

## Asst. Prof. GÖKÇE MEHMET AY

### Personal Information

**Email:** gma@ogu.edu.tr

**Web:** <https://avesis.ogu.edu.tr/gma>

### International Researcher IDs

ScholarID: Pq5x1iYAAAAJ

ORCID: 0000-0001-8354-5070

Publons / Web Of Science ResearcherID: B-9531-2015

ScopusID: 57208190233

Yoksis Researcher ID: 161870

### Education Information

Doctorate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), Turkey 2011 - 2017

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Makine Mühendisliği (YI) (Tezli), Turkey 2001 - 2004

Undergraduate, Middle East Technical University, Faculty Of Engineering, Makine Mühendisliği Bölümü, Turkey 1997 - 2001

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, AISI 4140 çelik malzemenin yüzey özelliklerini geliştirmek için yenilikçi bir PTA yöntemi, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Makine Mühendisliği (Dr), 2017

Postgraduate, High precesion CNC motion control, Middle East Technical University, Görme Engelliler Eğitimi Abd, Makine Mühendisliği (YI) (Tezli), 1950

### Research Areas

Mechanical Engineering, Construction and Manufacturing, Tribology

### Academic Titles / Tasks

Research Assistant PhD, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE MÜHENDİSLİĞİ BÖLÜMÜ, 2013 - Continues

Research Assistant, Anadolu University, Institute Of Transportation Sciences, Department Of Transportation Economics Research, 2012 - 2013

## Courses

NON DESTRUCTIVE TESTING RESEARCH, Undergraduate, 2021 - 2022, 2019 - 2020  
Engineering Mechanics, Undergraduate, 2020 - 2021, 2018 - 2019  
Computer Aided Design, Undergraduate, 2019 - 2020, 2018 - 2019  
TAKIM VE KALIP TASARIMI, Postgraduate, 2019 - 2020  
MECHANICAL LAB. I, Undergraduate, 2020 - 2021  
ENGINEERING MATERIALS, Undergraduate, 2020 - 2021, 2019 - 2020  
FUNDAMENTALS OF COMPUTER PROGRAMING, Undergraduate, 2016 - 2017

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

- I. **Injectable Boron Nitride-Hyaluronic Acid Hybrid Hydrogels to Facilitate Joint Motion: Mechanical and Tribological Characterization**  
Göncü Y., Ay G. M., Kucukbas A., Kar F., Ozbayer C., Kar E., Senturk H.  
Advanced Therapeutics, vol.7, pp.1-11, 2024 (SCI-Expanded)
- II. **Comparing reflective and supportive scaffolding in 3D computer-aided design course: Engineering students' metacognitive strategies, spatial ability self-efficacy, and spatial anxiety**  
Atman Uslu N., Yildiz Durak H., Gökçe Mehmet A.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.30, no.5, pp.1454-1469, 2022 (SCI-Expanded)
- III. **Tribological and mechanical behavior of AISI 316L lattice-supported structures produced by laser powder bed fusion**  
YASA E., AY G. M., Türkseven A.  
International Journal of Advanced Manufacturing Technology, vol.118, no.5-6, pp.1733-1748, 2022 (SCI-Expanded)
- IV. **Optical and Nanomechanical Properties of C Coated BN Thin Film Deposited by Thermionic Vacuum Arc Technique**  
AY G. M., PAT S.  
ECS JOURNAL OF SOLID STATE SCIENCE AND TECHNOLOGY, vol.10, no.10, 2021 (SCI-Expanded)
- V. **Inspection of nickel-based boron carbide PTA coatings on AISI 4140 steel**  
Mehmet G. M., Çelik O. N.  
INDUSTRIAL LUBRICATION AND TRIBOLOGY, vol.71, no.4, pp.548-556, 2019 (SCI-Expanded)
- VI. **Inspection of friction and wear properties of railway rails**  
Ay G. M., Çelik O. N.  
ENGINEERING SCIENCE AND TECHNOLOGY-AN INTERNATIONAL JOURNAL-JESTECH, vol.16, no.2, pp.89-95, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **FRICION AND WEAR BEHAVIOR OF PLASMA TRANSFERRED ARC COATING ON AISI 4140 STEEL OF BORON CARBIDE AND NICKEL POWDER MIXTURE**  
Ay G. M., Çelik O. N.  
The Online Journal of Science and Technology, vol.7, no.1, pp.54-62, 2017 (Peer-Reviewed Journal)
- II. **Environmentally friendly material Hexagonal boron nitride**  
Ay N., Ay G. M., Göncü Y.  
Journal of Boron, vol.1, no.2, pp.66-73, 2016 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Bor Nitrür**

