

Asst. Prof. ERSİN TOPTAŞ



## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: W-4022-2017

ScopusID: 35367108900

Yoksis Researcher ID: 43529



## Education Information

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Makine Eğitimi (YI) (Tezli), Turkey 2009 - 2015

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Makine Eğitimi (YI) (Tezli), Turkey 2004 - 2006

Undergraduate, Marmara University, Faculty of Technical Education, Tasarım Ve Konstrüksiyon Eğitimi Bölümü, Turkey 2000 - 2004

## Foreign Languages

English, B2 Upper Intermediate

## Dissertations

Doctorate, Sürekli karbon elyaf takviyeli kompozit imalatında ön gerilmeden kaynaklanan mukavemet kaybının incelenmesi, Marmara Üniversitesi, Institute for Graduate Studies in Pure and Applied Sciences, Makine Eğitimi (YI) (Tezli), 2015

## Research Areas

Construction and Manufacturing, Machine Design, Computer Aided Design and Manufacturing, Material, Machine Dynamics, Mechanisms, Mechatronics, Solid Mechanics, Finite Element Methods, Biomechanics, Mechanical Testing

## Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty of Technology, Mechatronic Engineering, 2018 - Continues

Research Assistant, Marmara University, Faculty of Technology, Mechatronic Engineering, 2011 - 2018

Research Assistant, Marmara University, Faculty of Technical Education, Mechatronic Education, 2005 - 2011

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

- I. **Investigation of time-based pressure control for microfluidics chip design**  
Ersoy S., Atakök G., Khorsandi D., Toptaş E.  
JOURNAL OF ENGINEERING RESEARCH, vol.11, no.4, pp.1-16, 2022 (SCI-Expanded)
- II. **Damage detection of carbon fibers in filament winding machines using an electrical resistance method**  
TOPTAŞ E., AKKUŞ N.  
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.93, pp.671-679, 2017 (SCI-Expanded)
- III. **The Active Learning Method of the Automotive Mechatronics Course Learning Impact on Stability**  
ERSOY S., TOPTAŞ E.  
TECHNICS TECHNOLOGIES EDUCATION MANAGEMENT-TTEM, vol.6, no.1, pp.203-210, 2011 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Kendinden Merkezlemeli Robotik Tutucu Mekanizması**  
BULDUK H. H., TOPTAŞ E.  
International Journal of Advanced Natural Sciences and Engineering Researches, vol.8, no.2, pp.350-357, 2024 (Peer-Reviewed Journal)
- II. **An EMG-based Prosthetic Hand Design and Control Through Dynamic Time Warping**  
KADILAR M. C., TOPTAŞ E., AKGÜN G.  
International Journal of Advanced Natural Sciences and Engineering Researches, vol.8, no.2, pp.339-349, 2024 (Peer-Reviewed Journal)
- III. **Material selection in sensor design for additive manufacturing**  
AKTAŞ B., ŞAHİN T., GÜLLÜ A., TOPTAŞ E., FEYZİOĞLU A., ERSOY S.  
JVE International Ltd., vol.4, 2023 (Peer-Reviewed Journal)
- IV. **Design and analysis of a 4-axis cartesian robot for unloading plastic injection machines in industrial applications**  
DAĞDELEN Y., AKYÜZ F., FEYZİOĞLU A., TOPTAŞ E.  
JVE International Ltd., 2023 (Peer-Reviewed Journal)
- V. **Klasik Tasarım Teknikleri İle Tasarlanmış Robot Kol Sonu Takımının Üretken Tasarım Yazılımı İle Yeniden Tasarlanması**  
BULDUK H. H., Yıldırım M. T., Çokatar S., Güner O. S., TOPTAŞ E., GÜLSOY H. Ö.  
KMÜ Mühendislik ve Doğa Bilimleri Dergisi, vol.4, no.2, pp.103-116, 2022 (Peer-Reviewed Journal)
- VI. **Yenilikçi Tasarım Bakış Açısıyla İnsansı Robot Kol Parçası Tasarımı**  
Çokatar S., Yıldırım M. T., BULDUK H. H., Güner O. S., TOPTAŞ E.  
Bayburt Üniversitesi, vol.5, no.2, pp.189-197, 2022 (Peer-Reviewed Journal)
- VII. **Tasarım Süreçlerinde Otomasyon Sistemlerinin Optimizasyonu ve Etkilerinin İncelenmesi**  
Gül B., TOPTAŞ E.  
Avrupa Bilim ve Teknoloji Dergisi, no.28, pp.1534-1539, 2021 (Peer-Reviewed Journal)
- VIII. **Measurement of temperature and displacement with NiTi actuators under certain electrical conditions**  
Toptaş E., Çelebi M. F., Ersoy S.  
JOURNAL OF MEASUREMENTS IN ENGINEERING, vol.9, no.2, pp.87-94, 2021 (ESCI)
- IX. **Automatic Decision Making System with Environmental and Traffic Data**  
Ersoy S., Waqar T., Toptaş E.  
Mathematical Models in Engineering, vol.7, no.2, 2021 (Peer-Reviewed Journal)
- X. **Yangın Tüpünün İç Basınç Altındaki Davranışının Deneysel ve Nümerik Olarak İncelenmesi**  
TOPTAŞ E.  
Düzce Üniversitesi Bilim ve Teknoloji Dergisi, vol.8, no.4, pp.2313-2320, 2020 (Peer-Reviewed Journal)

