

## Prof. HAKAN AYDIN

### Personal Information

Office Phone: [+90 224 294 0652](tel:+902242940652)

Web: <https://avesis.uludag.edu.tr/hakanay>

Address: Bursa Uludağ Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Görükle Kampüsü-Bursa

### International Researcher IDs

ORCID: 0000-0001-7364-6281

Yoksis Researcher ID: 30437

### Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), Turkey 2002 - 2008

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (YI) (Tezli), Turkey 2000 - 2002

Undergraduate, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, Makine Mühendisliği Bölümü, Turkey 1995 - 2000

### Foreign Languages

English, C1 Advanced

### Research Areas

Mechanical Engineering, Construction and Manufacturing, Tribology, NDT Engineering, Casting Methods, Non-traditional manufacturing methods, Welding Methods, Material, Plastic Forming Methods, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2015 - Continues

Assistant Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2012 - Continues

Expert, Brigham Young University, Ira. A. Fulton College Of Engineering And Technology, Mechanical Engineering, 2010 - 2012

Research Assistant, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, MAKİNA MÜHENDİSLİĞİ, 2000 - 2012

### Courses

Plastik Malzemeler, Undergraduate, 2017 - 2018, 2016 - 2017

Malzeme Bilimi, Undergraduate, 2017 - 2018, 2016 - 2017

Tahribatsız Muayene Yöntemleri, Undergraduate, 2017 - 2018, 2016 - 2017

İmalat İşlemleri-I, Associate Degree, 2017 - 2018, 2016 - 2017

Hafif Metaller, Postgraduate, 2017 - 2018, 2016 - 2017

İmalat Sanayinde Yüzey İşlemleri, Postgraduate, 2017 - 2018, 2016 - 2017

Mühendislik Malzemeleri, Undergraduate, 2017 - 2018, 2016 - 2017

Welding Metallurgy, Undergraduate, 2017 - 2018

Temel İmalat İşlemleri, Associate Degree, 2017 - 2018, 2016 - 2017

## Advising Theses

AYDIN H., Optimization of welding parameters in 5083 aluminum alloy welded by friction stir welding, Postgraduate, O.Akyel(Student), 2020

AYDIN H., Friction-wear characteristics of plasma nitrided cold work tool steels, Postgraduate, A.Yılmaz(Student), 2019

AYDIN H., An investigation of mechanical properties of high strength steel sheets joined with laser welding, Postgraduate, Ş.Çetin(Student), 2019

AYDIN H., The investigation of mechanical properties of three steel sheets resistance spot welds, Postgraduate, L.Selova(Student), 2019

AYDIN H., Investigation of plasma nitriding treatment effects on effectiveness of shredder blades that is used in refuse derived fuel (RDF) facility, Postgraduate, F.BOSTANCI(Student), 2017

AYDIN H., The investigation of mechanical properties of friction stir spot welded AA6082-T6 aluminium alloy, Postgraduate, O.TUNÇEL(Student), 2015

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

- I. **Parameter optimization, microstructural and mechanical properties of fiber laser lap welds of DP1200 steel sheets**  
ALTAY M., AYDIN H.  
Measurement: Journal of the International Measurement Confederation, vol.235, 2024 (SCI-Expanded)
- II. **Investigation of the effects of welding parameters on mechanical properties and microstructure of triple joined FEP05/DP600/FEP05 steel sheets joined by electrical resistance spot welding** Elektrik direnç punta kaynağı ile üçlü birleştirilen FEP05/DP600/FEP05 çelik saclarda kaynak parametrelerinin mekanik özelliklere ve mikroyapı üzerindeki etkilerin araştırılması  
Selova L., Tunçel O., Çavuşoğlu O., Dindar Ç., AYDIN H.  
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.39, no.2, pp.835-845, 2024 (SCI-Expanded)
- III. **Effect of heat input on HAZ softening in fiber laser welding of 22MnB5 steel**  
TUNÇEL O., AYDIN H., Davut K.  
OPTICS AND LASER TECHNOLOGY, vol.164, 2023 (SCI-Expanded)
- IV. **Optimization of Laser Cladding Process Parameters of a Martensitic Stainless Steel Coating on GGG70L Ductile Cast Iron**  
Karşı A., Altay M., Aydın H., Bayram A.  
LASERS IN ENGINEERING, vol.54, no.1-3, pp.19-38, 2023 (SCI-Expanded)
- V. **Effect of Laser Cladding Parameters in Laser Direct Metal Deposition (LDMD) of Martensitic Stainless Steel Powder on Ductile Cast Iron**  
Aydın H., Altay M., Karşı A., Ergin D., Onaylı A., Bayram A.  
Lasers In Engineering, vol.52, pp.87-106, 2022 (SCI-Expanded)
- VI. **Investigation of microstructure and mechanical properties of dissimilar electrical resistance spot welded TBF/DP600 steel sheets**  
AYDIN H., Yılmaz I. O., Bilici A. Y.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.37, no.2, pp.609-624, 2022 (SCI-Expanded)
- VII. **Effect of tool pin profile on the hook geometry and mechanical properties of a friction stir spot welded AA6082-T6 aluminum alloy**  
AYDIN H., TUNÇEL O., Tutar M., BAYRAM A.