AY N., GÖNCÜ Y., AY G. M.

in: Bor ve Malzeme Bilimi, Prof. Dr. Zafer EVİS, Editor, Boren Yayınları, Ankara, pp.1-90, 2020

**II. Akademik Araştırmalar için Bilişim Araçları**

Ay G. M.

Eskişehir Osmangazi Üniversitesi Basımevi, Eskişehir, 2017

**Refereed Congress / Symposium Publications in Proceedings**

- I. **Bor Nitrür: Üretimi ve Uygulamalardaki Son Gelişmeler**  
AY N., AY G. M., GÖNCÜ Y.  
International Symposium on Boron, Turkey, 17 - 19 April 2019
- II. **Recent new applications of hBN**  
AY N., GÖNCÜ Y., AY G. M.  
SERES'18, III. International Ceramic Glass Porcelain Enamels Glaze and Pigment Congress, Turkey, 10 - 12 October 2018
- III. **A TREATISE ON USING HEXAGONAL BORONNITRIDE FOR SPACE LUBRICATIONAPPLICATIONS**  
AY G. M.  
TurkeyTrib18 International Conference on Tribology, 18 - 20 April 2018
- IV. **Ultrasonic assisted machining methods: A review from 1984-2017**  
SOFUOĞLU M. A., ORAK S., KUŞHAN M. C., AY G. M.  
TURKEYTRIB 2018, 18 - 20 April 2018
- V. **An overview of parameters affecting ball-on-disk test**  
AY G. M., SOFUOĞLU M. A., ÇELİK O. N.  
International Congress on Applied Science and Technology (ASTECH'xx2017), 17 - 20 April 2017
- VI. **An overview of equipment used for vacuum**  
AY G. M., SOFUOĞLU M. A.  
International Congress on Applied Science and Technology (ASTECH'xx2017), 17 - 20 April 2017
- VII. **A Review of Minimum Quantity Lubrication for Machining Process**  
AY G. M., ÇELİK O. N.  
WITAM-2016 2ND INTERNATIONAL CONGRESS ON THE WORLD OF TECHNOLOGY AND ADVANCED MATERIALS, Kırşehir, Turkey, 28 September - 02 October 2016
- VIII. **An Overview of Plasma Transferred Arc Coating on Metals**  
AY G. M., ÇELİK O. N.  
2nd International Congress on The World of Technology and Advanced Materials, Kırşehir, Turkey, 28 September - 02 October 2016
- IX. **Overview of Solid Lubricants in Industrial Applications**  
AY G. M.  
WITAM-2016 2ND INTERNATIONAL CONGRESS ON THE WORLD OF TECHNOLOGY AND ADVANCED MATERIALS, Kırşehir, Turkey, 28 September - 02 October 2016
- X. **Friction and Wear Behavior of Plasma Transferred Arc Coating on AISI 4140 Steel of Boron Carbide and Nickel Powder Mixture**  
AY G. M., ÇELİK O. N.  
ISTEC 2016 International Science and Technology Conference, Viyana, Austria, 13 - 15 July 2016, pp.416-425
- XI. **Open Source in Tribology Analyzing and Visualizing Tribology Data with R**  
AY G. M., ÇELİK O. N.  
1 st International Conference on Engineering Technology and Applied Sciences, Afyon, Turkey, 21 - 22 April 2016
- XII. **Meta analysis of factors affecting surface roughness in milling**  
AY G. M., SOFUOĞLU M. A.  
2nd International conference on advances in mechanical engineering, 10 - 13 May 2016
- XIII. **WEAR BEHAVIOUR OF BORON CARBIDE POWDER REINFORCED COATING ON AISI 4140 PRODUCED**

## **BY PLASMA TRANSFERRED ARC**

AY G. M., ÇELİK O. N.