- XI. **Innovative approach to the design of mechanical parts**  
TOPTAŞ E.  
Journal of Mechatronics and Artificial Intelligence in Engineering, 2020 (Peer-Reviewed Journal)
- XII. **Vertical axis hybrid wind turbine design**  
TOPTAŞ E., Bayrak M. A., BOZ T.  
Journal of Mechatronics and Artificial Intelligence in Engineering, 2020 (Peer-Reviewed Journal)
- XIII. **DESIGN AND MYOELECTRIC CONTROL OF AN ACTIVE ORTHOSIS DEVICE USING FINITE STATE MACHINE ALGORITHM**  
ÜLKİR O., AKGÜN G., TOPTAŞ E., KAPLANOĞLU E.  
Technium: Romanian Journal of Applied Sciences and Technology, vol.2, 2020 (Peer-Reviewed Journal)
- XIV. **INVESTIGATION ON VIBRATION ANALYSIS OF THE EFFECT OFFIBER BREAKS IN UNIDIRECTIONAL COMPOSITES**  
Toptaş E., Ersoy S., Bozkurt Y.  
The Online Journal of Science and Technology, vol.8, pp.74-79, 2018 (Peer-Reviewed Journal)
- XV. **COMPARISON OF THE VIBRATION PROPERTIES OF MATERIALS AA2124/SiC/25p and ALUMINUM 6061-T6**  
Bozkurt Y., Toptaş E., Ersoy S.  
The Online Journal of Science and Technology, vol.8, pp.44-47, 2018 (Peer-Reviewed Journal)
- XVI. **DESIGN AND CONTROL OF PLASTIC BOTTLE BREAKING AND STORAGE MACHINE**  
ERSOY S., AYGÜL E., TOPTAŞ E.  
Journal of the Technical University of Gabrovo, vol.56, pp.30-32, 2018 (Peer-Reviewed Journal)
- XVII. **Şekil Hafızalı Metallerin Mekanik Yapısındaki Faz Değişimlerinin Sonlu Elemanlar Yöntemi İle İncelenmesi**  
TOPTAŞ E., AKKUŞ N.  
Makine Teknolojileri elektronik Dergisi, vol.10, pp.25-33, 2013 (Peer-Reviewed Journal)
- XVIII. **Protez El Tasarımında Şekil Hafızalı Metal Kullanımı**  
TOPTAŞ E., KAPLANOĞLU E.  
Makinetek, vol.6, pp.1-6, 2013 (Peer-Reviewed Journal)
- XIX. **Hastane İnfüzyon Cihazları Otomasyonu**  
ERSOY S., TOPTAŞ E.  
Bilişim Teknolojileri Dergisi, vol.4, pp.1-5, 2011 (Peer-Reviewed Journal)
- XX. **Vehicle electro-mechanical brake system: A mechatronic application**  
AKKUŞ N., Yücel F., TOPTAŞ E.  
Solid State Phenomena, pp.480-485, 2009 (Scopus)
- XXI. **Şekil Hafızalı Alaşımlar ve Endüstriyel Uygulamaları**  
TOPTAŞ E., AKKUŞ N.  
Teknolojik Araştırmalar: MTED, vol.4, pp.15-22, 2007 (Peer-Reviewed Journal)

## **Books & Book Chapters**

- I. **Additive Manufacturing with Metal-Matrix Composites in Product Design**  
Toptaş E.  
in: The Fundamentals of Metal-Matrix Composites, Sezgin Ersoy, Editor, Nova Science Publishers, New York, pp.200-225, 2022

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

- I. **Self-Centering Robotic Gripper Mechanism**  
Bulduk H. H., TOPTAŞ E.

