

## Assoc. Prof. ŞAHİN YAVUZ

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: P-2105-2019

ScopusID: 57191832881

Yoksis Researcher ID: 26572

### Education Information

Doctorate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Makine Teorisi Ve Dinamiği (Dr), Turkey 2012 - 2016

Postgraduate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Makine Teorisi Ve Dinamiği (YI) (Tezli), Turkey 2010 - 2012

Undergraduate, Dokuz Eylul University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Turkey 2005 - 2009

### Dissertations

Doctorate, Residual vibration control of manipulators with trapezoidal velocity profile actuations, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Makine Teorisi Ve Dinamiği (Dr), 2016

Postgraduate, Trajectory planning of a six axis serial robot based on dynamic analysis, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Makine Teorisi Ve Dinamiği (YI) (Tezli), 2012

### Research Areas

Machine Dynamics, System Dynamics and Control, Mechanisms, Vehicle Systems Dynamics, Robotics, Mechatronics, Modeling and Simulation of Dynamic Systems, Mechanical Vibrations

### Academic Titles / Tasks

Assistant Professor, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2017 - 2019

### Academic and Administrative Experience

Deputy Head of Department, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2019 - 2022

### Courses

TEKNİK RESİM 2, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

TEKNİK RESİM 2, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
Computer Aided Mathematics for Engineers, Postgraduate, 2023 - 2024, 2022 - 2023  
ELECTRONICS, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
BİLGİSAYAR PROGRAMLAMA, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
Dynamics of Mechanical Systems, Postgraduate, 2023 - 2024  
ELECTRICS, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
ELECTRONIC, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
ADVANCED AUTOMATIC CONTROL, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021  
TEKNİK RESİM 1, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
TEKNİK RESİM 1, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
KONTROL SİSTEMLERİ, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
BİLGİSAYAR PROGRAMLAMA, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
TEKNİK RESİM, Undergraduate, 2022 - 2023, 2018 - 2019, 2016 - 2017  
ASANSÖR TEKNOLOJİLERİ, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
ELECTRICS, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
MEKATRONİKTE PNÖMATİK VE HİDROLİK SİSTEMLER, Postgraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
MAKİNA MÜHENDİSLİĞİNDE ÖLÇÜM VE ANALİZ LABORATUVARI, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
TEMEL BİLGİ TEKNOLOJİLERİ, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019  
ASANSÖR TEKNOLOJİLERİ, Undergraduate, 2020 - 2021, 2019 - 2020  
SİSTEM MODELLEME VE ANALİZİ, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019

## Advising Theses

Yavuz Ş., Trapez hız profili ile hareket ettirilen esnek manipülatörlerin aktif titreşim kontrolü ve modellenmesi, Doctorate, M.MERT(Student), 2022  
Yavuz Ş., Pervanesiz fan ile tahrikk edilen quadcopter tasarım ve analizi, Postgraduate, D.AKGÖL(Student), 2022  
YAVUZ Ş., Çevrim sayma metodu ile ağır ticari araç jantlarının dinamik yükler altındaki yorulma hasar analizi, Postgraduate, U.POYRAZ(Student), 2020

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

- I. **Generalized Input Preshaping Vibration Control Approach for Multi-Link Flexible Manipulators using Machine Intelligence\***  
Ilman M. M., YAVUZ Ş., Taser P. Y.  
MECHATRONICS, vol.82, 2022 (SCI-Expanded)
- II. **<p>Hybrid vibration control of an industrial CFRP composite robot-manipulator system based on reduced order model</p>**  
Ilman M. M., YAVUZ Ş., Karagulle H., UYSAL A.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.115, 2022 (SCI-Expanded)
- III. **An improved vibration control method of a flexible non-uniform shaped manipulator**  
YAVUZ Ş.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.111, 2021 (SCI-Expanded)
- IV. **Analysis of vibration control of a single-link epoxy-glass composite manipulator by FFT method**  
YAVUZ Ş., KARAGÜLLE H.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.36, no.2, pp.685-699,

2021 (SCI-Expanded)

