

## Prof. Semih SEZER

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAG-5102-2019

ScopusID: 7004935766

Yoksis Researcher ID: 184109

### Education Information

Post Doctorate, Purdue University, Engineering Faculty, Mechanical Engineering, United States Of America 2005 - 2006

Doctorate, Yildiz Technical University, Makina Fakültesi/Fen Bilimleri/Makina Mühendisliği, Makina Teorisi,Sistem Dinamiği Ve Kontrol, Turkey 1998 - 2003

Postgraduate, Istanbul Technical University, Makina Fakültesi/Fen Bilimleri/Makina Mühendisliği, Makina Teorisi,Sistem Dinamiği Ve Kontrol, Turkey 1995 - 1998

Undergraduate, Istanbul Technical University, Makina Fakültesi/Makina Mühendisliği, Turkey 1990 - 1995

### Dissertations

Doctorate, Plastik boru üretiminde kullanılan polietilen malzemenin statik - dinamik davranışlarının analizi ve viskoelastik modellenmesi, Yildiz Technical University, Graduate School of Natural and Applied Sciences, 2003

Postgraduate, Piezoelektrik tutucunun dizayn ve analizi, Istanbul Technical University, Fen Bilimleri Enstitüsü, 1998

### Research Areas

Mechanical Engineering, Machine Theory and Dynamics, Machine Dynamics, System Dynamics and Control, Vehicle Systems Dynamics, Robotics, Modeling and Simulation of Dynamic Systems, Mechanical Vibrations, Finite Element Methods

### Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2022 - Continues

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2013 - 2022

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, 2005 - 2013

Researcher, Purdue University, Herrick Laboratories, Mechanical Engineering, 2005 - 2006

Research Assistant, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical

## Advising Theses

- Sezer S., Klasik yol planlama algoritmalarının senteziyle oluşturulan dairesel düğüm algoritmasının otonom mobil robot üzerinde uygulanması, Postgraduate, A.GÖKHAN(Student), 2023
- Sezer S., Hibrit Araçlarda Yakıt Tüketimi Ve Emisyonların Modellemesi, Postgraduate, E.ÇAYIR(Student), 2019
- Sezer S., Debriyaj kavramasındaki diyafram yay kabartma formunun ayırma strokuna etkisi, Postgraduate, F.ŞENEL(Student), 2019
- Sezer S., Plak Titreşimlerinin Aktif Kontrolü, Postgraduate, O.TUNA(Student), 2019
- Sezer S., Katsayı diyagram metodunun hareket kontrol sistemlerine uygulanması, Postgraduate, A.AVCU(Student), 2018
- Sezer S., Akıllı çubuk titreşimlerinin piezoelektrik eyleyiciler ile aktif kontrolü, Postgraduate, D.SOFU(Student), 2017
- Sezer S., Üç kademeli tek etkili pistonlu kompresörün dinamik analizi, Postgraduate, S.PİŞİRİCİ(Student), 2017
- Sezer S., AKBAROV S., Piezoelektrik katmanlı öngerilmeli sistemlerde yüzey ve lamb dalgalarının dispersiyonu, Doctorate, İ.KURT(Student), 2016
- Sezer S., Hibrit elektrikli otobüste (PHILEAS) sürücü sistemlerinin modellenmesi ve güç aktarma organlarının tasarımı, Postgraduate, B.TİMUÇİN(Student), 2016
- Sezer S., Elektrik tahrikli asansörlerin lineer grafik yöntemiyle modellenmesi ve dinamik analizi, Postgraduate, M.OĞUZ(Student), 2016
- Sezer S., Helisel sarımlı termoplastik kompozitlerin sarım özelliklerinin mekanik özelliklere etkisinin incelenmesi, Postgraduate, L.DERE(Student), 2016
- Sezer S., Hafif raylı bir taşıtın taşıyıcı bojisinin titreşim analizi, Postgraduate, F.ZAFER(Student), 2015
- Sezer S., Vites kutusu dişli titreşimlerinin debriyaj damperi kullanılarak azaltılması, Postgraduate, A.YÜCEŞAN(Student), 2014
- Sezer S., Fırçasız doğru akım motorunun ses ve titreşim seviyesinin düşürülmesi, Postgraduate, M.YILMAZ(Student), 2013
- Sezer S., Raylı bir taşıtın dinamik modelinin oluşturulması ve titreşim kontrolü, Postgraduate, A.ÖREN(Student), 2011
- Sezer S., Panel titreşimlerinin kabin gürültüsüne olan katkılarının incelenmesi, Postgraduate, M.USLU(Student), 2010
- Sezer S., Akıllı malzemeler yardımıyla plak titreşimlerinin aktif kontrolü, Postgraduate, İ.KURT(Student), 2010
- Sezer S., Akıllı çubukların tasarım ve analizi, Postgraduate, O.AYDOS(Student), 2009
- Sezer S., E43000 lokomotifinin dinamik modelinin oluşturulması ve titreşim kontrolü, Postgraduate, A.ERDEM(Student), 2009

