

## Prof. MURAT REİS

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAI-1786-2019

ScopusID: 26322781800

Yoksis Researcher ID: 10001

### Education

Doctorate, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, Makine Mühendisliği Bölümü, Turkey 2005 - 2009

Postgraduate, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, Makine Mühendisliği Bölümü, Turkey 2002 - 2004

Undergraduate, Bursa Uludağ University, Mühendislik-Mimarlık Fakültesi, Makine Mühendisliği Bölümü, Turkey 1998 - 2002

### Foreign Languages

English, B2 Upper Intermediate

### Research Areas

Mechanical

### Academic Positions

Professor, Bursa Uludağ University, Mühendislik Fakültesi, Makina Mühendisliği, 2024 - Continues

Associate Professor, Bursa Uludağ University, Mühendislik Fakültesi, Makina Mühendisliği, 2018 - 2024

Associate Professor, Università Degli Studi di Padova, Engineering Faculty, Department of Industrial Engineering, 2020 - 2020

Assistant Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2013 - 2018

Research Assistant, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2002 - 2013

Assistant Professor, Eidgenössische Technische Hochschule, ETHZ (The Federal Institute of Technology, Zürich), Institute Of Robotics And Intelligent Systems, Department Of Mechanical And Process Engineering, 2010 - 2012

### Courses

Postgraduate

UYGULAMALI MATEMATİK, Postgraduate, 2017 - 2018

İLERİ MÜHENDİSLİK MATEMATİĞİ, Postgraduate, 2017 - 2018

### **Undergraduate**

MUKAVEMET I, Undergraduate, 2017 - 2018

DİNAMİK, Undergraduate, 2017 - 2018

MUKAVEMET 2, Undergraduate, 2017 - 2018

### **Supervised Theses**

Reis M., KONSOL KİRİŞİN BURULMA İLE EĞİLME ALTINDA MEKANİK DAVRANIŞININ İNCELENMESİ, Postgraduate, H.VATANSEVER(Student), 2021

Reis M., TİTREŞİME DAYALI HAREKET EDEN ÇOK BACAĞLI ROBOTİK İLERLEME MEKANİZMASININ DENEYSEL İNCELENMESİ, Postgraduate, A.KAHRAMAN(Student), 2021

REİS M., Experimental investigation of the effect of metal reinforcement on collision performance in carbon composite crash boxes, Postgraduate, M.Emin(Student), 2020

REİS M., A novel robot design of vibration based locomotion on water surface, Postgraduate, A.Burak(Student), 2019

Reis M., Iida F., Shape Optimization of a Curved Beam Hopping Robot, Postgraduate, D.Naef(Student), 2012

### **Journal articles indexed in SCI, SSCI, and AHCI**

- I. **A Smart Handheld Welding Torch Device for Manual Spot Laser Welding**  
Reis M., Şerifağaoğlu E.  
Applied Sciences (Switzerland), vol.12, no.21, 2022 (SCI-Expanded)
- II. **Vibration-Based Locomotion of an Amphibious Robot**  
Cocuzza S., Doria A., REİS M.  
APPLIED SCIENCES-BASEL, vol.11, no.5, 2021 (SCI-Expanded)
- III. **Elastic Actuator Design Based on Bending of Cylindrical Beam for Robotic Applications**  
Murat R., Ebrahimi N., Jafari A.  
ACTUATORS, vol.9, no.3, 2020 (SCI-Expanded)
- IV. **Vibration Based Under-Actuated Bounding Mechanism**  
REİS M.  
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.82, pp.455-466, 2016 (SCI-Expanded)
- V. **An Energy-Efficient Hopping Robot Based on Free Vibration of a Curved Beam**  
REİS M., Iida F.  
IEEE-ASME TRANSACTIONS ON MECHATRONICS, vol.19, no.1, pp.300-311, 2014 (SCI-Expanded)
- VI. **Morphological Computation of Multi-Gaited Robot Locomotion Based on Free Vibration**  
REİS M., Yu X., Maheshwari N., Iida F.  
ARTIFICIAL LIFE, vol.19, no.1, pp.97-114, 2013 (SCI-Expanded)
- VII. **Dynamic Response of a Cracked Beam under a Moving Mass Load**  
PALA Y., REİS M.  
JOURNAL OF ENGINEERING MECHANICS, vol.139, no.9, pp.1229-1238, 2013 (SCI-Expanded)
- VIII. **VIBRATION OF A CRACKED CANTILEVER BEAM UNDER MOVING MASS LOAD**  
REİS M., PALA Y.  
JOURNAL OF CIVIL ENGINEERING AND MANAGEMENT, vol.18, no.1, pp.106-113, 2012 (SCI-Expanded)
- IX. **Application of the Jacobi method and integrating factors to a class of Painleve-Gambier equations**  
YAŞAR E., REİS M.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.43, no.29, 2010 (SCI-Expanded)
- X. **Dynamic response of a beam supported with damper under moving load**  
REİS M., PALA Y.