International Science and Technology Conference 2015, St. Petersburg, Russia, 2 - 04 September 2015, pp.965-973

### **XIV. Wear Behavior of Boron Carbide Powder Reinforced Coating on AISI 4140 Produced by Plasma Transferred Arc**

AY G. M., ÇELİK O. N.

International Science and Technology Conference, 2 - 04 September 2015

### **XV. Effects of Hexagonal Boron Nitride on Tricalcium Phosphate- Hexagonal Boron Nitride Composite**

Gecgin M., Onuklu E., Eser A., GÖNCÜ Y., AY G. M.

SERES'14, International Ceramic Glass Porcelain Enamels Glaze and Pigment Congress, Turkey, 15 - 17 October 2014

### **XVI. Environmental Friendly Products Contain Hexagonal Boron Nitride**

AY G. M., AY N.

SERES 2011, 10 October 2011 - 12 October 2012

## **Supported Projects**

Yasa E., Ay G. M., TUBITAK Project, Lazerle Metal Toz Ergitme Prosesi İle Üretilmiş Kafes Yapılarının Aşınma /Sürtünme Davranışlarının Karakterizasyonu, 2020 - 2021

AY G. M., ÇELİK O. N., Project Supported by Higher Education Institutions, Çelik yüzey özelliklerini geliştirmek için PTA ile yenilikçi kaplama incelenmesi, 2015 - 2016

AY G. M., Industrial Thesis Project, Hekzagonal Bor Nitrür Özelliklerine Öğütmenin Etkisi 00090.STZ.2007-1, 2007 - 2010

## **Memberships / Tasks in Scientific Organizations**

Makine Mühendisleri Odası, Member, 2001 - Continues, Turkey

ASME, Member, 2015 - 2018, United States Of America

## **Scientific Refereeing**

INDUSTRIAL LUBRICATION AND TRIBOLOGY, SCI Journal, July 2020

INDUSTRIAL LUBRICATION AND TRIBOLOGY, SCI Journal, July 2020

INDUSTRIAL LUBRICATION AND TRIBOLOGY, SCI Journal, April 2020

Proceedings of the Institution of Mechanical Engineers, Part N, Journal Indexed in ESCI, December 2019

Proceedings of the Institution of Mechanical Engineers, Part N, Journal Indexed in ESCI, October 2019

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, June 2019

SURFACE & COATINGS TECHNOLOGY, SCI Journal, May 2019

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, January 2019

SURFACE REVIEW AND LETTERS, SCI Journal, November 2018

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, November 2018

SURFACE REVIEW AND LETTERS, SCI Journal, August 2018

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, April 2018

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, March 2018

JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, SCI Journal, October 2017

## **Scientific Consultations**

Bortek A.Ş., Scientific Consultancy, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, MAKİNE

MÜHENDİSLİĞİ BÖLÜMÜ, Turkey, 2018 - Continues

## **Scientific Research / Working Group Memberships**

Respiraworks A 501(C)(3) Non-Profit Organization, United States Of America, <https://respira.works/>, 2021 - Continues

## **Metrics**

Publication: 31

H-Index (WoS): 1

## **Entrepreneurship Activities**

Anonymous, Bortek Boron Technologies and Mechatronic AŞ, 16 June 2006, Co-Founder

## **Non Academic Experience**

BORTEK Bor Teknolojileri ve Mekatronik Ltd Şti.

Onat Makine Isı Enerji Sistemleri Ltd. Şti.