

Prof. MURAT AYDIN

Personal Information

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Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makina Mühendisliği Anabilimdalı, Turkey 1995 - 2001

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makina Mühendisliği Anabilimdalı, Turkey 1992 - 1995

Undergraduate, Karadeniz Technical University, Mühendislik-Mimarlık Fakültesi, Makina Mühendisliği Bölümü, Turkey 1988 - 1992

Foreign Languages

English, B2 Upper Intermediate

Certificates, Courses and Trainings

Occupational Health and Safety, İşyeri hekimliği ve iş güvenliği uzmanlığı eğitici belgesi, Çalışma ve Sosyal Güvenlik Bakanlığı İş Sağlığı ve İş Güvenliği Genel Müdürlüğü, 2013

Dissertations

Doctorate, Çinko-Alüminyum Esaslı Alaşımların Değişik Ortamlardaki Yorulma Davranışlarının İncelenmesi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makina Mühendisliği Anabilimdalı, 2001

Postgraduate, Çinko-Alüminyum Esaslı Alaşımların Yorulma Özelliklerinin İncelenmesi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makina Mühendisliği Anabilimdalı, 1995

Research Areas

Mechanical Engineering, Construction and Manufacturing, Non-traditional manufacturing methods, Material, Mechanical, Mechanical Testing, Engineering and Technology

Academic Titles / Tasks

Professor, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2018 - Continues

Associate Professor, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2013 - 2018

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2008 - 2013

Assistant Professor, Karadeniz Technical University, Beşikdüzü Meslek Yüksekokulu, Teknik Programlar, 2005 - 2008
Lecturer PhD, Karadeniz Technical University, Beşikdüzü Meslek Yüksekokulu, Teknik Programlar, 2001 - 2005
Research Assistant, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makine Mühendisliği, 1993 - 2001

Academic and Administrative Experience

Staj Başkanı, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2010 - 2011
Karadeniz Technical University, Bmyo Teknik Programlar, 2005 - 2008
Karadeniz Technical University, Bmyo, 2003 - 2004
Karadeniz Technical University, Bmyo Teknik Programlar, 2001 - 2002

Courses

Postgraduate

MÜHENDİSLİK MALZEMELERİNDE YORULMA, Postgraduate, 2021 - 2022
HAFİF METALLER VE ALAŞIMLAR, Postgraduate, 2016 - 2017
HAFİF METALLER VE ALAŞIMLAR, Postgraduate, 2013 - 2014

Undergraduate

MALZEME BİLİMİ, Undergraduate, 2016 - 2017
MÜHENDİSLİK MALZEMELERİ, Undergraduate, 2016 - 2017
ÜRETİM YÖNTEMLERİ, Undergraduate, 2016 - 2017
MALZEME BİLGİSİ-II, Undergraduate, 2013 - 2014
MANUFACTURING PROCESSES-II, Undergraduate, 2013 - 2014
ÜRETİM YÖNTEMLERİ, Undergraduate, 2013 - 2014
KOMPOZİT MALZEMELER, Undergraduate, 2013 - 2014
MECHANICAL BEHAVIOUR OF MATERIALS, Undergraduate, 2013 - 2014
MALZEME SEÇİMİ, Undergraduate, 2013 - 2014
ÜRETİM YÖNTEMLERİ-I, Undergraduate, 2013 - 2014
MAKİNA MÜHENDİSLİĞİNDE DENEYLER-I, Undergraduate, 2013 - 2014
TASARIM PROJESİ, Undergraduate, 2013 - 2014
MALZEMELERİN MEKANİK DAVRANIŞI, Undergraduate, 2013 - 2014
MALZEME BİLGİSİ-I, Undergraduate, 2013 - 2014