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

- I. **Modeling and Simulation of Elevation Dynamics of Main Battle Tank Weapon System with Linear Graph Method**  
Çakır M. F., Sezer S., Bayraktar M.  
Arabian Journal for Science and Engineering, vol.49, no.8, pp.11157-11166, 2024 (SCI-Expanded)
- II. **Vibration isolation with clutch disk pre-damper mechanism for the idle rattle phenomenon**  
Yucesan A., Sezer S.  
JOURNAL OF VIBRATION AND CONTROL, vol.24, pp.1518-1534, 2018 (SCI-Expanded)
- III. **Validation of railway vehicle dynamic models in training simulators**  
Ozturk V., Arar O. F., Rende F. S., ÖZTEMEL E., SEZER S.  
VEHICLE SYSTEM DYNAMICS, vol.55, no.1, pp.41-71, 2017 (SCI-Expanded)
- IV. **The influence of the initial stresses on Lamb wave dispersion in pre-stressed PZT/Metal/PZT sandwich plates**  
Kurt İ., Akbarov S., Sezer S.  
STRUCTURAL ENGINEERING AND MECHANICS, vol.58, pp.347-378, 2016 (SCI-Expanded)

- V. **Lamb wave dispersion in a PZT/metal/PZT sandwich plate with imperfect interface**  
Kurt İ., Akbarov S., Sezer S.  
WAVES IN RANDOM AND COMPLEX MEDIA, vol.26, pp.301-327, 2016 (SCI-Expanded)
- VI. **Load sharing in lumbar spinal segment as a function of location of center of rotation**  
Alapan Y., SEZER S., DEMİR C., Kaner T., Inceoglu S.  
JOURNAL OF NEUROSURGERY-SPINE, vol.20, no.5, pp.542-549, 2014 (SCI-Expanded)
- VII. **Application of fuzzy logic based control algorithms on a railway vehicle considering random track irregularities**  
Sezer S., Atalay A. E.  
JOURNAL OF VIBRATION AND CONTROL, vol.18, pp.1177-1198, 2012 (SCI-Expanded)
- VIII. **Dynamic modeling and fuzzy logic control of vibrations of a railway vehicle for different track irregularities**  
Sezer S., Atalay A. E.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.19, pp.1873-1894, 2011 (SCI-Expanded)
- IX. **An Analytical Model for Compressive Creep Behavior of HDPE Used in Plastic Pipe Manufacturing**  
SEZER S., Ataoğlu Ş., GÜLLÜOĞLU A. N., Kadioglu N.  
POLYMER-PLASTICS TECHNOLOGY AND ENGINEERING, vol.47, no.12, pp.1302-1307, 2008 (SCI-Expanded)
- X. **Residual stress analysis of multi-layered buffer layers on Ni substrate for YBCO coated conductor**  
Arda L., Ataoglu S., SEZER S., Abdulaliyev Z.  
SURFACE & COATINGS TECHNOLOGY, vol.202, no.3, pp.439-446, 2007 (SCI-Expanded)
- XI. **The effect of support locations on the steady-state response of viscoelastically point-supported rectangular orthotropic plates**  
Kocaturk T., Sezer S., Demir C.  
ARCHIVE OF APPLIED MECHANICS, vol.75, no.1, pp.58-67, 2005 (SCI-Expanded)
- XII. **Determination of the steady state response of visco elastically point-supported rectangular specially orthotropic plates with added concentrated masses**  
Kocaturk T., SEZER S., Demir C.  
JOURNAL OF SOUND AND VIBRATION, vol.278, pp.789-806, 2004 (SCI-Expanded)
- XIII. **Determination of the steady state response of viscoelastically corner point-supported rectangular specially orthotropic plates under the effect of sinusoidally varying moment**  
KOCATÜRK T., Demir C., Sezer S., İlhan N.  
JOURNAL OF SOUND AND VIBRATION, vol.275, pp.317-330, 2004 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Mathematical Modelling of Electrically Driven Elevator via Linear Graph Method, Dynamic Response Analysis and Active Vibration Control**  
Nalbant M. O., Sezer S.  
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.15, no.3, pp.241-250, 2019 (Peer-Reviewed Journal)
- II. **Comparison of IPD and Fuzzy Logic Velocity Control In Two Degree of Freedom DC Motor System**  
Avcu A., Bozkurt A. F., Erkan K., Kurt İ., Sezer S.  
International Journal of Engineering Science and Application, vol.2, pp.1-7, 2018 (Peer-Reviewed Journal)
- III. **W TİP 3 KADEMELİ PİSTONLU KOMPRESÖRÜN P-V DİYAGRAMININ TEORİK VE DENEYSEL İNCELENMESİ**  
Pişirici S., Sezer S.  
MAKİNATEK, vol.1, no.1, pp.1-5, 2017 (Peer-Reviewed Journal)
- IV. **EFFECT OF UNIAXIAL INITIAL STRESSES, PIEZOELECTRICITY AND THIRD ORDER ELASTIC CONSTANTS ON THE NEAR-SURFACE WAVES IN A STRATIFIED HALF-PLANE**  
Kurt İ., Akbarov S., Sezer S.  
JOURNAL OF THERMAL ENGINEERING, vol.3, pp.1346-1357, 2017 (ESCI)