- STRUCTURAL ENGINEERING AND MECHANICS, vol.31, no.4, pp.477-480, 2009 (SCI-Expanded)
- XI. **DYNAMIC RESPONSE OF A SLIGHTLY CURVED BRIDGES UNDER MOVING MASS LOADS**  
REİS M., PALA Y.  
BALTIC JOURNAL OF ROAD AND BRIDGE ENGINEERING, vol.4, no.3, pp.143-148, 2009 (SCI-Expanded)
- XII. **Dynamic analysis of a bridge supported with many vertical supports under moving load**  
REİS M., PALA Y., Karadere G.  
BALTIC JOURNAL OF ROAD AND BRIDGE ENGINEERING, vol.3, no.1, pp.14-20, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **THE EFFECT OF WORKPIECE THICKNESS ON VIBRATION-INDUCED PRODUCTION ERRORS IN LASER CUTTING MACHINES: AN EXPERIMENTAL STUDY**  
KAYA D., MERT D., KAHRAMAN A., REİS M.  
KSÜ Mühendislik Bilimleri Dergisi, vol.27, no.2, pp.470-480, 2024 (Peer-Reviewed Journal)
- II. **Editorial: Vibration-based robot locomotion**  
REİS M., Cocuzza S., Doria A., Adar N. G.  
Frontiers in Robotics and AI, vol.11, 2024 (ESCI)
- III. **Improving the load distribution in the automobile front collision zone by adding 'S' shaped curved collision rail**  
Bilbay F. B., REİS M., GÜLÇİMEN ÇAKAN B., ENSARİOĞLU C., ÇAKIR M. C.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.29, no.4, pp.322-330, 2023 (ESCI)
- IV. **Editorial: Bio-inspired soft locomotion**  
Ozcan O., REİS M., Nurzaman S. G.  
Frontiers in Robotics and AI, vol.10, 2023 (ESCI)
- V. **Robotik Uygulamalar İçin Titreşime Dayalı Hareket Eden Amfibik İlerleme Mekanizması**  
Tapan A. B., REİS M.  
Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.24, no.1, pp.72-79, 2021 (Peer-Reviewed Journal)
- VI. **Design of a snake-like swimming mechanism based on wave propagation in a vibrating cantilever beam**  
Kırbiş A., REİS M.  
Academic Perspective Procedia, vol.2, no.3, pp.392-399, 2019 (Peer-Reviewed Journal)
- VII. **Robotik Uygulamalar İçin Prizmatik Kesitli Millerin Burulması Esasına Dayanan Elastik Eyleyici Tasarımı**  
REİS M.  
European Journal of Science and Technology, pp.146-151, 2019 (Peer-Reviewed Journal)
- VIII. **Otomobillerde Ön Çarpışma Kolu Malzemesi Olarak Fee340 Ve DP600 Malzemelerin Çarpışma Performanslarının Karşılaştırılması**  
BİLBAY F. B., REİS M., GÜLÇİMEN ÇAKAN B., ÇAKIR M. C.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.24, no.1, 2019 (Peer-Reviewed Journal)
- IX. **DİNAMİK YOL YÜKLERİNE MARUZ DONDURULMUŞ GIDA SAKLAMA KAPLARININ KIRILMA ANALİZİ**  
REİS M., DURMUŞ A.  
Uludağ University Journal of The Faculty of Engineering, vol.22, no.1, pp.213, 2017 (Peer-Reviewed Journal)
- X. **Dinamik Yol Yüklerine Maruz Dondurulmuş Gıda Saklama Kaplarının Kırılma Analizi**  
REİS M., DURMUŞ A.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.22, no.1, pp.213-218, 2017 (Peer-Reviewed Journal)
- XI. **Akışkan kargo taşıyan aracın fren dinamiğinin incelenmesi**  
REİS M., PALA Y.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK

BILIMLERİ DERGİSİ, vol.12, no.3, pp.303-312, 2006 (Peer-Reviewed Journal)

- XII. **AN INVESTIGATION OF THE BREAKING DYNAMICS OF A VEHICLE WHICH CARRIES LIQUID CARGO**  
REİS M., PALA Y.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK  
BİLİMLERİ DERGİSİ, no.3, pp.303-312, 2006 (ESCI)

## Books

- I. **Titreşim Ölçümü ve Uygulamaları**  
PALA Y., REİS M.  
in: Mekanik Titreşimler Cilt 2, Yaşar Pala, Editor, Nobel Akademik Yayıncılık, pp.870-938, 2017
- II. **Chapter 8 - Morphology: A concrete form of Intelligence**  
REİS M., ENSARİOĞLU C.  
in: Opinions and Outlooks on Morphological Computation, Helmut Hauser, Rudolf M. Füchslin, Rolf Pfeifer, Editor, Elektronik Kitap, Zürich, pp.101-107, 2014

## Papers Presented at Peer-Reviewed Scientific Conferences

- I. **Machine Condition Monitoring Device for Laser Cutting Machines Lazer Kesim Makinaları için Makina Durumu İzleme Cihazı**  
Yılmaz G., REİS M.  
6th International Congress on Human-Computer Interaction, Optimization and Robotic Applications, HORA 2024, İstanbul, Turkey, 23 - 25 May 2024, (Full Text)
- II. **Karbon Kompozit Çarpışma Kutularında Alüminyum Takviyesinin Çarpışma Performansına Etkisinin Deneysel Olarak İncelenmesi**  
Çelik M. E., REİS M.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 17 - 19 December 2019, pp.565-570
- III. **Karbon Kompozit Çarpışma Kutularında Poliüretan Köpük Takviyesinin Çarpışma Performansına Etkisinin Deneysel Olarak İncelenmesi**  
Çelik M. E., REİS M.  
HEZARFEN Uluslararası Fen Matematik ve Mühendislik Bilimleri Kongresi, İzmir, Turkey, 8 - 10 November 2019, pp.493-501, (Full Text)
- IV. **THE EFFECT OF TEMPERATURE CHANGE AND DYNAMIC ROAD LOADS ON DEFORMATION OF POLYPROPYLENE FOOD STORAGE BOXES**  
GÜLÇİMEN ÇAKAN B., REİS M., DURMUŞ A.  
IMSTEC'2019 4. International Material Science and Technology Conference, Ankara, Turkey, 18 - 20 October 2019, (Full Text)
- V. **SICAKLIK DEĞİŞİMİNİN POLİÜRETAN ÇARPIŞMA KUTULARININ DARBE PERFORMANSINA ETKİSİNİN DENEYSEL OLARAK İNCELENMESİ**  
REİS M.  
The International Conference of Materials and Engineering Technologies (TICMET'19), Gaziantep, Turkey, 10 - 12 October 2019, pp.66-70, (Full Text)
- VI. **KARBON KOMPOZİT ÇARPIŞMA KUTULARINDA METAL TAKVİYESİNİN ÇARPIŞMA PERFORMANSINA ETKİSİNİN DENEYSEL OLARAK İNCELENMESİ**  
Çelik M. E., REİS M.  
I. International Science and Innovation Congress (INSI 2019), Denizli, Turkey, 26 - 28 August 2019, pp.481-486, (Full Text)
- VII. **The effect of temperature change on collision performance of polypropylene crash box**

REİS M.

