

## **Assoc. Prof. Yüksel HACIOĞLU**

### **Personal Information**

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### **Education Information**

Doctorate, Istanbul University, Institute of Graduate Studies In Sciences, Makine Mühendisliği Anabilim Dalı, Turkey 2004 - 2009

Postgraduate, Istanbul University, Institute of Graduate Studies In Sciences, Makine Mühendisliği Anabilim Dalı, Turkey 2002 - 2004

Undergraduate, Istanbul University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Turkey 1998 - 2002

### **Foreign Languages**

English, B2 Upper Intermediate

### **Dissertations**

Doctorate, Mekanik sistemlerin geri adımlamalı (backstepping) kontrolü, İstanbul University, Institute of Graduate Studies In Sciences, Makine Mühendisliği Anabilim Dalı, 2009

Postgraduate, Bir robotun bulanık mantıklı kayan kipli kontrolü, İstanbul University, Institute of Graduate Studies In Sciences, Makine Mühendisliği Anabilim Dalı, 2004

### **Research Areas**

Information Systems, Communication and Control Engineering, Control and System Engineering, Control Systems and Instrumentation, Engineering and Technology

### **Academic Titles / Tasks**

Associate Professor, İstanbul University, Mühendislik Fakültesi, Makine Mühendisliği, 2018 - Continues

Assistant Professor, İstanbul University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2009 - 2018

Research Assistant, İstanbul University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2002 - 2009

### **Courses**

Bitirme Projesi II, Undergraduate, 2015 - 2016, 2013 - 2014

Mekanik Sistemlerin Kontrolü, Undergraduate, 2015 - 2016, 2014 - 2015

Classical Control Theory, Postgraduate, 2016 - 2017

Dynamics, Undergraduate, 2016 - 2017  
State Space Control Theory, Postgraduate, 2015 - 2016, 2014 - 2015  
Makine Projesi II, Undergraduate, 2015 - 2016, 2014 - 2015  
Introduction to Mechanical Engineering, Undergraduate, 2015 - 2016  
Dinamik, Undergraduate, 2015 - 2016  
Bitirme Projesi I, Undergraduate, 2014 - 2015, 2013 - 2014  
Makine Projesi I, Undergraduate, 2014 - 2015, 2013 - 2014  
Tez Danışmanlığı, Doctorate, 2014 - 2015  
Mühendislik Mekaniği, Undergraduate, 2013 - 2014  
Metalurji Mühendisleri İçin Statik, Undergraduate, 2013 - 2014  
Mühendislik Mekanığı, Undergraduate, 2012 - 2013  
Makine Bilgisi, Undergraduate, 2012 - 2013  
Statik-Mukavemet, Undergraduate, 2012 - 2013  
Makine Mühendisliğine Giriş, Undergraduate, 2012 - 2013  
Metalurji Mühendisleri İçin Statik, Undergraduate, 2012 - 2013

## Advising Theses

HACIOĞLU Y., MEKANİK SİSTEMLERİN YÜKSEK DERECELİ KAYAN KİPLİ KONTROLÜ, Doctorate, H.Ömür(Student), 2016

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

- I. **Experimental investigation of biodynamic human body models subjected to whole-body vibration during a vehicle ride.**  
Taskin Y., Hacioglu Y., Ortes F., Karabulut D., Arslan Y. Z.  
International journal of occupational safety and ergonomics : JOSE, vol.25, pp.530-544, 2019 (SSCI)
- II. **High order sliding mode control with estimation for vehicle active suspensions**  
Ozer H. O., Hacioglu Y., Yagiz N.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.40, no.5, pp.1457-1470, 2018 (SCI-Expanded)
- III. **Experimental evaluation of a fuzzy logic controller on a quarter car test rig**  
Taskin Y., Hacioglu Y., Yagiz N.  
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.39, no.7, pp.2433-2445, 2017 (SCI-Expanded)
- IV. **Suppression of structural vibrations using PDPI plus PI type fuzzy logic controlled active dynamic absorber**  
Ozer H. O., Hacioglu Y., Yagiz N.  
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.38, no.7, pp.2105-2115, 2016 (SCI-Expanded)
- V. **Suppression of structural vibrations using PDPI + PI type fuzzy logic controlled active dynamic absorber**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.38, pp.1-11, 2015 (SCI-Expanded)
- VI. **Multiple-input multiple-output proportional-integral-proportional-derivative type fuzzy logic controller design for a twin rotor system**  
Hacioglu Y.  
JOURNAL OF VIBROENGINEERING, vol.17, no.6, pp.3104-3110, 2015 (SCI-Expanded)
- VII. **Control of a Biomimetic Robot Hand Finger: Classical, Robust, and Intelligent Approaches**