TRANSACTIONS OF THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING, vol.45, no.2, pp.233-248, 2021 (SCI-Expanded)

VIII. **Resistance spot weldability of TBF steel sheets with dissimilar thickness**

Yilmaz I. O., Bilici A. Y., AYDIN H.

METALLURGICAL RESEARCH & TECHNOLOGY, vol.117, no.6, 2020 (SCI-Expanded)

IX. **IMPROVEMENT OF WEAR RESISTANCE OF SHREDDER BLADES USED IN A REFUSE-DERIVED FUEL (RDF) FACILITY BY PLASMA NITRIDING**

AYDIN H., Bostanci F.

SURFACE REVIEW AND LETTERS, vol.27, no.4, 2020 (SCI-Expanded)

## Articles Published in Other Journals

I. **Uçak Kanadı Tasarımı, Analizi ve Yapı Elemanlarının Topoloji Optimizasyonu**

Korkut H., Altay M., Aydın H.

Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.28, no.3, pp.1091-1106, 2023 (Peer-Reviewed Journal)

II. **Prediction and Optimization of the Effect of Process Parameters on Mechanical and Geometric Properties in Laser Welding Process of DP1200 Steel by Fuzzy Logic Method**

Altay M., Aydın H.

Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.28, no.1, pp.299-316, 2023 (Peer-Reviewed Journal)

III. **Optimization of Nd:YAG Laser Welding Factors of Cold Rolled Strenx 700 CR Steel by Taguchi Method**

TUNÇEL O., AYDIN H.

Çukurova Üniversitesi Mühendislik Fakültesi dergisi, vol.38, no.1, pp.85-92, 2023 (Peer-Reviewed Journal)

IV. **Effect of Laser Angle Parameter in High Strength DP1200 Steel Fiber Laser Overlap Welding**

Altay M., Aydın H.

Journal of advanced research in natural and applied sciences (Online), vol.9, no.1, pp.78-88, 2023 (Peer-Reviewed Journal)

V. **A parametric study on weld zone shape of resistance spot welded 22MnB5 steel**

Tuncel O., AYDIN H., Gonul A.

Welding International, vol.37, no.3, pp.142-153, 2023 (Scopus)

VI. **Investigation of the Mechanical Properties of St52 and S460MC Steels by Gas Welding**

OKUROĞULLARI Y., ÇAVUŞOĞLU O., TUTAR M., AYDIN H.

International Journal of Automotive Science and Technology, vol.6, no.3, pp.221-225, 2022 (Peer-Reviewed Journal)

VII. **Investigation of Mechanical Properties of St52 and S460MC Steels Joined by Gas Welding**

Okuroğullari Y., Çavuşoğlu O., TUTAR M., AYDIN H.

International Journal of Automotive Science and Technology, vol.6, no.3, pp.221-225, 2022 (Scopus)

VIII. **LAZER KAPLAMA PROSESİ ve PROSES PARAMETRELERİ: DERLEME ÇALIŞMASI**

Dindar Ç., Altay M., Aydın H.

Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.26, no.2, pp.723-736, 2021 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

I. **EFFECT OF ENERGY INPUT ON POROSITY AND MICROHARDNESS IN LASER CLADDING COATING ON FGS600-3A DUCTILE CAST IRON**

Karşı A., Altay M., Ergin D., Aydın H.

31st International Conference on Metallurgy and Materials, METAL 2022, Brno, Czech Republic, 18 - 19 May 2022, pp.474-480

II. **The effect of infill pattern on mechanical properties of materials produced by fused deposition**

**modeling**

DİNDAR Ç., ALTAY M., TUTAR M., AYDIN H.