International Mathematics Engineering Conference RAIMS-LVIV, Lviv, Ukraine, 24 - 26 July 2019, pp.57-61

- VIII. **Robotik Uygulamalar İçin Su Üstünde Titreşime Dayalı Hareket Eden Yenilikçi Bir İlerleme Mekanizması**  
Tapan A. B., REİS M.  
6th International Symposium on Innovative Technologies in Engineering and Science, Antalya, Turkey, 9 - 11 November 2018, (Full Text)
- IX. **REINFORCEMENT of a THERMOPLASTIC CRASH-BOX with ALUMINUM FOAM and TIE BEAMS**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., kölük h., REİS M., çelik h., UĞUZ A., ÇAKIR M. C.  
AC-EITAI 2018 International Academic Conference on Engineering, IT and Artificial Intelligence, Prag, Czech Republic, 10 - 13 August 2018
- X. **Reinforcement of a thermoplastic crash-box with aluminum foam and tie beams**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., KÖLÜK H., REİS M., ÇELİK H., UĞUZ A., ÇAKIR M. C.  
Academic Conference on Engineering, IT and Artificial Intelligence (AC-EITAI 2018), Prag, Czech Republic, 10 - 13 August 2018, pp.425-434, (Full Text)
- XI. **Reinforcement of a Thermoplastic Crash-Box with Aluminum Foam and Tie Beams1**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., REİS M., KÖLÜK H., ÇELİK H., UĞUZ A., ÇAKIR M. C.  
Academic Conference on Engineering, IT and Artificial Intelligence (AC-EITAI 2018), 10 - 13 August 2018, (Full Text)
- XII. **Termoplastik çarpışma kutularında alüminyum köpük takviyesinin çarpışma karakteristiğine etkisi**  
Gülçimen Çakan B., Reis M., Ensarioğlu C., Kölük H., Yeni H., Uğuz A., Çakır M. C.  
18th International Conference on Machine Design and Production (UMTİK 2018), Eskişehir, Turkey, 3 - 06 June 2018, (Full Text)
- XIII. **Development of a Thermoplastic Crash-Box Reinforced with Aluminum Foam**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., Kölük H., REİS M., Aksel L., UĞUZ A., ÇAKIR M. C.  
OTEKON 2018 9th International Automotive Technologies Congress, Bursa, Turkey, 7 - 08 May 2018, pp.1681-1689, (Full Text)
- XIV. **Development of a thermoplastic crash-box reinforced with aluminum foam**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., KÖLÜK H., REİS M., AKSEL L., UĞUZ A., ÇAKIR M. C.  
International 9th Automotive Technologies Congress (OTEKON 2018), Bursa, Turkey, 7 - 08 May 2018
- XV. **Development of a Thermoplastic Crash-Box Reinforced with Aluminum Foam**  
ENSARİOĞLU C., GÜLÇİMEN ÇAKAN B., REİS M., Kölük H., AKSEL L., UĞUZ A., ÇAKIR M. C.  
9th International Automotive Technologies Congress, Bursa, Turkey, 7 - 08 May 2018, (Full Text)
- XVI. **Performance Comparison of a Commercial Thermoplastic Crash-Box and an Aluminum Foam-Filled Aluminum Crash-Box**  
Ensarioğlu C., Gülçimen Çakan B., Kölük H., Reis M., Yılmaz M., Aksel L., Yeni H., Çelik H., Çolpan O., Polat S. E., et al.  
V. International Automotive And Vehicle Technologies Conference (AVTECH 17), İstanbul, Turkey, 6 - 07 October 2017, (Full Text)
- XVII. **Analytical Investigation of the Stress Distribution in the Beam end Connector in Storage Rack Systems**  
PALA Y., REİS M.  
INTERNATIONAL CONFERENCE, SCOPIA, Macedonia, 15 - 19 May 2016
- XVIII. **Resonance based multi gaited robot locomotion**  
MAHESHWARI N., YU X., REİS M., IIDA F.  
2012 IEEE/RSJ International Conference on Intelligent Robots and Systems, Vilamoura, Portugal, 7 - 09 October 2012, pp.169-174, (Full Text)
- XIX. **İnsansız Hava Araçları ile Bitki Koruma ve Tarım Uygulamaları**  
REİS M.  
2. International Symposium on Innovative Technologies in Engineering and Science, Karabük, Turkey, 18 - 20 June 2014, vol.2, pp.1444-1449, (Full Text)
- XX. **Dinamik Yüke Maruz İnce Cidarlı Polimer Kutuların Bilgisayar Destekli Burkulma Analizi**

REİS M. G., REİS M., DURMUŞ A.

6. Otomotiv Teknolojileri Kongresi, Turkey, 4 - 05 June 2012

**XXI. Legged Robot Locomotion Based on Free Vibration**

IIDA F., REİS M., MAHESHWARI N., GUNURA K., HAUSER S.