- Arslan Y. Z., Taskin Y., Hacioglu Y., Yagiz N.  
 HANDBOOK OF RESEARCH ON ADVANCEMENTS IN ROBOTICS AND MECHATRONICS, pp.475-499, 2015 (SCI-Expanded)
- VIII. **Adaptive backstepping control with estimation for the vibration isolation of buildings**  
 Hacioglu Y., Yagiz N.  
 JOURNAL OF VIBRATION AND CONTROL, vol.18, no.13, pp.1996-2005, 2012 (SCI-Expanded)
- IX. **MIMO fuzzy sliding mode controlled dual arm robot in load transportation**  
 Hacioglu Y., Arslan Y. Z., Yagiz N.  
 JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.348, no.8, pp.1886-1902, 2011 (SCI-Expanded)
- X. **Load transportation by dual arm robot using sliding mode control**  
 Yagiz N., Hacioglu Y., Arslan Y. Z.  
 JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.24, no.5, pp.1177-1184, 2010 (SCI-Expanded)
- XI. **Fuzzy sliding mode control of a finger of a humanoid robot hand**  
 Arslan Y. Z., Hacioglu Y., Yagiz N.  
 EXPERT SYSTEMS, vol.26, no.3, pp.291-303, 2009 (SCI-Expanded)
- XII. **Robust control of a spatial robot using fuzzy sliding modes**  
 Yagiz N., Hacioglu Y.  
 MATHEMATICAL AND COMPUTER MODELLING, vol.49, pp.114-127, 2009 (SCI-Expanded)
- XIII. **Backstepping control of a vehicle with active suspensions**  
 Yagiz N., Hacioglu Y.  
 CONTROL ENGINEERING PRACTICE, vol.16, no.12, pp.1457-1467, 2008 (SCI-Expanded)
- XIV. **Fuzzy Sliding-Mode Control of Active Suspensions**  
 Yagiz N., Hacioglu Y., Taskin Y.  
 IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.55, no.11, pp.3883-3890, 2008 (SCI-Expanded)
- XV. **Prosthetic hand finger control using fuzzy sliding modes**  
 Arslan Y. Z., Hacioglu Y., Yagiz N.  
 JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.52, no.1, pp.121-138, 2008 (SCI-Expanded)
- XVI. **PI+PD type fuzzy logic controlled dual-arm robot in load transfer**  
 Hacioglu Y., Arslan Y. Z., Yagiz N.  
 STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.54, no.5, pp.347-355, 2008 (SCI-Expanded)
- XVII. **Sliding mode control of a finger for a prosthetic hand**  
 Yagiz N., Arslan Y. Z., Hacioglu Y.  
 JOURNAL OF VIBRATION AND CONTROL, vol.13, no.6, pp.733-749, 2007 (SCI-Expanded)
- XVIII. **The use of fuzzy-logic control to improve the ride comfort of vehicles**  
 TAŞKIN Y., HACIOĞLU Y., YAĞIZ N.  
 STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, vol.53, no.4, pp.233-240, 2007 (SCI-Expanded)
- XIX. **Fuzzy sliding modes with moving surface for the robust control of a planar robot**  
 Yagiz N., Hacioglu Y.  
 JOURNAL OF VIBRATION AND CONTROL, vol.11, no.7, pp.903-922, 2005 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Controlling the Building Model Using High Order Sliding Mode Control Optimized by Multi Objective Genetic Algorithm**  
 ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
 Periodicals of Engineering and Natural Sciences, vol.5, pp.256-262, 2017 (Scopus)
- II. **Control of Vehicle Active Suspensions with Actuator Delay via Distributed Backstepping**  
 SEZGİN A., HACIOĞLU Y., YAĞIZ N.  
 International Journal of Science and Engineering Investigations, vol.6, no.69, pp.131-140, 2017 (Peer-Reviewed)