International Marmara Sciences Congress (IMASCON 2020 - Autumn), Kocaeli, Turkey, 04 December 2020, vol.1, pp.464-470

- III. **Mechanical Properties of Resistance Spot Welded Three-Sheet Stack Joints of Dissimilar Steels in Different Welding Time**  
selova I., AYDIN H., TUNÇEL O., çavuşoğlu o.  
3rd International Conference on Advanced Engineering Technologies (ICADET 19), 19 - 21 September 2019
- IV. **Effect of Electrode Force on Mechanical Properties of Triple Joined Dissimilar Steel Sheets by Resistance Spot Welding**  
TUNÇEL O., AYDIN H., çavuşoğlu o., selova I.  
3rd International Conference on Advanced Engineering Technologies (ICADET 19), 19 - 21 September 2019
- V. **POWER EFFECT ON PULSED ND:YAG LASER WELDED DP1000 STEEL SHEETS**  
AYDIN H., TUNÇEL O., ÇETİN Ş.  
International Multidisciplinary Academic Conference AC 2019 Prague, 8 - 10 August 2019
- VI. **Tensile Properties of Resistance Spot Welded Ultra High Strength Steel Usibor 1500**  
TUNÇEL O., AYDIN H.  
INTERNATIONAL ENGINEERING AND SCIENCE SYMPOSIUM 2019, 20 - 22 June 2019
- VII. **Mechanical Properties of Nd:YAG Laser Welded Advanced High Strength DP1000 Steel at Different Pulse Duration Times**  
TUNÇEL O., AYDIN H., ÇETİN Ş.  
INTERNATIONAL ENGINEERING AND SCIENCE SYMPOSIUM 2019, 20 - 22 June 2019
- VIII. **Tensile properties of pulsed Nd:YAG laser welded dissimilar DP600-DP1000 steel sheets**  
TUNÇEL O., AYDIN H., ÇETİN Ş.  
Alternative Energy Sources, Materials and Technologies (AESMT'xx19), 3 - 04 June 2019
- IX. **Pulsed Nd:YAG laser welding of similar and dissimilar DP steel sheets**  
TUNÇEL O., AYDIN H., ÇETİN Ş.  
Alternative Energy Sources, Materials and Technologies (AESMT'xx19), 3 - 04 June 2019
- X. **Otomotiv Sanayinde Kullanılan Yüksek Mukavemetli Çeliklerde SEM-OIM Tekniği ile Beynitik Mikroyapıların Kantitatif Karakterizasyonu**  
AYDIN H.  
7. Otomotiv Teknolojileri Kongresi OTEKON'10, Bursa-Türkiye, Turkey, 26 - 27 May 2014
- XI. **Effect of Pulse Frequency on Mechanical Properties of Nd:YAG Laser Welded Dissimilar DP Steels**  
TUNÇEL O., AYDIN H., ÇETİN Ş.  
INTERNATIONAL IRON AND STEEL SYMPOSIUM (UDCS19), 4 - 06 April 2019
- XII. **Effect of Welding Current on Mechanical Properties of Dissimilar Steels Joined Triple by Electrical Resistance Spot Welding**  
TUNÇEL O., AYDIN H., SELOVA L.  
INTERNATIONAL IRON AND STEEL SYMPOSIUM (UDCS19), 4 - 06 April 2019
- XIII. **FARKLI KALINLIKLARDAKİ YENİL NESİL TBF ÇELİĞİNİN ELEKTRİK DİRENÇ PUNTA KAYNAĞI İLE KAYNAK EDİLEBİLİRLİĞİ**  
ÖZTÜRK YILMAZ i., BİLİCİ A. Y., AYDIN H.  
9th International Automotive Technologies Congress, OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.1594-1600
- XIV. **30 DEFORME EDİLMİŞ TWIP ÇELİĞİNİN ELEKTRİK DİRENÇ PUNTA KAYNAĞINDA ELEKTROD BASKI KUVVETİNİN KAYNAK ÖZELLİKLERİ ÜZERİNDEKİ ETKİSİ**  
TUTAR M., AYDIN H., BAYRAM A.  
9th International Automotive Technologies Congress, Otekon 2018, Bursa, Turkey, 7 - 08 May 2018, pp.1392-1399
- XV. **ND:YAG LAZER KAYNAĞI İLE BİRLEŞTİRİLEN DP600 ÇELİĞİNDE DARBE SÜRESİNİN MİKROYAPI VE MEKANİK ÖZELLİKLERİNE ETKİSİ**  
TUNÇEL O., AYDIN H., ÇETİN Ş.

