

Prof. MESUT DÜZGÜN



Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: CAA-1804-2022

ScopusID: 35772287400

Yoksis Researcher ID: 133272

Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Makine Eğitimi (Dr), Turkey 2003 - 2009

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Makine Eğitimi (Yl) (Tezli), Turkey 2000 - 2002

Undergraduate, Gazi University, Teknik Eğitim Fakültesi, Makine Eğitimi Bölümü, Turkey 1996 - 2000

Certificates, Courses and Trainings

Vocational Training, Misafir Öğretim Üyesi, Michigan State University, 2015

Vocational Training, AB Hareketlilik Projesi, Avrupa Birliği Komisyonu, 2005

Dissertations

Doctorate, Development of test methodology to determine the performance of different ABS (anti-lock brake system) brake systems, Gazi University, Fen Bilimleri Enstitüsü, Makine Eğitimi (Dr), 2009

Postgraduate, Investigation of brake test methods and performance criteria in motor vehicles., Gazi University, Fen Bilimleri Enstitüsü, Makine Eğitimi (Yl) (Tezli), 2002

Research Areas

Machine Dynamics, System Dynamics and Control, Vehicle Systems Dynamics, Finite Element Methods, Mechanical Testing

Academic Titles / Tasks

Professor, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2022 - Continues

Associate Professor, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2017 - 2022
Assistant Professor, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2012 - 2017
Assistant Professor, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 2009 - 2012
Research Assistant, Gazi University, Teknik Eğitim Fakültesi, Makina Eğitimi, 2002 - 2009

Academic and Administrative Experience

Head of Department, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2023 - Continues
Program Koordinatörü, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2020 - Continues
Deputy Head of Department, Gazi University, Teknoloji Fakültesi, Otomotiv Mühendisliği, 2020 - 2023
Member of the Senate, Gazi University, Rektörlük, Gazi Üniversitesi, 2013 - 2016
Manager of Research and Application Center, Gazi University, Araştırma Ve Uygulama Merkezleri, Karayolu Ulaştırması Uygulama Ve Araştırma Merkezi Müdürlüğü, 2013 - 2016
Director of The Institution, Gazi University, Kazaları Araştırma ve Önleme Enstitüsü, 2013 - 2016
Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Gazi University, Araştırma ve Uygulama Merkezleri, Karayolu Ulaştırması Uygulama ve Araştırma Merkezi Müdürlüğü, 2012 - 2016
Rector's Advisor, Gazi University, Rektörlük, 2012 - 2016
Meslek Yüksekokulu Yönetim Kurulu Üyesi, Gazi University, Gazi Meslek Yüksekokulu, 2011 - 2013

Courses

Doctorate

5061334 VEHICLE BRAKE DYNAMICS AND BRAKE SYSTEM DESIGN, Doctorate, 2017 - 2018, 2016 - 2017

Undergraduate

OM 416 VEHICLE SAFETY SYSTEMS, Undergraduate, 2017 - 2018

OM 410 VEHICLE TECHNOLOGY, Undergraduate, 2017 - 2018

OM 343 VEHICLE DYNAMICS, Undergraduate, 2017 - 2018

OTO 324 HEAVY VEHICLE TECHNOLOGY, Undergraduate, 2016 - 2017

OTO 244 ELECTROMECHANICAL CONTROLLED SYSTEMS, Undergraduate, 2016 - 2017

Supervised Theses

Düzgün M., MODELLING THE AERODYNAMIC PERFORMANCE OF UNMANNED AERIAL VEHICLE (UAV) PROPELLERS WITH A MULTI-ACCURACY METHOD, Postgraduate, H.ÜNSAL(Student), 2024

Düzgün M., Wiesche S. A. D., Thermal design of brake disks used in rail vehicles, Doctorate, Y.ÇATI(Student), 2023

Düzgün M., Structural optimization of the backhoe arm of a backhoe loader, Postgraduate, F.Anıl(Student), 2023

DÜZGÜN M., Review Of The Current Status About Legislation Of Active And Passive Safety Systems Used In Motor Vehicles In Turkey And Its Future, Postgraduate, F.ÖZÇINAR(Student), 2019