- Journal)
- III. **Distributed Backstepping Control with Actuator Delay for Active Suspension System**  
 SEZGİN A., HACIOĞLU Y., YAĞIZ N.  
 international journal of applied mathematics and informatics, vol.10, pp.105-109, 2016 (Peer-Reviewed Journal)
- IV. **Sliding Mode Control for Active Suspension System with Actuator Delay**  
 SEZGİN A., HACIOĞLU Y., YAĞIZ N.  
 International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering, vol.10, pp.1360-1364, 2016 (Peer-Reviewed Journal)
- V. **High Order Sliding Modes for Vehicle Suspensions via Optimized Super Twisting Algorithm**  
 ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
 International Journal of Mechanical and Production Engineering (IJMPE), vol.4, pp.47-52, 2016 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Control of a Biomimetic Robot Hand Finger: Classical, Robust and Intelligent Approaches**  
 ARSLAN Y. Z., Hacioglu Y., TAŞKIN Y., YAĞIZ N.  
 in: Handbook of Research on Advancements in Robotics and Mechatronics, Habib M. K., Editor, Igı Global Publisher, Hershey, Pa, pp.475-499, 2015
- II. **Control of a Biomimetic Robot Hand Finger: Classical, Robust and Intelligent Approaches**  
 ARSLAN Y. Z., HACIOĞLU Y., TAŞKIN Y., YAĞIZ N.  
 in: Handbook of Research on Advancements in Robotics and Mechatronics, Habib M. K., Editor, Igı Global Publisher, Hershey, Pa, pp.475-499, 2015
- III. **Control of a Biomimetic Robot Hand Finger: Classical, Robust and Intelligent Approaches**  
 ARSLAN Y. Z., Hacioglu Y., TAŞKIN Y., YAĞIZ N.  
 in: Handbook of Research on Advancements in Robotics and Mechatronics, Habib M. K., Editor, Igı Global Publisher, Hershey, Pa, pp.475-499, 2015
- IV. **Control of a Biomimetic Robot Hand Finger: Classical, Robust and Intelligent Approaches**  
 ARSLAN Y. Z., HACIOĞLU Y., TAŞKIN Y., YAĞIZ N.  
 in: Handbook of Research on Advancements in Robotics and Mechatronics, Habib M. K., Editor, Igı Global Publisher, Hershey, Pa, pp.475-499, 2015
- V. **Control of a Biomimetic Robot Hand Finger: Classical, Robust and Intelligent Approaches**  
 ARSLAN Y. Z., HACIOĞLU Y., TAŞKIN Y., YAĞIZ N.  
 in: Handbook of Research on Advancements in Robotics and Mechatronics (2 Volumes), Habib M, Editor, Igı Global Publications, Hershey, pp.475-499, 2015

## Refereed Congress / Symposium Publications in Proceedings

- I. **DYNAMIC MODELLING AND SIMULATION OF A COOLING SYSTEM**  
 SANDAL B., HACIOĞLU Y., YAĞIZ N.  
 4TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2018, İstanbul, Turkey, 19 - 21 December 2018, pp.1631-1636
- II. **MATHEMATICAL MODELLING AND ANALYSIS OF A HEATING SYSTEM**  
 SANDAL B., HACIOĞLU Y., YAĞIZ N.  
 4TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2018, İstanbul, Turkey, 19 - 21 December 2018, pp.1626-1630
- III. **Distributed Backstepping Approach for the Control of Half-Car Active Suspensions with Input Delay**  
 SEZGİN A., HACIOĞLU Y., YAĞIZ N.  
 2nd International Conference on Mechanical Engineering and Robotics Research (ICMERR 2017), Paris, France, 11