Supervised Theses

Aydın M., Yüksek oranda alüminyum içeren çinko-alüminyum esaslı alaşımların yorulma davranışlarının incelenmesi, Postgraduate, H.ÇOLAK(Student), 2020
Aydın M., Bakır katkısının Zn-27Al alaşımının yorulma davranışına etkisi, Postgraduate, H.ZENGİN(Student), 2019
AYDIN M., Plazma Nitrüleme İşleminin Düşük Alaşımlı AISI 4140 Çeliğinin Yapı ve Mekanik Özelliklerine Etkisi, Postgraduate, M.Anıl(Student), 2017
AYDIN M., Yaşlandırma Süresinin Zn-27Al-1Cu Alaşımının Yapı ve Mekanik Özelliklerine Etkisi, Postgraduate, F.Şenaslan(Student), 2016
AYDIN M., Metal Oksit Esaslı Kontak Malzemesi Üretimi ve Özelliklerinin İncelenmesi, Doctorate, S.Bıyık(Student), 2015
AYDIN M., Eş Kanalda Açısal Ekstrüzyon Yönteminin Zn-60Al ve Zn-80Al Alaşımlarının Yorulma Özelliklerine Etkisi, Postgraduate, Y.Heyal(Student), 2011

Jury Memberships

Doctorate, Doktora yeterlik sınavı, Karadeniz Teknik Üniversitesi, February, 2014
Doctorate, Doktora yeterlik sınavı, Karadeniz Teknik Üniversitesi, February, 2014
Academic Staff Examination, Sınav Komisyonu, KTÜ Arsin Meslek Yüksekokulu, June, 2013
Post Graduate, Yüksek Lisans Tez Savunması, Karadeniz Teknik Üniversitesi, December, 2012
Doctorate, Tez izleme komitesi, Karadeniz Teknik Üniversitesi, March, 2012
Doctorate, Doktora yeterlik sınavı, Karadeniz Teknik Üniversitesi, February, 2012
Doctorate, Doktora yeterlik sınavı, Karadeniz Teknik Üniversitesi, September, 2011
Post Graduate, Yüksek Lisans Tez Savunması, Karadeniz Teknik Üniversitesi, June, 2011
Academic Staff Examination, Sınav Komisyonu, KTÜ Beşikdüzü Meslek Yüksekokulu, November, 2009
Academic Staff Examination, Sınav Komisyonu, KTÜ Beşikdüzü Meslek Yüksekokulu, March, 2008
Academic Staff Examination, Sınav Komisyonu, KTÜ Beşikdüzü Meslek Yüksekokulu, February, 2007

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The effect of quench-aging on the mechanical properties of Zn-27Al-1Cu alloy**
AYDIN M., Senaslan F.
INTERNATIONAL JOURNAL OF MATERIALS RESEARCH, vol.109, no.8, pp.699-707, 2018 (SCI-Expanded)
- II. **Optimization of Mechanical Alloying Parameters of Cu25W Electrical Contact Material**
BIYIK S., AYDIN M.
ACTA PHYSICA POLONICA A, vol.132, no.3, pp.909-912, 2017 (SCI-Expanded)
- III. **Fabrication and Arc-Erosion Behavior of Ag8SnO(2) Electrical Contact Materials under Inductive Loads**
BIYIK S., AYDIN M.
ACTA PHYSICA POLONICA A, vol.131, no.3, pp.339-342, 2017 (SCI-Expanded)
- IV. **Fabrication and Arc-Erosion Behavior of Ag8SnO2 Electrical Contact Materials under Inductive Loads**
BIYIK S., AYDIN M.
ACTA PHYSICA POLONICA A, vol.131, pp.339-342, 2017 (SCI-Expanded)
- V. **Investigation of the Effect of Different Current Loads on the Arc-Erosion Performance of Electrical Contacts**
BIYIK S., AYDIN M.
ACTA PHYSICA POLONICA A, vol.129, no.4, pp.656-660, 2016 (SCI-Expanded)
- VI. **The Effect of Milling Speed on Particle Size and Morphology of Cu25W Composite Powder**
AYDIN M., BIYIK S.
ACTA PHYSICA POLONICA A, no.127, pp.1255-1260, 2015 (SCI-Expanded)
- VII. **The Effect of Milling Speed on Particle Size and Morphology of Cu25W Composite Powder**
BIYIK S., AYDIN M.
ACTA PHYSICA POLONICA A, vol.127, no.4, pp.1255-1260, 2015 (SCI-Expanded)
- VIII. **Arc-Erosion Behavior of Boric Oxide-Reinforced Silver-Based Electrical Contact Materials Produced by Mechanical Alloying**
BIYIK S., Arslan F., AYDIN M.
JOURNAL OF ELECTRONIC MATERIALS, vol.44, no.1, pp.457-466, 2015 (SCI-Expanded)
- IX. **Effect of equal channel angular pressing on microstructural and mechanical properties of as cast Al-20 wt-%Zn alloy**
AYDIN M., HEYAL Y.
MATERIALS SCIENCE AND TECHNOLOGY, vol.29, no.6, pp.679-688, 2013 (SCI-Expanded)
- X. **High-cycle fatigue behavior of severe plastically deformed binary Zn-60Al alloy by equal-channel angular extrusion**
Aydin M.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.212, no.8, pp.1780-1789, 2012 (SCI-Expanded)