DÜZGÜN M., Investigation Of Affecting Vehicle Safety Of Road Vehicles Equipped With Electronic Stability Control (Esc) System, Postgraduate, Ö.TÜRKCAN(Student), 2015

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Development of a New Vertical Dynamic Model of a Rail Vehicle for the Analysis of Ride Comfort**
Cati Y., Düzgün M., Kracht F. E.
APPLIED SCIENCES-BASEL, vol.14, no.9, 2024 (SCI-Expanded)
- II. **Nodal thermodynamic analysis of a three-cylinder gamma-type Stirling engine and a conventional gamma-type Stirling engine and performance comparison**

KARABULUT H., DÜZGÜN M., TOPGÜL T.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.38, no.1, pp.45-56, 2023 (SCI-Expanded)

- III. **Numerical Model of the Railway Brake Disk for the Temperature and Axial Thermal Stress Analyses**
Cati Y., Aus Der Wiesche S., Duzgun M.
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, vol.14, no.10, 2022 (SCI-Expanded)
- IV. **NODAL THERMODYNAMIC AND DYNAMIC ANALYSIS OF A FREE DISPLACER STIRLING ENGINE**
ÇINAR C., Ozdemir A. O., KARABULUT H., DÜZGÜN M.
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.41, no.1, pp.141-155, 2021 (SCI-Expanded)
- V. **Design and performance analysis of a novel coordinated intervention configuration for lane departure assistance system**
KUTLUAY E., DÜZGÜN M., Doust M.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.36, no.3, pp.1632-1642, 2021 (SCI-Expanded)
- VI. **THERMAL PERFORMANCE ANALYSIS OF A STIRLING ENGINE ENERGIZED WITH EXHAUST GAS OF A DIESEL ENGINE**
DÜZGÜN M., KARABULUT H.
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.41, no.2, pp.249-263, 2021 (SCI-Expanded)
- VII. **IMPROVEMENT OF THERMO-MECHANICAL CHARACTERISTIC OF THE SELF VENTILATED BRAKE DISCS USING FEA**
Duzgun M.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.29, no.3, pp.625-635, 2014 (SCI-Expanded)
- VIII. **Investigation of thermo-structural behaviors of different ventilation applications on brake discs**
Duzgun M.
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.26, no.1, pp.235-240, 2012 (SCI-Expanded)
- IX. **STRESS ANALYSIS OF VENTILATED BRAKE DISCS USING THE FINITE ELEMENT METHOD**
Yildiz Y., Duzgun A.
INTERNATIONAL JOURNAL OF AUTOMOTIVE TECHNOLOGY, vol.11, no.1, pp.133-138, 2010 (SCI-Expanded)

Articles Published in Other Journals

- I. **Investigation of Convective Heat Transfer and Stability on a Rotating Disk: A Novel Experimental Method and Thermal Modeling**
Cati Y., Wiesche S. A. D., Düzgün M.
Fluids, vol.9, no.7, 2024 (ESCI)
- II. **Modeling of a Fuel Tank with an Air Compressor**
Odabaş Ç., DÜZGÜN M.
International Journal of Automotive Science and Technology, vol.2, no.2, pp.9-15, 2018 (Peer-Reviewed Journal)
- III. **Effects of Heat Changes in Different Brake Discs on Braking Forces**
Düzgün M.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.15, no.1, pp.43-48, 2009 (Peer-Reviewed Journal)
- IV. **Brake Efficiency and Braking Distance Analysis in Vehicles**
Bayrakçeken H., Düzgün M.
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.8, no.2, pp.153-160, 2005 (Peer-Reviewed Journal)
- V. **An Experimental Investigation of Stopping Distance of Automobiles**
DÜZGÜN M., ALTIPARMAK D., BAYRAKÇEKEN H.

Books

I. Electric and Hybrid Vehicle Technologies

Düzgün M.

in: Engineering and Multidisciplinary Approaches, Prof Dr Abdülkadir Güllü, Dr. Öğrt. Üyesi Senai Yalçınkaya, Editor, Güven Plus Grup Danışmanlık A.Ş Yayınları, İstanbul, pp.273-294, 2021

II. Electric Vehicles

Aktaş M., Şahin F., Bakan A. F., Solmaz H., Topgül T., Düzgün M., Şen O. T., Altın N., Gündoğdu T., Çınar C., et al.

in: Modern Electric, Hybrid Electric and Fuel Cell Vehicles, Mustafa AKTAŞ, Editor, Akademisyen Kitabevi, Ankara, pp.95-112, 2021

Papers Published in Refereed Scientific Meetings

I. New Era Vehicle Technology Trains and the Importance of E-Mobility

Düzgün M.

