024, pp.1

V. **Utilizing a forced Van der Pol-Rayleigh-Helmholtz oscillator under heptamodal-frequency operations in casimir force measurement**
Yılmaz Ç.
10th Internatıonal Conference On Computatıonal And Experımental Scıence And Engıneerıng (ICCESEN-2023), Antalya, Turkey, 27 - 30 October 2023, pp.1

VI. **A Laplace transformation-based analytical approach to investigate dynamic acoustic force sensitivity by utilizing resonant micro-cantilevers in monomodal and bimodal operations.**
Yılmaz Ç.
10th Internatıonal Conference On Computatıonal And Experımental Scıence And Engıneerıng (ICCESEN-2023), Antalya, Turkey, 27 - 30 October 2023, pp.1

VII. **Investigating the time-domain sensitivities to nonlinear hydrodynamic interactions of a resonant micro-cantilever with glycerol-water solutions in multi-frequency operations**
Yılmaz Ç.
9th IFS and Contemporary Mathematics and Engineering Conference, Mersin, Turkey, 8 - 11 July 2023, pp.1-4

VIII. **Observable responses of micro-cantilever array to dynamic acoustic forces at higher mode in the broadband frequency window**
Yılmaz Ç., Şahin R., Topal E. S.
Fourth International Engineering Research Symposium (INERS'22), Düzce, Turkey, 4 - 06 March 2022, pp.60

IX. **Amplitude Responses at Flexural Eigenmodes in Dynamic Acoustic Force Measurement Using Multimodal Excitation Schemes**
Yılmaz Ç., Topal E. S.
1 st International Conference on Applied Engineering and Natural Sciences (ICAENS2021), Konya, Turkey, 1 - 03 November 2021, pp.150

X. **Influence of Driving Force Ratio on Oscillation Observables at Flexural Eigenmodes in Static Acoustic Force Measurement**
Yılmaz Ç., Topal E. S.
6th International Mediterranean Science and Engineering Congress (IMSEC 2021), Antalya, Turkey, 25 - 27 October 2021, pp.54-58

XI. **Virial and Energy Dissipation in Measurement of Dynamic Acoustic Forces Using Bimodal-frequency Excitation of Micro-cantilever Array**
Yılmaz Ç., Topal E. S.
9th International Symposium on Innovative Technologies in Engineering and Science (ISITES2021), Sakarya, Turkey, 15 - 17 October 2021, pp.1-7

XII. **Smart Grid Architectures and the Multi-Agent System Paradigm**
Yılmaz Ç., Albayrak S., Lutzenberger M.
ENERGY 2014, The Fourth International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies, Hautes-Alpes, France, 20 - 25 April 2014, pp.90-95

Activities in Scientific Journals

MEASUREMENT AND CONTROL, Special Issue Editor, 2023 - Continues

Memberships / Tasks in Scientific Organizations

Makine Teorisi Derneği (MAKTED), Member, 2024 - Continues, Turkey
Mühendisler ve Mimarlar Derneği (MVM), Member, 2024 - Continues, Turkey
Türk Akustik Derneği (TAKDER), Member, 2024 - Continues, Turkey
TMMOB Makina Mühendisleri Odası, Member, 2024 - Continues, Turkey

Scientific Refereeing

The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), May 2024
The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), May 2024
The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), April 2024
The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), April 2024
MEASUREMENT SCIENCE AND TECHNOLOGY, SCI Journal, April 2024
NONLINEAR DYNAMICS, SCI Journal, April 2024
NONLINEAR DYNAMICS, SCI Journal, March 2024
The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), March 2024
The 7th International Conference on Material Strength and Applied Mechanics (MSAM 2024), Conference Paper (Full Text), March 2024
NONLINEAR DYNAMICS, SCI Journal, January 2024
NONLINEAR DYNAMICS, SCI Journal, November 2023
JOURNAL OF LOW FREQUENCY NOISE VIBRATION AND ACTIVE CONTROL, SCI Journal, January 2023
JOURNAL OF LOW FREQUENCY NOISE VIBRATION AND ACTIVE CONTROL, SCI Journal, November 2021
JOURNAL OF LOW FREQUENCY NOISE VIBRATION AND ACTIVE CONTROL, SCI Journal, August 2021

Tasks In Event Organizations

Yılmaz Ç., 2024 International Conference on Logistics Technology, Equipment and Mechanical Engineering, Teknik Kurul Üyesi , Scientific Congress, Wuhan, China, Mart 2024

Metrics

Publication: 19
Citation (WoS): 3
Citation (Scopus): 3
H-Index (WoS): 2
H-Index (Scopus): 1

Awards

Yılmaz Ç., 1. Sınıf Bölüm Üçüncüsü Plaketi , Ortadoğu Teknik Üniversitesi , June 2004

Non Academic Experience

Business Organization (private), Trützschler Spinning, Software Development Department, Mönchengladbach, Germany
Business Organization (private), Thyssenkrupp Millservices & Systems, Production Department, Duisburg, Germany
University, Universität Duisburg-Essen, Institute of Mechatronics and System Dynamics, Duisburg, Germany
Business Establishment Private, Sanko Makina, Product Development Department, Gaziantep
TUBITAK, Tübitak-SAGE, Modelling and Simulation Department