- XI. **Mechanical Properties Of Equal-Channel Angular Extrusion-Processed Al-20Zn Alloy**
AYDIN M., HEYAL Y.
MATERIALS AND MANUFACTURING PROCESSES, no.445, pp.195-200, 2012 (SCI-Expanded)
- XII. **Enhancement of Tensile Ductility of Severe Plastically Deformed Two-Phase Zn-12Al Alloy by Equal Channel Angular Extrusion**
AYDIN M., PÜRÇEK G., KÜÇÜKÖMEROĞLU T., SARAY O.
Materials Science Forum, vol.633-634, pp.437-447, 2010 (SCI-Expanded)
- XIII. **Enhancement of Tensile Ductility of Severe Plastically Deformed Two-Phase Zn-12Al Alloy by Equal Channel Angular Extrusion**
PÜRÇEK G., AYDIN M., Saray O., KÜÇÜKÖMEROĞLU T.
DUCTILITY OF BULK NANOSTRUCTURED MATERIALS, pp.437-447, 2010 (SCI-Expanded)
- XIV. **Fatigue behaviour of monotectoid-based Zn-Al-Cu alloys in 3.5% NaCl and 1% HCl solutions**
Savaskan T., Aydın M.
MATERIALS CHARACTERIZATION, vol.52, no.4-5, pp.269-278, 2004 (SCI-Expanded)
- XV. **Fatigue properties of zinc-aluminium alloys in 3.5% NaCl and 1% HCl solutions**
Aydın M., Savaskan T.
INTERNATIONAL JOURNAL OF FATIGUE, vol.26, no.1, pp.103-110, 2004 (SCI-Expanded)
- XVI. **Fatigue behaviour of Zn-Al casting alloys**
Savaskan T., Aydın M., Odabaşoğlu H. A.
MATERIALS SCIENCE AND TECHNOLOGY, vol.17, no.6, pp.681-685, 2001 (SCI-Expanded)

Articles Published in Other Journals

- I. **Investigation of microstructural change and damping behaviour of Zn-27Al- 1Cu alloy in different aging periods**
Aydın M.
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.12, no.2, pp.636-648, 2022 (Peer-Reviewed Journal)
- II. **Enhancement of tensile ductility of severe plastically deformed two-phase Zn-12Al alloy by equal channel angular extrusion**
PÜRÇEK G., AYDIN M., SARAY O., KÜÇÜKÖMEROĞLU T.
Materials Science Forum, vol.633, no.633, pp.437-447, 2010 (Scopus)
- III. **Çinko-Alüminyum Esaslı Alaşımların Yorulma Özelliklerinin İncelenmesi**
AYDIN M., SAVAŞKAN T., KÜÇÜKÖMEROĞLU T.
Mühendis ve Makina, vol.38, no.444, pp.40-45, 1997 (Peer-Reviewed Journal)