- 4th International Conference on Innovative Academic Studies ICIAS 2024, Konya, Turkey, 12 March 2024
- II. **An EMG-based Prosthetic Hand Design and Control Through Dynamic Time Warping**  
KADILAR M. C., TOPTAŞ E., AKGÜN G.  
4th International Conference on Innovative Academic Studies ICIAS 2024, Konya, Turkey, 12 March 2024
- III. **Tasarım Süreçlerinde Otomasyon Sistemlerinin Optimizasyonu ve Etkilerinin İncelenmesi**  
GÜL B., TOPTAŞ E.  
1st International Conference on Applied Engineering and Natural Sciences (ICAENS 2021), Konya, Turkey, 1 - 03 November 2021, pp.912
- IV. **Biomechanical Design of an Anthropomorphic Prosthetic Hand**  
Atasoy A., TOPTAŞ E., Kuchimov S., Gulfize S., Turpçu M., KAPLANOĞLU E., Güclü B., Özkan M.  
7th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, BIOROB 2018, Enschede, Netherlands, 26 - 29 August 2018, pp.732-736
- V. **SMA actuator design considerations ŞHA Eyleyici Tasarım Kriterleri**  
Atasoy A., Kuchimov S., GÜÇLÜ B., ÖZKAN M., Toptaş E., KAPLANOĞLU E.  
4th Electric Electronics, Computer Science, Biomedical Engineerings' Meeting, EBBT 2018, İstanbul, Turkey, 18 - 19 April 2018, pp.1-4
- VI. **Design and control of plastic bottle breaking and storage machine**  
ERSOY S., AYGÜL E., TOPTAŞ E.  
International Scientific Conference "UNITECH 2017", Gabrovo, Bulgaria, 17 - 18 November 2017, vol.3, pp.61-64
- VII. **Aluminyum Alaşımlarının Sürtünme Karıştırma Nokta Kaynağı**  
Bozkurt Y., Toptaş E., Ersoy S.  
International Science and Technology Conference, Berlin, Germany, 17 - 19 July 2017, pp.61-67
- VIII. **Comparision of the Vibration Properties of Materials AA2124/SiC/25p and Aluminum 6061-T6**  
BOZKURT Y., Buçan M., Bacaksız K., TOPTAŞ E., ERSOY S.  
International Science and Technology Conference, Berlin, Germany, 17 - 19 July 2017, pp.194-197
- IX. **An Investigationon Vibrational Analysis of Cantilever Beams Based on Fiber Breaks in Undirectional Fiber Composites**  
TOPTAŞ E., ERSOY S., GENÇ G., BOZKURT Y., AKKUŞ N., ERTUĞRUL İ.  
International Science and Technology Conference, Berlin, Germany, 17 - 19 July 2017, pp.97-103
- X. **HOW THE RESIN IMPREGNATION AFFECTS THE STRENGTH LOSS OF CARBON FIBER IN FILAMENT WINDING PROCESS?**  
GENÇ G., AKKUŞ N., TOPTAŞ E.  
25th Annual International Conference on Composites or Nano Engineering, Roma, Italy, 16 - 22 July 2017, vol.1, pp.11-12
- XI. **SMA actuated prosthetic finger design SHA Eyleyicili Protez Parmak Tasarımı**  
Atasoy A., TOPTAŞ E., Kuchimov S., KAPLANOĞLU E., Takka S., Ozkan M.  
20th National Biomedical Engineering Meeting, BIYOMUT 2016, İzmir, Turkey, 3 - 05 December 2016
- XII. **Elyaf Sarma İşleminde Sarım Parametrelerinin Karbon Elyaf Mukavemetine Etkisinin İstatiksel Modellenmesi**  
GENÇ G., AKKUŞ N., TOPTAŞ E.  
16th International Materials Symposium IMSP'2016, Pamukkale, 12 - 14 October 2016
- XIII. **ŞHA Eyleyicili Protez Parmak Tasarımı**  
ATASOY A., TOPTAŞ E., KUCHIMOV S., KAPLANOĞLU E., TAKKA S., ÖZKAN M.  
20. Biyomedikal Mühendisliği Ulusal Toplantısı (Uluslararası Katılımlı), 3 - 05 November 2016
- XIV. **Antropomorfik Hibrit Protez Elin EMG Tabanlı Kontrolü için Sınıflandırma**  
ATASOY A., KAYA E., TOPTAŞ E., TURPÇU M., KUCHIMOV S., KAPLANOĞLU E., TAKKA S., ÖZKAN M.  
20. Biyomedikal Mühendisliği Ulusal Toplantısı (Uluslararası Katılımlı), 3 - 05 November 2016
- XV. **SMA Actuated Prosthetic Finger Desgin**  
Atasoy A., TOPTAŞ E., Kuchimov S., KAPLANOĞLU E., Takka S., ÖZKAN M.  
20th National Biomedical Engineering Meeting (BIYOMUT), İzmir, Turkey, 3 - 05 November 2016
- XVI. **Elyaf sarma işleminde sarım parametrelerinin karbon elyaf mukavemetine etkisinin istatistiksel**