9th International Automotive Technologies Congress, OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.1503-1511

- XVI. **ULTRA YÜKSEK MUKAVEMETLİ DP1000 ÇELİĞİNİN ND:YAG LAZER KAYNAĞINDA IŞIN ÇAPI ETKİSİ**  
TUNÇEL O., AYDIN H., ÇETİN Ş.  
9th International Automotive Technologies Congress, OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.1512-1521
- XVII. **Tool Pin Geometry Effect on Fracture Characteristics of 6082-T6 Friction Stir Spot Welds in Lap Shear Test**  
TUNÇEL O., AYDIN H., TUTAR M., BAYRAM A.  
2nd International Conference on Advanced Engineering Technologies, (ICADET 17), Bayburt, Turkey, 21 - 23 September 2017, pp.434-444
- XVIII. **Effect Of Welding Time On Weld Properties Of 30 Cold Rolled Twip Steel Resistance Spot Welds**  
AYDIN H., TUTAR M., BAYRAM A.  
Istec 2017 Europe-international Science And Technology Conference, Berlin, Germany, 17 July 2017 - 19 January 2018, pp.300-306
- XIX. **Multi Objective Taguchi Optimization Approach For Resistance Spot Welding Of Cold Rolled Twip Steel Sheets**  
TUTAR M., AYDIN H., BAYRAM A.  
The 6th International Conference On Manufacturing Engineering And Process, Lizbon, Portugal, 27 - 29 May 2017, pp.53-57
- XX. **Mechanical Properties of Dissimilar 5754-H22/6082-T6 Aluminum Alloy Lap Joints by FSSW**  
TUNÇEL O., YİĞİT K., TUTAR M., AYDIN H.  
3rd International Conference on Engineering and Natural Science (ICENS 2017), Budapest, Hungary, 3 - 07 May 2017, pp.61-67
- XXI. **Influence of Tool Pin Profile on Mechanical Properties of 6082-T6 Friction Stir Spot Welds**  
AYDIN H., TUNÇEL O., TUTAR M., BAYRAM A.  
3rd International Conference on Engineering and Natural Science (ICENS 2017), Budapest, Hungary, May 2017, Budapest, Hungary, 3 - 07 May 2017, pp.334-339
- XXII. **An Investigation into the Effect of Welding Parameters on Mechanical Properties of Dissimilar Resistance Spot Welded DP1000-QP1180 Steel Joints**  
ÖZTÜRK YILMAZ İ., BİLİCİ A. Y., AYDIN H.  
3rd Iron and Steel Symposium(UDCS'17), Karabük, Turkey, 3 - 05 April 2017, pp.391-395
- XXIII. **Multi objective Taguchi optimization approach for resistance spot welding of cold rolled TWIP steel sheets**  
Tutar M., AYDIN H., BAYRAM A.  
6th International Conference on Manufacturing Engineering and Process (ICMEP), Lisbon, Portugal, 27 - 29 May 2017, vol.885
- XXIV. **Weld Current Effect on the Tensile Strength of Cold Rolled TWIP980 Steel Joints Welded by Resistance Spot Welding**  
AYDIN H., TUTAR M., BAYRAM A.  
3th International Conference on Advanced Technology & Sciences ICAT'16, Konya, Turkey, 1 - 03 September 2016, pp.1247-1251
- XXV. **THE INFLUENCE OF WELDING TIME ON MECHANICAL PROPERTIES OF RESISTANCE SPOT WELDED TWIP STEELSHEETS**  
AYDIN H., TUTAR M., BAYRAM A.  
XIII INTERNATIONAL SCIENTIFIC CONGRESS MACHINES. TECHNOLOGIES. MATERIALS. 2016 SUMMER SESSION, Varna, Bulgaria, 14 - 17 September 2016, vol.24, pp.16-19
- XXVI. **Otomotiv sanayinde kullanılan TWIP çeliğinin elektrik direnç punta kaynağında elektrod baskı kuvvetinin mekanik özelliklere etkisi**  
AYDIN H., TUTAR M., BAYRAM A.  
OTEKON 2016 8. Otomotiv Teknolojileri Kongresi, Bursa, Turkey, 23 - 24 May 2016