Papers Published in Refereed Scientific Meetings

- I. **Optimization of Mechanical Alloying Parameters in Cu25W Electrical Contact Material**
AYDIN M., BIYIK S.
3rd International Conference on Computational and Experimental Science and Engineering, Antalya, Turkey, 19 - 24 October 2018, pp.475
- II. **Effect of TiO₂ on Physical and Mechanical Properties of Electrical Contact Materials**
AYDIN M., BIYIK S.
15th European Mechanics of Materials Conference, Brussels, Belgium, 7 - 09 September 2018, pp.459
- III. **Effect Of Quenching Process On The Microstructure And Mechanical Properties Of Cold Formed Aisi 4140 Low Alloy Steel**
KAYA M. A., AYDIN M.
1. INTERNATIONAL TECHNOLOGICAL SCIENCES AND DESIGN SYMPOSIUM, Giresun, Turkey, 27 - 29 June 2018
- IV. **Effect of Quench-Ageing on Microstructural Evolution and Damping Behaviour of Zn-27Al-1Cu Alloy**

ŞENASLAN F., AYDIN M.

ISLAC'18 "1st International Symposium on Light Alloys and Composite Materials", Karabük, Turkey, 22 - 24 March 2018, pp.277

- V. **Optimization of Mechanical Alloying Parameters in Cu25W Electrical Contact Material**
BIYIK S., AYDIN M.
3rd International Conference on Computational and Experimental Science and Engineering, 19 - 24 October 2016
- VI. **Optimization of Mechanical Alloying Parameters in Cu25W Electrical Contact Material**
BIYIK S., AYDIN M.
3rd International Conference on Computational and Experimental Science and Engineering, Antalya, Turkey, 19 - 24 October 2016, pp.475
- VII. **Fabrication and Arc-Erosion Behavior of Ag8SnO2 Electrical Contact Materials under Inductive Loads**
BIYIK S., AYDIN M.
6th The International Advances in Applied Physics and Materials Science Congress & Exhibition, İstanbul, Turkey, 1 - 03 June 2016, pp.128
- VIII. **Effect of TiO2 Dopant on Particle Size and Morphology of Ag8SnO2 Composite Powder**
AYDIN M., BIYIK S.
Proceedings of the International Porous and Powder Materials Symposium and Exhibition, İzmir, Turkey, 15 - 18 September 2015, pp.170-175
- IX. **Influence of Sintering Temperature on Physical and Mechanical Properties of Ag8SnO2 Electrical Contact Material**
AYDIN M., BIYIK S.
Proceedings of the International Porous and Powder Materials Symposium and Exhibition, İzmir, Turkey, 15 - 18 September 2015, pp.164-169
- X. **Investigation of the Effect of Different Current Loads on the Arc-Erosion Performance of Electrical Contacts Using New Life-Test Equipment**
AYDIN M., BIYIK S.
5th The International Advances in Applied Physics and Materials Science Congress & Exhibition, Muğla, Turkey, 16 - 19 April 2015
- XI. **The Effect of Ball-to-Powder Weight Ratio on Particle Size and Morphology of Cu25W Composite Powder**
AYDIN M., BIYIK S.
7th International Powder Metallurgy Conference & Exhibition, Ankara, Turkey, 12 - 15 November 2014, pp.186-187
- XII. **The effect of the amount of process control agent on the properties of Cu25W composite powder**
AYDIN M., BIYIK S.
2014 International Conference on High Performance and Optimum Design of Structures and Materials, Ostend, Belgium, 9 - 11 June 2014, pp.189-200
- XIII. **The Effect of Milling Speed on Particle Size and Morphology of Cu25W Composite Powder**
Biyik S., Aydın M.
4th The International Advances in Applied Physics and Materials Science Congress & Exhibition, Muğla, Turkey, 24 - 27 April 2014, pp.981
- XIV. **The Effect of Milling Speed on Particle Size and Morphology of Cu25W Composite Powder**
AYDIN M., BIYIK S.
4th International Advances in Applied physics and Materials Science Congress & Exhibition, Muğla, Turkey, 24 - 27 April 2014, pp.981
- XV. **A New Life-Test Equipment Designed for Medium-Duty Electromagnetic Contactors**
AYDIN M., BIYIK S.
15th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems, Gent, Belgium, 7 - 09 April 2014, pp.1-7
- XVI. **A new life-test equipment designed for medium-duty electromagnetic contactors**