**modellenmesi**

GENÇ G., AKKUŞ N., TOPTAŞ E.

16th International Materials Symposium IMSP'2016, Denizli, Turkey, 12 - 14 October 2016, vol.1, pp.694-700

- XVII. **Classification of EMG Signals For Different Hand Position Transitions Using Neural Network**  
Kaya E., KAPLANOĞLU E., Atasoy A., TOPTAŞ E., ÖZKAN M.  
2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 16 - 20 August 2016
- XVIII. **Anthropomorphic Prosthetic Hand Design**  
ÖZKAN M., TOPTAŞ E., KAPLANOĞLU E., TAKKA S., ATASOY A., Kuchimov S.  
The IEEE Life Sciences Grand Challenges Conference, Abu Dhabi, UAE , 25 - 27 January 2016
- XIX. **Anthropomorphic Prosthetic Hand Design**  
ÖZKAN M., TOPTAŞ E., KAPLANOĞLU E., TAKKA S., atasoy a., Kuchimov S.  
The IEEE Life Sciences Grand Challenges Conference, Abu Dhabi, United Arab Emirates, 25 - 26 January 2016
- XX. **SMA ACTUATED FINGER DESIGN**  
atasoy a., TOPTAŞ E., kuchimov s., KAPLANOĞLU E., TAKKA S., ÖZKAN M.  
2016 IEEE Life Sciences grand Challenges Conference, Abu Dhabi, United Arab Emirates, 25 - 26 January 2016
- XXI. **24 DOF EMG Controlled Hybrid Actuated Prosthetic Hand**  
Atasoy A., Kaya E., Toptas E., Kuchimov S., Kaplanoglu E., Ozkan M.  
38th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society (EMBC), Florida, United States Of America, 16 - 20 August 2016, pp.5059-5062
- XXII. **Anthropomorphic Dexterous Prosthetic Hand Mechanical Design**  
ATASOY A., KUCHIMOV S., TOPTAŞ E., KAPLANOĞLU E., TAKKA S., ÖZKAN M.  
37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), 25 - 29 August 2015
- XXIII. **Caliper simulation using computer for vocational and technical education**  
GENÇ G., Sezen S., AKKUŞ N., TOPTAŞ E.  
ERPA International Congresses on Education (ERPA), Athens, Greece, 4 - 07 June 2015, vol.26
- XXIV. **Damage Detection Of The Carbon Fibers İn Filament Winding Process By Electrical Resistance Measurements**  
TOPTAŞ E., AKKUŞ N.  
International Conference on Advances in Composite Materials and Structures (CACMS 2015), İstanbul, Turkey, 13 - 15 April 2015
- XXV. **One Step Closer to an Antropomorphic Dexterous Hand**  
ATASOY A., KUCHIMOV S., TOPTAŞ E., KAPLANOĞLU E., TAKKA S., ÖZKAN M.  
36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), 26 - 30 August 2014
- XXVI. **Finger Design For Anthropomorphic Prosthetic Hands**  
Atasoy A., Kuchimov S., Toptas E., Kaplanoglu E., Takka S., Ozkan M.  
18th National Biomedical Engineering Meeting (BIYOMUT), İstanbul, Turkey, 16 - 17 October 2014
- XXVII. **An Approach for Syllabus of Finite Element Analysis in the International Welding Engineer Education**  
AKKUŞ N., TOPTAŞ E., GENÇ G.  
International Congress on Advances in Welding Science and Technology for Construction, Energy and Transportation Systems (AWST), Antalya, Turkey, 24 - 27 October 2011, vol.1, pp.71-77
- XXVIII. **FEM INVESTIGATION OF THE FIBER REINFORCED COMPOSITE PRESSURE VESSEL UNDER IMPACT LOADING**  
AKKUŞ N., GENÇ G., TOPTAŞ E.  
European Symposium on Pressure Equipment (ESOPE), Paris, France, 28 September - 30 October 2010
- XXIX. **Ark Kaynaklı Birleştirmenin Sonlu Elemanlar Yöntemi İle Termomekanik Analizi**  
Topal Ö., AKKUŞ N., TOPTAŞ E.  
Kaynak Teknolojisi VII. Ulusal Kongre ve Sergisi, Ankara, Turkey, 13 - 14 November 2009