- V. **A fast processing method to perform transient analysis for vibration control**  
YAVUZ Ş., AKDAĞ M., KARAGÜLLE H.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.104, 2020 (SCI-Expanded)
- VI. **Modeling approach and analysis time comparison of single-link flexible steel- and epoxy-glass/carbon-fiber composite manipulators**  
YAVUZ Ş., Ilman M. M., Binici B.  
STRUCTURES, vol.26, pp.396-405, 2020 (SCI-Expanded)
- VII. **Modified reduced-order modeling of a flexible robot-manipulator and model-associative vibration control implementation**  
YAVUZ Ş., Ilman M. M.  
EXTREME MECHANICS LETTERS, vol.37, 2020 (SCI-Expanded)
- VIII. **Stress and rigidity comparison and improved vibration control of flexible carbon-fiber and epoxy-glass composite manipulators under end-point load**  
YAVUZ Ş., Ilman M. M.  
MATERIALS RESEARCH EXPRESS, vol.6, no.3, 2019 (SCI-Expanded)
- IX. **An enhanced method to control the residual vibrations of a single-link flexible glass fabric reinforced epoxy-glass composite manipulator**  
YAVUZ Ş.  
COMPOSITES PART B-ENGINEERING, vol.159, pp.405-417, 2019 (SCI-Expanded)
- X. **Effect of joint flexibility on vibration characteristics of a composite box manipulator**  
MALGACA L., Dogan H., Akdag M., YAVUZ Ş., Uyar M., Bidikli B.  
COMPOSITE STRUCTURES, vol.183, pp.271-277, 2018 (SCI-Expanded)
- XI. **Vibration control of a two-link flexible manipulator**  
KARAGÜLLE H., MALGACA L., Dirilmis M., Akdag M., YAVUZ Ş.  
JOURNAL OF VIBRATION AND CONTROL, vol.23, no.12, pp.2023-2034, 2017 (SCI-Expanded)
- XII. **Analysis of active vibration control of multi-degree-of-freedom flexible systems by Newmark method**  
YAVUZ Ş., MALGACA L., KARAGÜLLE H.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.69, pp.136-148, 2016 (SCI-Expanded)
- XIII. **Residual vibration control of a single-link flexible curved manipulator**  
MALGACA L., YAVUZ Ş., AKDAĞ M., KARAGÜLLE H.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.67, pp.155-170, 2016 (SCI-Expanded)
- XIV. **Vibration control of a single-link flexible composite manipulator**  
YAVUZ Ş., MALGACA L., KARAGÜLLE H.  
COMPOSITE STRUCTURES, vol.140, pp.684-691, 2016 (SCI-Expanded)
- XV. **Kinematic-Kinetic-Rigidity Evaluation of a Six Axis Robot Performing a Task**  
KARAGÜLLE H., Amindari A., Akdag M., MALGACA L., YAVUZ Ş.  
INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS, vol.9, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **SYSTEM IDENTIFICATION AND VIBRATION ANALYSIS OF ROTATING BEAM WITH LATTICE STRUCTURES**  
Çaşka S., Dokuz M. E., Aydın M., İlman M., Yavuz Ş.  
International Journal of 3D Printing Technologies and Digital Industry, vol.7, no.2, pp.322-327, 2023 (Peer-Reviewed Journal)
- II. **Influence of Geometric Parameters on the Average Outlet Velocity of the Bladeless Fan**  
Akgöl D., Yavuz Ş.  
European Journal of Science and Technology, no.28, pp.1501-1507, 2021 (Peer-Reviewed Journal)
- III. **Multi-Body Finite Element Analysis of an Inclined Scrap Shear with 1100 Tons of Capacity**

- KARAGÜLLE H., Yıldırım Ç. Y., AKDAĞ M., San R., Yıldız H., MALGACA L., YAVUZ Ş.  
International Journal of Engineering Research Technology, vol.8, no.12, 2019 (Peer-Reviewed Journal)
- IV. **EşDeğer Kütle-yay-sönüm Elemanı Kullanılan Ankastre Kompozit Bir Kirişin Titreşim Analizi**  
YAVUZ Ş., UYAR M., MALGACA L., KARAGÜLLE H.  
Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, vol.20, no.60, pp.946-954, 2018 (Peer-Reviewed Journal)
- V. **Design Automation of Metal Scrap Balers by integration of SolidWorks with Excel and VisualBASIC Language**  
KARAGÜLLE H., Yıldırım Ç. Y., YAVUZ Ş.  
Design Automation of Metal Scrap Balers by integration of SolidWorks with Excel and VisualBASIC Language, vol.7, no.8, pp.342-346, 2018 (Peer-Reviewed Journal)
- VI. **İki Eksenli Esnek bir Manipülâtörün ANSYS APDL ile Modellenmesi ve Titreşim Kontrolü**  
YAVUZ Ş.  
Deu Muhendislik Fakültesi Fen ve Muhendislik, vol.20, no.60, pp.817-829, 2018 (Peer-Reviewed Journal)
- VII. **Active vibration suppression of a single-link smart flexible manipulator**  
MALGACA L., UYAR M., YAVUZ Ş.  
International Journal of Natural and Engineering Sciences, vol.11, no.1, pp.13-19, 2017 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Active Vibration Control of a Flexible Manipulator With Velocity Feedback**  
YAVUZ Ş., AKGÖL D., BİRİCİK G. N.  
in: Design and Control Advances in Robotics, Mohamed Arezk Mellal, Editor, IGI GLOBAL, pp.74-90, 2022
- II. **Design Optimization Application for a Flexible Robot Manipulator**  
İLMAN M. M., YAVUZ Ş., AKGÖL D.  
in: Trends, Paradigms, and Advances in Mechatronics Engineering, Mohamed Arezki Mellal, Editor, IGI GLOBAL, pp.110-126, 2022