- 13 December 2017, pp.1-5
- IV. **Controlling the Building Model Using High Order Sliding Model Control Optimized by Multi Objective Genetic Algorithm**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
International Conference on Engineering Technology and Innovation (ICETI 2017), Sarajevo, Bosnia And Herzegovina, 22 - 26 March 2017, pp.1-6
- V. **Controlling the building model using high order sliding mode control optimized by multi objective genetic algorithm**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
International Conference on Engineering Technology and Innovation, Sarajevo, Bosnia And Herzegovina, 22 - 26 March 2017, pp.1-6
- VI. **Optimized Super Twisting Algorithm for Active Suspension System of a Quarter Car Model**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
5th International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering (ICE-2016), İstanbul, Turkey, 1 - 02 September 2016, pp.32
- VII. **High order sliding modes for vehicle suspensions via optimized super twisting algorithm**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
The IRES - 63rd International Conferences on Engineering and Natural Science (ICENS), Amsterdam, Netherlands, 26 - 27 June 2016, pp.5-10
- VIII. **High Order Sliding Modes for Vehicle Suspensions via Optimized Super Twisting Algorithm**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
The IRES - 63rd International Conferences on Engineering and Natural Science (ICENS), Amsterdam, Netherlands, 26 - 27 June 2016, pp.5-10
- IX. **Suppression of Structural Vibrations Using Dynamic Absorber**  
ÖZER H. Ö., YAĞIZ N., HACIOĞLU Y.  
International Conference on Engineering Vibration (ICOEV 2015), Ljubljana, Slovenia, 7 - 10 September 2015, pp.897-907
- X. **High Order Sliding Mode Control of a Pendulum**  
ÖZER H. Ö., HACIOĞLU Y., YAĞIZ N.  
2nd International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering (ICE2015), İstanbul, Turkey, 27 - 28 August 2015, pp.52
- XI. **Suppression of Building Vibrations Using PD+PI Type Fuzzg Logic Controller**  
HACIOĞLU Y.  
FCTA 2014 International Conference on Fuzzy Computation Theory and Applications, Roma, Italy, 22 - 24 October 2014, pp.153-157
- XII. **Control of vehicle active suspensions by using PD plus PI type fuzzy logic with sliding surface**  
Hacioglu Y., Yagiz N.  
1st International Conference on Mathematical Modelling in Physical Sciences (IC-MSQUARE), Budapest, Hungary, 3 - 07 September 2012, vol.410
- XIII. **Fuzzy sliding mode controllers for vibration suppression of buildings**  
HACIOĞLU Y., YAĞIZ N.  
XV Scientific Convention of Engineering and Architecture (CCIA 15), Havana, Cuba, 29 November - 03 December 2010, vol.1, pp.1
- XIV. **Robust geri adımlamalı kontrol ile robot yörünge takibi**  
HACIOĞLU Y., YAĞIZ N.  
Otomatik Kontrol Ulusal Toplantısı 2009, İstanbul, Turkey, 13 - 16 October 2009, vol.1, pp.1
- XV. **Sliding mode control of a vehicle with non-linearities**  
YAĞIZ N., HACIOĞLU Y., TAŞKIN Y.  
Sixth EUROMECH Nonlinear Dynamics Conference (ENOC-2008), Russia
- XVI. **Geri adımlamalı kontrol ile taşıtların seyir konforunun iyileştirilmesi**  
YAĞIZ N., HACIOĞLU Y.

13. Ulusal Makina Teorisi Sempozyumu, Sivas, Turkey, 7 - 09 June 2007, vol.1, pp.1
- XVII. **Simultaneous trajectory manipulation of a dual-arm robot using sliding mode control**  
 YAĞIZ N., HACIOĞLU Y., ARSLAN Y. Z.  
 Proceedings of the 12-th International Conference on Aerospace Sciences & Aviation Technology, Kahire, Egypt, 29 - 31 May 2007, vol.1, pp.1-12
- XVIII. **Robust control of a prosthetic hand finger**  
 YAGIZ N., HACIOĞLU Y., ARSLAN Y. Z.  
 5th European Symposium on Biomedical Engineering, Greece, pp.1-4
- XIX. **Vibration suppression of a vehicle with fuzzy sliding modes**  
 TASKIN Y., Hacioglu Y.  
 5th International Symposium on Intelligent Manufacturing Systems, Sakarya, Turkey, 1 - 04 May 2006, pp.1132-1140
- XX. **Modeling and control of a humanoid robot hand finger**  
 ARSLAN Y. Z., HACIOĞLU Y.  
 5th International Symposium on Intelligent Manufacturing Systems, Turkey, pp.1141-1149
- XXI. **Bulanık mantıklı kayan kipli kontrol tasarımı ve robot yörünge takibinde uygulanması**  
 Hacioglu Y.  
 II. Mühendislik Bilimleri Genç Araştırmacılar Kongresi MBGAK 2005, İstanbul, Turkey, 17 - 19 November 2005, pp.325-335

## Supported Projects

ARSLAN Y. Z., CANSIZ E., DOĞRU S. C., TAŞKIN Y., HACIOĞLU Y., Project Supported by Higher Education Institutions, MANDİBULA KONDİL KIRIKLARINDA KULLANILAN FARKLI FİKSASYON MALZEMELERİNİN MEKANİK DEĞERLENDİRİMESİ, 2017 - 2017

HACIOĞLU Y., Project Supported by Higher Education Institutions, Suppression of building vibrations using PD+PI type fuzzy logic controller, 2014 - 2014

HACIOĞLU Y., Project Supported by Higher Education Institutions, Control of vehicle active suspensions by using PD+PI type fuzzy logic with sliding surface, 2012 - 2012

## Metrics

Publication: 50  
 Citation (WoS): 419  
 Citation (Scopus): 510  
 H-Index (WoS): 10  
 H-Index (Scopus): 11

## Congress and Symposium Activities

FCTA 2014 - International Conference on Fuzzy Computation Theory and Applications, Attendee, Roma, Italy, 2014