- XXX. **Hidrojen Enerjisiyle Çalışan Aracın Tasarımı ve İmalatı**  
EGE M., Turpçu M., Çeber A., AKKUŞ N., GENÇ G., TOPTAŞ E.  
IV. Ulusal Hidrojen Enerjisi Kongresi ve Sergisi, Kocaeli, Turkey, 15 - 16 October 2009
- XXXI. **Sound absorption measurements in plastic-based composites the results obtained with the expression of the statistical equations**  
TOPTAŞ E., ERSOY S.  
8th International Conference Vibroengineering 2009, Klaipeda, Lithuania, 16 - 18 September 2009, pp.15-18
- XXXII. **Şekil Hafızalı Alaşımli Telin Elektrik Akımı Altındaki Davranışının Deneysel İncelemesi**  
TOPTAŞ E., AKKUŞ N., GENÇ G.  
12. Uluslararası Malzeme Sempozyumu, Denizli, Turkey, 15 - 17 October 2008, vol.1, pp.1157-1164
- XXXIII. **Elyaf Sarma İşleminde Kullanılan Sürekli Karbon Elyaf İle Alüminyum Makara Arasındaki Dinamik Sürtünme Katsayısının Teorik Ve Deneysel Olarak Belirlenmesi**  
GENÇ G., AKKUŞ N., TOPTAŞ E.  
12. Uluslararası Malzeme Sempozyum, Denizli, Turkey, 15 - 17 October 2008, vol.1, pp.425-433

## Supported Projects

Akkuş N., Toptaş E., Project Supported by Higher Education Institutions, MİKRO- ELEKTRO- MEKANİK- SİSTEMLER (MEMS) TASARIMI ve FABRİKASYON TEKNOLOJİLERİ EĞİTİMLERİ İLE MEMS ÜRETİM ve ARAŞTIRMA FARKINDALIĞININ ARTTIRILMASI PROJESİ, 2017 - 2019

Kaplanoğlu E., Toptaş E., EU Supported Other Project, 3D modelling curriculum and applications for 3D printers and tabs for VET schools, 2016 - 2018

Kaplanoğlu E., Toptaş E., Ersoy S., Erasmus Project, 3D MODELLING AND APPLICATIONS FOR 3D PRINTERS AND TABS FOR VET SCHOOLS, 2016 - 2018

Toptaş E., Özkan M., Kaplanoğlu E., TUBITAK Project, Bilişsel Kontrollü Miyoelektrik Hibrit Protez El, 2013 - 2017

Genç G., Akkuş N., Toptaş E., Ersoy S., Project Supported by Higher Education Institutions, Kabak Lifi Takviyeli Bio Kompozit Malzemelerin Dinamik ve Mekanik Özelliklerinin Belirlenmesi, 2013 - 2016

Akkuş N., Doğan B., Toptaş E., Project Supported by Other Official Institutions, Computer Aided Design and Manufacturing CAD CAM and Computer Aided Manufacturing CIM Laboratories Infrastructure Development and Modernization, 2014 - 2015

Toptaş E., Akkuş N., Project Supported by Higher Education Institutions, Sürekli Elyaf Takviyeli Kompozit İmalatında Ön Gerilmeden Kaynaklanan Mukavemet Kaybının İncelenmesi, 2012 - 2015

Pazarlıoğlu S. S., Artır R., Salman S., Gülsoy H. Ö., Toptaş E., Project Supported by Higher Education Institutions, Bor Elementinin Toz Metalurjisi ve Döküm Yöntemiyle Üretilmiş Yüksek Hız Çeliklerinde Uygulanması ve Mikroyapısal Karakterizasyonu, 2010 - 2012

Akkuş N., TUBITAK Project, Karbon Elyaf Hasarlarının Elektriksel Yöntemlerle Tespiti, 2010 - 2011

## Metrics

Publication: 58

Citation (WoS): 28

Citation (Scopus): 43

H-Index (WoS): 2

H-Index (Scopus): 3