## Refereed Congress / Symposium Publications in Proceedings

- I. **FREQUENCY BEHAVIOUR ANALYSIS AND TEST OF PORTABLE MEASURINGDEVICE: Cartesian Magnetic Flux Mapper Example**  
Ufuk A., KARAGÜLLE H., YAVUZ Ş.  
International Natural Science, Engineering and Materials Technology Conference, 9 - 10 September 2019, pp.579-587
- II. **FARKLI YÜKLEME KOŞULLARI ALTINDA ÇALIŞAN ANKASTRE BİR KİRİŞİN KESİT BOYUTLARI VE UZUNLUĞUNUN MATLABPROGRAMINDA BELİRLENMESİ**  
Binici B., YAVUZ Ş.  
19. ULUSAL MAKİNA TEORİSİ SEMPOZYUMU, İskenderun, Turkey, 4 - 06 September 2019, pp.143-149
- III. **Theoretical Experimental Shape Optimization Of Cantilever Beam by Constrained Optimization Method**  
Poyraz U., AKKAN L. Ö., YAVUZ Ş.  
HORA2019 - International Congress on Human-Computer Interaction, Optimization and Robotic Applications, Nevşehir, Turkey, 5 - 07 July 2019, vol.4, pp.162-166
- IV. **Dynamic Stress Analysis of A Flexible Manipulator with Payloads**  
YAVUZ Ş., İLMAN M. M.  
4TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, 19 - 21 December 2018
- V. **Modelling and Investigation of Control Methods of a Flexible Steel Manipulator**  
YAVUZ Ş., Dirican M. K.

International Eurasian Conference on Science, Engineering and Technology, 22 - 23 November 2018, pp.2094-2101

- VI. **Calibration and Measurement of Detected Objects By Using Checkerboard Method**  
Dirican M. K., YAVUZ Ş.  
International Eurasian Conference on Science, Engineering and Technology, 22 - 23 November 2018, pp.2087-2093
- VII. **Comparison of Numerical and Analytical Methods of 4-Degree-of-Freedom System's Passive Vibration Control**  
İLMAN M. M., YAVUZ Ş., KARAGÜLLE H.  
2nd International Students Science Congress, 4 - 05 May 2018, pp.177-184
- VIII. **Talaş kaldırma işlemi yapan robot manipulatörlerinin analizi**  
YAVUZ Ş.  
2018 Türkiye Robotbilim Konferansı, Turkey, 12 - 14 April 2018
- IX. **PASSIVE VIBRATION SUPPRESSION OF A SINGLE-LINK FLEXIBLE MANIPULATOR**  
YAVUZ Ş., MALGACA L., UYAR M., KARAGÜLLE H.  
3rd CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 19 - 21 December 2017, pp.7-17
- X. **Closed Loop Control of a Single Link Flexible Manipulator with Strain Feedback**  
UYAR M., YAVUZ Ş., MALGACA L.  
3rd CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 19 - 21 December 2017, pp.147-155
- XI. **FORCE-BASED VIBRATION CONTROL OF A FRAME STRUCTURE**  
MALGACA L., YAVUZ Ş., UYAR M.  
3rd CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, İstanbul, Turkey, 19 - 21 December 2017, pp.18-24
- XII. **Active Vibration Suppression of a Smart Flexible Manipulator**  
MALGACA L., UYAR M., YAVUZ Ş.  
International Congress on Natural and Engineering Sciences, Belgrade, Serbia, 21 - 25 July 2017
- XIII. **Motion-based vibration control of a flexible composite box manipulator**  
MALGACA L., DOĞAN H., AKDAĞ M., YAVUZ Ş., UYAR M.  
25th International Conference on Composites/Nano Engineering(ICCE-25), Rome, Italy, 16 - 22 July 2017
- XIV. **750 KG YÜK KAPASİTELİ İKİ KARDAN EKSENLİ KAYNAKKONUMLANDIRICI ROBOTUN DİNAMİK ANALİZ DEĞERLENDİRMESİ**  
İLMAN M. M., KARAGÜLLE H., YAVUZ Ş.  
18. Ulusal Makina Teorisi Sempozyumu, Trabzon, Turkey, 5 - 07 July 2017, pp.400-408
- XV. **Piezoelektrik Akıllı Manipulatörün Titreşim Analizi ve Algılayıcı Performansının İncelenmesi**  
MALGACA L., UYAR M., YAVUZ Ş., KARAGÜLLE H.  
18. Makina Teorisi Sempozyumu, Trabzon, Turkey, 5 - 07 July 2017, pp.360-366
- XVI. **Closed Loop Control of a single Link Flexible Manipulator with Velocity Feedback**  
YAVUZ Ş., KARAGÜLLE H.  
Conference of the International Journal of Arts & Sciences, Paris, France, 11 - 14 April 2016, vol.9, pp.179-190
- XVII. **Vibration analysis of a cantilever composite beam by equivalent mass spring damper systems**  
YAVUZ Ş., MALGACA L., KARAGÜLLE H., UYAR M.  
19th International Conference on Composite Structures, Porto, Portugal, 5 - 08 September 2016, pp.83
- XVIII. **The effect of joint flexibility on the vibration characteristics of composite box manipulators**  
MALGACA L., AKDAĞ M., YAVUZ Ş., UYAR M., Doğan H.  
19th International Conference on Composite Structures, Porto, Portugal, 5 - 08 September 2016, pp.82
- XIX. **Effect of joint flexibility on vibration characteristics of a composite box manipulator**  
MALGACA L., Doğan H., AKDAĞ M., YAVUZ Ş., UYAR M., BİDİKLİ B.  
19th International conference on composite structures ICCS19, Porto, Portugal, 5 - 09 September 2016
- XX. **Esnek Bir Kirişin Newmark Yöntemi ile Aktif Titreşim Kontrolü**