- V. **Steady state response of viscoelastically corner point-supported generally orthotropic rectangular plates under the effect of sinusoidally varying moment**  
KOCATÜRK T., SEZER S., DEMİR C.  
Turkish Journal of Engineering and Environmental Sciences, vol.29, no.6, pp.331-341, 2005 (Scopus)
- VI. **Creep analysis of polyethylene material used in plastic pipe manufacturing**  
Sezer S.  
Sigma, vol.3, pp.73-83, 2004 (Peer-Reviewed Journal)

### **Refereed Congress / Symposium Publications in Proceedings**

- I. **Navigation of 3D Printed Delivery Mobile Robot Based on Robotic Operating System**  
GÖKTAŞ A. G., SEZER S.  
7th International Congress on 3D Printing (Additive Manufacturing) Technologies and Digital Industry 2023, İstanbul, Turkey, 25 October 2023
- II. **Vehicle dynamics modeling and verification with test of articulated bus**  
Çifçi E., Sezer S.  
ICAME 2019, İstanbul, Turkey, 17 - 19 December 2019, pp.1032-1040
- III. **Effect of Aerodynamic Forces on Vibrations in Trucks**  
KOÇ O. K., SERTKAYA A., SEZER S.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING, 17 - 19 December 2019
- IV. **Burun İniş Takımında Meydana Gelen Shimmy Titreşim Hareketinin PID ve LQR ile Kontrolü**  
Çakır U., Sezer S.  
TOK'2019 Otomatik Kontrol Ulusal Toplantısı, Muğla, Turkey, 11 - 14 September 2019, pp.378-383
- V. **Investigation of Emissions and Fuel Consumption in Series-Hybrid Vehicles**  
Çayır E., Sezer S.  
ICOLES 2019 INTERNATIONAL CONFERENCE ON LIFE AND ENGINEERING SCIENCES, İstanbul, Turkey, 27 - 29 June 2019, pp.52
- VI. **Vibration Reduction of a Plate Using Active Control**  
Tuna O., Sezer S.  
4. ULUSLARARASI MÜHENDİSLİK MİMARLIK VE TASARIM KONGRESİ , İstanbul, Turkey, 23 April - 24 October 2019, pp.121
- VII. **ANGULAR VELOCITY CONTROL OF A TWO-DEGREES-OF-FREEDOM FLEXIBLE BELT DRIVEN SYSTEM USING I-PD AND SSI CONTROLLERS**  
AVCU a., SEZER S., ERKAN K., Bozkurt a. f., BUCAK m.  
4thCONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2018-ICAME2018, 19 - 21 December 2018
- VIII. **Mathematical Modeling of Electrically Driven Elevator with Linear Graph Method**  
SEZER S., NALBANT M. O.  
International Conference on Natural Engineering Sciences ICNES 2016, 1 - 05 September 2016
- IX. **Steering Knuckle Assy Design and Static Analysis Under Different Forces for Metrobus Phileas**  
TİMUÇİN B., KURAR A. F., AKÇİL L., SEZER S.  
MECHATECH '16 Mechanical Engineering and Technologies Conference, 17 - 18 May 2016
- X. **Effect of Uniaxial Initial Stresses Piezoelectricity and Third Order Elastic Constants on the Near Surface Waves in a Stratified Half Plane**  
KURT İ., AKBAROV S., SEZER S.  
International Conference on Advances in Mechanical Engineering, 10 - 13 May 2016
- XI. **Vibration Reduction of Semi-Trailer Truck Using MR Dampers: A Fuzzy Logic Control Approach**  
KURT İ., PAKSOY M., Cetin S., GÜÇLÜ R., SEZER S.  
7th International Conference on Mechanical and Aerospace Engineering (ICMAE), London, Canada, 18 - 20 July 2016, pp.336-340