- XXVII. **Weld Current Effect on the Mechanical Properties of Resistance Spot Welded TWIP980 Steel Sheets**  
TUTAR M., AYDIN H., BAYRAM A.  
International Research Symposium on Recent Innovations in Engineering Science and Technology, Paris, France, 9 - 10 March 2016, vol.5, pp.12-17
- XXVIII. **Mechanical Performance Of Friction Stir Spot Welded AA6082 T6 Sheets**  
TUNÇEL O., AYDIN H., TUTAR M., BAYRAM A.  
4th IASTEM International Conference, Amsterdam, Netherlands, 12 November 2015, pp.62-66
- XXIX. **Influence of Welding Parameters on Mechanical Properties And Microstructure of Friction Stir Spot Welded AA5754 Aluminium Alloys**  
TUTAR M., AYDIN H., YÜCE C., TUNÇEL O., YAVUZ N., BAYRAM A.  
15th International Materials Symposium, IMSP 2014, 15 - 17 October 2014
- XXX. **Influence of welding parameters on mechanical properties and microstructure of friction stir spot welded AA5754 Aluminium alloys**  
TUTAR M., AYDIN H., YÜCE C., TUNÇEL O., YAVUZ N., BAYRAM A.  
15. International Materials Symposium, Denizli, Turkey, 15 October 2014
- XXXI. **Farklı türdeki yüksek mukavemet çeliklerinin punta kaynağı ile birleştirilmesinde kaynak zamanı ve mekanik özellikler arasındaki korelasyonlar**  
AYDIN H., DURGUN İ., TUTAR M., BAYRAM A.  
Otomotiv Teknolojileri Kongresi (OTEKON14), Bursa, Turkey, 26 May 2014, vol.1, pp.149
- XXXII. **Effect of rotational speed and dwell time on mechanical properties of dissimilar AA1050-AA3105 joints produced by friction stir spot welding**  
AYDIN H., TUNÇEL O., YÜCE C., TUTAR M., YAVUZ N., BAYRAM A.  
3rd International Conference on Welding Technologies and Exhibition, 21 - 23 May 2014
- XXXIII. **Effect of rotational speed and dwell time on mechanical properties of dissimilar AA1050-AA3105 joints produced by friction stir spot welding**  
AYDIN H., TUNÇEL O., YÜCE C., TUTAR M., YAVUZ N., BAYRAM A.  
3. International Conference on Welding Technologies and Exhibition (ICWET 2014), Manisa, Turkey, 21 May 2014
- XXXIV. **Farklı İç Yapılara Sahip Küresel Grafitli Dökme Demirlerin Abrasif Aşınma Davranışlarının İncelenmesi**  
AYDIN H., BAYRAM A., Çalışoğlu İ., Balaban H.  
5. Otomotiv Teknolojileri Kongresi OTEKON'10, Bursa-Türkiye, Turkey, 7 - 08 June 2010
- XXXV. **Plazma Nitrürlemenin Sac Delme Kalıplarında Kullanılan Zımbaların Aşınma Davranışı Üzerindeki Etkisi**  
AYDIN H., BAYRAM A., Saraçoğlu M. H., TUTAR M., DURMUŞ A.  
5. Otomotiv Teknolojileri Kongresi OTEKON'10, Bursa, Turkey, 7 - 08 June 2010, pp.43-50
- XXXVI. **Plazma nitrürlemenin sac delme kalıplarında kullanılan zımbaların aşınma davranışı üzerindeki etkisi**  
AYDIN H., SARAÇOĞLU M. H., DURMUŞ A., TUTAR M., BAYRAM A.  
5. Otomotiv Teknolojileri Kongresi (OTEKON 2010), Bursa, Turkey, 07 June 2010, vol.2010, pp.43-50
- XXXVII. **Otomotiv Sanayinde Kullanılabilecek Al Cu Alaşımları ve İyileştirme Önerileri**  
AHMET HALİM D., YİĞİT K., AYDIN H.  
2. Otomotiv Teknolojileri Kongresi OTEKON04, Bursa, Turkey, 21 - 23 June 2004, pp.321-325
- XXXVIII. **MgCu<sub>2</sub> Partikülleri İçeren Al Cu Alaşımının Verilen Bir Tribosistem ve Yaşlandırma Şartlarında Aşınma Davranışının Belirlenmesi**  
Ahmet Halim D., YİĞİT K., AYDIN H.  
10. Denizli Malzeme Sempozyumu ve Sergisi, Denizli, Denizli, Turkey, 14 - 16 April 2004, pp.187-193
- XXXIX. **Effect of Intermetallic Phase Particles Implanted Before Ageing in Al Cu Mg Alloys on Wear Behaviour**  
Demirci A. H., YİĞİT K., AYDIN H.  
6th International Symposium INSYCONT'02 New Achievements in Tribology, Cracow, Poland, CRACOW, Poland, 19 - 21 September 2002, pp.273-279

## **Metrics**

Publication: 98

Citation (WoS): 482

Citation (Scopus): 552

H-Index (WoS): 10

H-Index (Scopus): 10

## **Non Academic Experience**

Brigham Young University-ABD

Ankara Kara Harp Okulu