MALGACA L., YAVUZ Ş., KARAGÜLLE H.

Uluslararası Katılımlı 17. Makina Teorisi Sempozyumu, Turkey, 14 - 17 June 2015, pp.645-649

**XXI. Otomatik Sera İlaçlama Robotunun Sürüş Dinamiği Testi Ve Deneysel Analizi**

MALGACA L., KARAGÜLLE H., AKDAĞ M., YAVUZ Ş.

Uluslararası Katılımlı 17. Makina Teorisi Sempozyumu, Turkey, 14 - 17 June 2015, pp.139-144

**XXII. Çift Motorlü Bir Lojistik Aracın Tasarımı ve PLC ile Kontrolü**

AKDAĞ M., YAVUZ Ş., HOCAOĞLU M.

Uluslararası Katılımlı 17. Makina Teorisi Sempozyumu, İzmir, Turkey, 14 - 17 June 2015, pp.754-759

**XXIII. İki Serbestlik Dereceli Robot Kollarında Uç Nokta Konumunun Yapay Sinir Ağları İle Bulunması**

YAVUZ Ş., Hocaoğlu M.

Uluslararası Katılımlı 17. Makina Teorisi Sempozyumu, Turkey, 14 - 17 June 2015, pp.363-366

**XXIV. Integrated Dynamic Analysis of a Six Axis Serial Robot**

YAVUZ Ş., KARAGÜLLE H.

International Conference on Engineering and Natural Sciences, Üsküp, Macedonia, 15 - 19 May 2015, pp.70-78

**XXV. Vibration Control of an Onelink Flexible Manipulator with Harmonic Excitation**

YAVUZ Ş., KARAGÜLLE H.

International Conference on Engineering and Natural Sciences, 15 - 19 May 2015, pp.108-114

**XXVI. ÜÇ EKSENLİ SERİ ESNEK MANİPÜLATÖRÜN TİTREŞİM ANALİZİ**

MALGACA L., KARAGÜLLE H., AKDAĞ M., YAVUZ Ş.

16. Ulusal Makine Teorisi Sempozyumu, Turkey, 12 - 13 September 2013

**XXVII. ALTI EKSENLİ BİR ROBOTUN HAREKET KONTROLÜNÜN SOLIDWORKS SİMÜLASYONU İLE BÜTÜNLEŞTİRİLMESİ**

YAVUZ Ş., KARAGÜLLE H., MALGACA L., AKDAĞ M.

16. Ulusal Makine Teorisi Sempozyumu, Turkey, 12 - 13 September 2013

## Metrics

Publication: 51

Citation (WoS): 144

Citation (Scopus): 157

H-Index (WoS): 6

H-Index (Scopus): 6

## Awards

Yavuz Ş., Tübitak İHA Yarışması 2020 Mansiyon Ödülü, Tübitak, September 2020