İstanbul Ticaret Odası (İTO) Webinar, İstanbul, Turkey, 22 February 2022

II. Efficiency, Public-Industry-University Collaboration, Green Deal and Its Financing

Düzgün M.

Ağır Vasıta Treyler ve Üst Yapı Zirvesi, İstanbul, Turkey, 10 February 2022

III. New Era Vehicle Technology Trends and Vehicle Safety Systems

Düzgün M.

e-drive Turkey 2021, İstanbul, Turkey, 09 December 2021

IV. Service Technologies for Next Generation Vehicles in the Automotive Industry

Düzgün M.

7. Dünya Otomotiv Konferansı (WAC- World Automotive Conference), İstanbul, Turkey, 22 September 2020

V. THE FUTURE OF ACTIVE SUSPENSION APPLICATIONS FOR RAIL VEHICLES IN TURKEY

Çatı Y., Günel H., Düzgün M.

4. International Symposium on Railway System Engineering, Karabük, Turkey, 10 - 12 October 2018, pp.122-129

VI. Relation between Sink Marks Formation and Rib Dimension on Plastic Parts

BAYRAKTAR Ö., GÜLDAŞ A., GÖKTAŞ M., DÜZGÜN M.

3rd International Conference on Engineering and Natural Science, 3 - 07 May 2017

VII. EXPERIMENTAL INVESTIGATION OF THE EFFECTS OF ELECTRONIC STABILITY CONTROL SYSTEM (ESC) ON VEHICLE SAFETY AND VEHICLE DYNAMICS, PART 1: EXPERIMENTAL METHOD AND INVESTIGATION OF YARROW PARAMETER

Türkcan Ö., Düzgün M., Dousti M.

OTEKON16, Bursa, Turkey, 23 - 24 May 2016

VIII. EXPERIMENTAL INVESTIGATION OF THE EFFECTS OF ELECTRONIC STABILITY CONTROL SYSTEM (ESC) ON VEHICLE SAFETY AND VEHICLE DYNAMICS, PART 2: INVESTIGATION OF THE EFFECTS OF LATERAL ACCELERATION AND TURN OVER ANGLE

Türkcan Ö., Düzgün M., Dousti M.

OTEKON 16, Bursa, Turkey, 23 - 24 May 2016

IX. A Method Based on Diagnostics of Empirical Tire Model Parameters for Evaluating ABS Brake System Performance

Dousti M., Başlamışlı S. Ç., Düzgün M., Türkcan Ö.

Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı, Denizli, Turkey, 11 - 12 September 2015

X. Comparative General Assessment of Alternative Fuel Types Used in Vehicles

Çağlar A., Atmaca I., Doğan A., Düzgün M.