- XII. **ÖN GERİLMELİ PİEZOELEKTRİK ÖRTÜ TABAKASI VE ÖN GERİLMELİ ELASTİK YARI DÜZLEM DEN OLUŞAN SİSTEMDE GENELLEŞTİRİLMİŞ RAYLEİGH DALGALARININ DİSPERSİYONU**  
SURKHAY A., KURT İ., SEZER S.  
XVIII. ULUSAL MEKANİK KONGRESİ, Turkey, 26 - 30 August 2013, pp.21-29
- XIII. **Effects Of Center Of Rotation Shift In Sagittal Plane On Load Sharing Characteristics Of The Lumbar Spine**  
Alapan Y., Demir C., Sezer S., Kaner T., İnceoglu S.  
60th Annual Meeting of the ORS, California, United States Of America, 15 March 2014, pp.972-975
- XIV. **Kinematics of Disc Degeneration Analysis of Instantaneous Center of Rotation**  
Alapan Y., Sezer S., Güçlü R., Kaner T., İnceoğlu S.  
Orthopaedic Research Society, Texas, United States Of America, 01 January 2013, pp.89-90
- XV. **Active Vibration Control of a Beam with Piezoelectric Actuators**  
Sezer S., Aydos O., Ergun C.  
ISTEC, International Science and Technology Conference, Dubai, United Arab Emirates, 13 - 15 December 2012, pp.75-80
- XVI. **An Experimental Study on Modal Analysis of a Conventional Rail Vehicle Bogie Structure by Using Two Different Method - Konvansiyonel Hatlarda Kullanılan Bir Raylı Taşıt Bojisinin İki Farklı Yöntemle Deneysel Modal Analizi**  
METİN M., Topsakal F. Z., Sezer S., Turan E.  
1.Uluslararası Raylı Sistemler Mühendisliği Çalıştayı (IWRSE 12), Karabük, Turkey, 11 October 2012, pp.267-273
- XVII. **Application of Self Tuning Fuzzy Logic Control to Full Railway Vehicle Model**  
Sezer S., Çetin S., Atalay A. E.  
Conference of the Complex Adaptive Systems on Responding to Continuous Global Change in Systems Needs, Illinois, United States Of America, 30 October - 02 November 2011, vol.6
- XVIII. **Demiryolu Taşıtının Modellenmesi ve Titreşimlerinin Kontrolü**  
SEZER S., ATALAY A. E.  
TOK 2009, Turkey, 8 - 10 June 2009
- XIX. **Improving to transmission loss character of multilayered waste water pipes**  
İLKORUR İ. O., SEZER S.  
INTERNOISE 2007, 6 - 10 August 2007
- XX. **ViscoelastikNokta Mesnetli Dikdörtgen Ortotrop Plakların Kararlı Durum Cevabında Mesnet Yerleinin Etkisinin İncelenmesi**  
Kocatürk T., Demir C., Sezer S.  
UMTS 2005, Kayseri, Turkey, 9 - 11 June 2005, pp.149-155

## Supported Projects

SEZER S., GÖKTAŞ A. G., Project Supported by Higher Education Institutions, Klasik Yol Planlama Algoritmalarının Senteziyle Oluşturulan Dairesel Düğüm Algoritmasının Otonom Mobil Robot Üzerinde Uygulanması, 2022 - 2023

Erdem H. H., Sandalcı T., Sezer S., Yüksek L., TUBITAK Project, HİBRİT ELEKTRİKLİ ARAÇLARA YÖNELİK ALTERNATİF GAZ YAKITLARI KULLANABİLECEK DİESEL MOTOR VE MOTOR YÖNETİM SİSTEMİNİN GELİŞTİRİLMESİ, 2016 - 2019

SEZER S., TUBITAK Project, Otonom Araç Tasarımı, 2013 - 2014

SEZER S., Project Supported by Higher Education Institutions, Plak ve çubuk sistemleri üzerinde akıllı malzemeler yardımıyla aktif titreşim kontrolü., 2009 - 2012

SEZER S., TUBITAK Project, Sanal Ortam Tren Sürüş Eğitimleri İçin Milli Benzetim Sistemlerinin Geliştirilmesi Projesi (TRENSİM), 2007 - 2011

SEZER S., TUBITAK Project, Plastik Boru Üretiminde Kullanılan Yüksek Yoğunluklu Polietilen Malzemenin Basma Gerilmesi Altındaki Statik ve Dinamik Davranışlarının Modellenmesi, 2005 - 2007

SEZER S., Buzdolabı Kompresör Susturucularının Genişband Gürültü Azaltımı, 2005 - 2006

Sezer S., TUBITAK Project, HDPE Malzemenin Bünye Denklemlerinin Belirlenmesi, 2004 - 2006

SEZER S., Oluklu Polietilen Borularda Profil Optimizasyonu, 2003 - 2004

## **Patent**

Sezer S., Plastik esasli malzemededen mamul borular için halka rijitligi gelistirilen profil, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Registration Number: TR200401137 , 2005

## **Metrics**

Publication: 39

Citation (WoS): 113

Citation (Scopus): 180

H-Index (WoS): 7

H-Index (Scopus): 8

## **Non Academic Experience**

ABD Purdue University