BIYIK S., AYDIN M.

IEEE 15th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EurosimE), Ghent, Belgium, 7 - 09 April 2014, pp.1-7

XVII. Investigation of the Compaction Behaviour of Ag₈ZnO Composite Produced by Mechanical Alloying

AYDIN M., BIYIK S.

1st International Porous and Powder Materials Symposium and Exhibition PPM 2013, İzmir, Turkey, 3 - 06 September 2013, pp.145-149

XVIII. Mechanical properties of equal-channel angular extrusion-processed Al-20Zn alloy

AYDIN M., HEYAL Y.

Advanced Materials Research, İstanbul, Turkey, 23 - 24 July 2012, vol.445, pp.195-200

XIX. Mechanical Properties of Equal-Channel Angular Extrusion-Processed Al-20Zn Alloy

AYDIN M., HEYAL Y.

14th International Conference on Advances in Materials and Processing Technologies (AMPT), İstanbul, Turkey, 13 - 16 July 2011, vol.445, pp.195-200

XX. Aşırı Plastik Deformasyon Yöntemiyle Üretilmiş Olan Metalik Biyomalzemelerin Yorulma Özelliklerinin İncelenmesi

AYDIN M.

III. Tıbbi Cihazlar ve İmalatı Kongre ve Sergisi, Samsun, Turkey, 6 - 07 November 2009, pp.59-63

XXI. Fatigue Behaviour of Zinc-Aluminium Alloys in Air and 1 % HCl Solution

AYDIN M., SAVAŞKAN T.

5th International Fracture Conference, Elazığ, Turkey, 6 - 08 September 2001, pp.143-150

Memberships / Tasks in Scientific Organizations

TMMOB Makina Mühendisleri Odası, Member, 1993 - Continues

TMMOB Makina Mühendisleri Odası, Board Member, 1996 - 2000

Peer Reviews in Scientific Publications

Metallography, Microstructure, and Analysis , SCI Journal, October 2017

Journal of Materials Research, Other Indexed Journal, December 2015

Materials Research Innovation, SCI Journal, November 2014

Journal of Mechanical Engineering Science, Other Indexed Journal, October 2014

G.Ü. Mühendislik-Mimarlık Fakültesi Dergisi, SCI Journal, April 2014

Metrics

Publication: 40

Citation (WoS): 318

Citation (Scopus): 336

H-Index (WoS): 8

H-Index (Scopus): 8

Congress and Symposium Activities

5th International Fracture Conference, Attendee, Elazığ, Turkey, 2011

AMPT 2011 14th International Conference on Advances in Materials & Processing Technologies, Attendee, İstanbul, Turkey, 2011

III. Tıbbi Cihazlar ve İmalatı Kongre ve Sergisi, Attendee, Samsun, Turkey, 2009

Non Academic Experience

KTÜ Makina Müh. Bölümü, Yardımcı doçent

KTÜ Beşikdüzü Meslek yüksekokulu, Yardımcı doçent

KTÜ Beşikdüzü Meslek yüksekokulu, Öğretim görevlisi

KTÜ Fen Bilimleri Enstitüsü, Araştırma görevlisi