7. Otomotiv Teknolojileri Kongresi, Bursa, Turkey, 26 - 27 May 2014, pp.226

- XI. **The Necessity of Vehicle Test Centers Used for Traffic Accident Investigations and Sample Models**
Karakaya M. S., Düzgün M.
Karayolu Trafik Güvenliği Sempozyum ve Fuarı, Ankara, Turkey, 10 - 12 May 2011, pp.48
- XII. **Checking Type Approval Compliance During Vehicle Traffic Registration in Türkiye and its Applications in the World**
Karakaya M. S., Düzgün M.
Karayolu Trafik Güvenliği Sempozyum ve Fuarı, Ankara, Turkey, 10 - 12 May 2011, pp.99
- XIII. **EFFECTS OF BRAKE DISCS WITH COOLING CHANNELS ON BRAKING FORCES AND HEAT CHANGE**
Düzgün M., Yıldız Y.
5. Uluslararası İleri Teknolojiler Sempozyumu (IATS'09), Karabük, Turkey, 13 - 15 May 2009
- XIV. **System-Based Modeling of Automotive Powertrains**
Düzgün M.
5. Uluslararası İleri Teknolojiler Sempozyumu, Karabük, Turkey, 13 - 15 May 2009, pp.2002-2006
- XV. **Effects of Brake Discs with Cooling Channels on Braking Forces and Heat Exchange**
Düzgün M.
5. Uluslararası İleri Teknolojiler Sempozyumu, Karabük, Turkey, 13 - 15 May 2009, pp.1581-1586
- XVI. **Development of Test Methodology for Determining ABS Performance**
Düzgün M.
5. Uluslararası İleri Teknolojiler Sempozyumu, Karabük, Turkey, 13 - 15 May 2009, pp.1987-1994
- XVII. **Determination of Brake Performance by Analyzing Brake Pressure Data in Vehicles Using ABS Anti-lock Brake System**
Düzgün M.
5. Uluslararası İleri Teknolojiler Sempozyumu, Karabük, Turkey, 13 - 15 May 2009, pp.1995-2001
- XVIII. **The investigation of the effects of thermal energy on brake discs on safety of railway vehicles**
DÜZGÜN M., YILDIZ Y.
2nd International Railway Symposium Railway Trade Exhibition, 15 - 17 October 2008
- XIX. **Investigation of the Effects of Heat Generated in Brake Discs on the Safety of Railway Vehicles**
Düzgün M., Yıldız Y.
2. International Railway Symposium and Trade Exhibition, İstanbul, Turkey, 15 - 17 October 2008, vol.1, pp.340-348
- XX. **Investigation of the Effects of ESP Electronic Stability Program Used in Vehicles on Traffic and Vehicle Safety**
Düzgün M., Altıparmak D.
Türkiye Kazaların Çevresel ve Teknik Araştırması Ulusal Çalıştayı/Sergisi, Ankara, Turkey, 13 - 15 June 2007, vol.1, pp.423-431
- XXI. **Comparison of the Brake System Standards Used in Vehicles in Terms of Traffic Safety with the Situation of Our Country, the EU and Other Countries**
Altıparmak D., Düzgün M.
Trafik ve Yol Güvenliği III. Ulusal Kongresi/Sergisi, Ankara, Turkey, 4 - 06 May 2005, vol.1, pp.282-291
- XXII. **Functions of Active Safety Systems Used in Motor Vehicles in Reducing Traffic Accidents**
Düzgün M., Altıparmak D.
Türkiye Cumhuriyeti İçişleri Bakanlığı Emniyet Genel Müdürlüğü II. Trafik Şurası, Ankara, Turkey, 21 - 22 October 2004, pp.35
- XXIII. **Use of Vegetable Oils in Motor Vehicles and Its Effect on Emissions**
Kuş R., Bayrakçeken H., Düzgün M.
8. Uluslararası Yanma Sempozyumu, Ankara, Turkey, 8 - 09 September 2004, pp.623-633
- XXIV. **Sensors Used in Vehicles and Their Effects in Preventing Traffic Accidents**
Bayrakçeken H., Kuş R., Düzgün M.
Trafik ve Yol Güvenliği II. Uluslararası Kongresi/Sergisi, Ankara, Turkey, 5 - 07 May 2004, vol.1, pp.499-507
- XXV. **Measurement of Brake Forces in Motor Vehicles and Brake Force Measuring Devices**

Düzgün M., Altıparmak D., Bayrakçeken H.

3. Uluslararası İleri Teknolojiler Sempozyumu, Ankara, Turkey, 18 - 20 August 2003, vol.2, pp.535-545

Metrics

Publication: 41

Citation (WoS): 80

Citation (Scopus): 107

H-Index (WoS): 3

H-Index (Scopus): 3

Non Academic Experience

Professional Association, Metal Industry Employers' Union, Documentation and Certification Center, Certification Services Board

Public Research Center, Ministry of Transport, Maritime Affairs and Communications, Directorate of Research Centers, Commission Member

Ministry, Ministry of Internal Affairs, General Directorate of Security, Highway Traffic Safety Board, Board Member

Ministry, Ministry of Transport, Maritime Affairs and Communications, Accident Investigation Board, Commission Member

Public Corporation, Turkish Standards Institution, Standard Preparation Center Presidency, Automotive Sector Committee Chairman