International Workshop on Advanced Motion Control (AMC 2012), Bosnia And Herzegovina, 25 - 27 March 2012, vol.12, pp.1-6, (Full Text)

**XXII. Self Organization of Robot Walking and Hopping Based on Free Vibration**

REİS M., MAHESHWARI N., IIDA F.

International Conference on Morphological Computation (ICMC 2011), Italy, 12 - 14 September 2011, vol.2, pp.91-93, (Full Text)

**XXIII. Exploiting free vibration of an elastic beam for stable running locomotion**

MAHESHWARI N., YU X., REİS M., IIDA F.

2012 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM), TAYVAN, 11 - 13 July 2012, pp.27-32

**XXIV. Hopping Robot Based on Free Vibration of an Elastic Curved Beam**

REİS M., IIDA F.

IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Budapest, Hungary, 3 - 07 July 2011, pp.892-897

**XXV. THE EFFECTS OF CENTRIPETAL AND CORIOLIS FORCES ON THE DYNAMIC RESPONSE OF A CRACKED BEAM UNDER A MOVING MASS LOAD**

PALA Y., REİS M.

13th International Conference on Applied Mechanics and Mechanical Engineering, Cairo, Egypt, 27 - 29 May 2008

## Patent

Reis M., MANUEL LAZER KAYNAK İŞLEMLERİNDE ODAĞIN OTOMATİK OLARAK AYARLANMASINI SAĞLAYAN BİR KAYNAKTABANCASI, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2023/019061 , Standard Registration, 2024

Reis M., İrfan N. C., Koyaş B., Akyüz M. E., Şerifağaoğlu E., MANUEL LAZER KAYNAK İÇİN AKILLI EL KAYNAK TORCU SİSTEMİ VE YÖNTEMİ, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2022/021077 , Standard Registration, 2024

Reis M., AYARLANABİLİR SERTLİK ÖZELLİĞİNE SAHİP BİR GÜÇ İLETİM MEKANİZMASI, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: 2023/015950 , Standard Registration, 2024

Reis M., İrfan N. C., Koyaş B., Akyüz M. E., Şerifağaoğlu E., SMART HAND WELDİNG TORCH SYSTEM AND METHOD FOR MANUAL LASER WELDİNG, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: PCT/TR2023/050412 , Standard Registration, 2023

Reis M., Mamat E., ÇOK HÜCRELİ ŞİŞME YATAK, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2020/04691 , Standard Registration, 2020

Reis M., Yüzük İ. E., BİR TAŞIMA KASASI, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: 2019 17491 , Standard Registration, 2019, 2022

Reis M., Yüzük İ. E., Sertliği Değiştirilebilir Eyleyici , Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2019/17488 , Standard Registration, 2019

Reis M., Güneş panelleri haiz bir garaj yapılması, Patent, CHAPTER H Electricity, The Invention Registration Number: 2015/10218 , Standard Registration, 2018

Reis M., MODULAR GARAGE WITH SOLAR PANELS , Patent, CHAPTER B Implementation of Operations; Transport, The Invention Recourse Number: PCT/TR2016/050291 , Standard Registration, 2016

## Metrics

Publication: 52

Citation (WoS): 102

Citation (Scopus): 130

H-Index (WoS): 6

H-Index (Scopus): 6

## Visual Activities

Reis M., Frontiers in Robotics and AI - Bio-Inspired Soft Locomotion, Journal Publishing, 2022 - Continues

Reis M., Frontiers in Robotics and AI - Vibration-Based Robot Locomotion, Journal Publishing, 2021 - Continues

## Non Academic Experience

Evinoks Servis Ekipmanları San.Tic.A.Ş., Proje Danışmanı

Business Establishment Private, Harpsan Arge Mühendislik San. Tic.Lim. Şti., Ar-ge, Firma Sahibi

Harpsan Arge Mühendislik Sanayi Ticaret Ltd. Şti., Genel Müdür - Firma Sahibi

Özkılıç Mot. Arç. Tekstil İnşaat San.Tic.Ltd.Şti. - ( Uludağ Ün. TTO aracılığı ile ), Proje Danışmanı

İsviçre Federal Teknoloji Enstitüsü, Doktora Sonrası Araştırmacı