

## **Asst. Prof. MEHMET MASUM TÜNÇAY**

### **Personal Information**

**Office Phone:** [+90 216 777 3774](tel:+902167773774)

**Email:** mehmet,tuncay@marmara.edu.tr

**Web:** <https://avesis.marmara.edu.tr/mehmet.tuncay>

**Address:** Marmara Üniversitesi, Göztepe Kampüsü , Metalurji ve Malzeme Müh. Bölümü, D Binası, Kadıköy 34722 İstanbul

### **International Researcher IDs**

ScholarID: VIDLyxYAAAAJ&hl=en

ORCID: 0000-0002-1624-5454

Publons / Web Of Science ResearcherID: AAA-1863-2019

ScopusID: 56009300300

Yoksis Researcher ID: 181359

### **Biography**

Mehmet Masum TUNCAY earned Bachelors both for Materials and for Mechanical Engineering from Marmara University in 2009 and 2010, respectively. He started to work as a research assistant at Marmara University Metallurgical and Materials Engineering Department in 2011 and completed a Master of Science in Materials Engineering from the same university in 2012. He received his Ph.D. degree in Materials Engineering from McGill University in 2018. He is still working as a research assistant at Marmara University Metallurgical and Materials Engineering Department in Istanbul.

### **Education Information**

Doctorate, McGill University, Engineering, Mining and Materials Engineering, Canada 2012 - 2018

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Metalurji Ve Malzeme Mühendisliği (YI) (Tezli), Turkey 2009 - 2012

Undergraduate Double Major, Marmara University, Faculty of Engineering, Mechanical Engineering, Turkey 2006 - 2010

Undergraduate, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, Turkey 2004 - 2009

### **Foreign Languages**

English, C1 Advanced

### **Certificates, Courses and Trainings**

Vocational Training, An Introduction to Total Materia: Application Use Cases, Marmara Üniversitesi, 2018

Vocational Training, Solver Setting for Effective Analysis in COMSOL Multiphysics, AltaSim Technologies, LLC, 2014

Vocational Training, Comsol Multiphysics 2-Day Intensive, COMSOL, 2013

Other, Learning to Teach, McGill University, 2013

### **Dissertations**

Doctorate, Evaluation of spark plasma sintering and forging of aluminum based powders for near-net shapes, McGill University, Engineering, Mining and Materials Engineering, 2018

Postgraduate, Profile optimization of the plastic pipes having large diameters, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Metallurgical and Materials Engineering (Eng), 2012

## Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Mechanical Properties, Plating, Metallic Materials, Powder Metallurgy

## Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, 2020 - Continues

Research Assistant PhD, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, 2019 - 2020

Research Assistant, Marmara University, Faculty of Engineering, Metallurgical and Material Engineering, 2011 - 2019

## Courses

Materials Laboratory, Undergraduate, 2020 - 2021, 2019 - 2020

Introduction to Materials Science, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019

Powder Technology, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019

Materials Science II, Undergraduate, 2019 - 2020, 2018 - 2019

Introduction to Materials Science, Undergraduate, 2019 - 2020, 2018 - 2019

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

- I. **An Investigation of 3D Printing Parameters on Tensile Strength of PLA Using Response Surface Method**  
TÜNÇAY M. M.  
Journal of Materials Engineering and Performance, 2023 (SCI-Expanded)
- II. **Investigation of surface-modified EBM printed Ti-6Al-4V alloys for biomedical applications**  
DEMİRCİ S., DİKİCİ T., TÜNÇAY M. M., DALMIŞ R., KAYA N., Kanbur K., Sargin F., GÜLLÜOĞLU A. N.  
SURFACES AND INTERFACES, vol.34, 2022 (SCI-Expanded)
- III. **Effect of surface modifications of additively manufactured Ti-6Al-4V alloys on apatite formation ability for biomedical applications**  
DEMİRCİ S., DALMIŞ R., DİKİCİ T., TÜNÇAY M. M., KAYA N., GÜLLÜOĞLU A. N.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.887, 2021 (SCI-Expanded)
- IV. **Synthesis, characterization, thermal, and antibacterial activity studies on MgO powders**  
DEMİRCİ S., Yildirim B., TÜNÇAY M. M., KAYA N., GÜLLÜOĞLU A. N.  
JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY, vol.99, no.3, pp.576-588, 2021 (SCI-Expanded)
- V. **Effect of heating rate on structure, morphology and photocatalytic properties of TiO<sub>2</sub> particles: thermal kinetic and thermodynamic studies**  
Dikici T., Demirci S., Tünçay M. M., Kiran Yıldırım B., Kaya N.  
JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY, vol.97, no.3, pp.622-637, 2021 (SCI-Expanded)
- VI. **A study of heating rate effect on the photocatalytic performances of ZnO powders prepared by sol-gel route: Their kinetic and thermodynamic studies**

DEMİRCİ S., DİKİCİ T., TUNÇAY M. M., KAYA N.

APPLIED SURFACE SCIENCE, vol.507, 2020 (SCI-Expanded)

**VII. Spark Plasma Sintering and Upsetting of a Gas-Atomized/Air-Atomized Al Alloy Powder Mixture**

Tuncay M. M., Muniz-Lerma J. A., Bishop D. P., Brochu M.

JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.26, no.10, pp.5097-5106, 2017 (SCI-Expanded)

**VIII. Spark plasma sintering and spark plasma upsetting of an Al-Zn-Mg-Cu alloy**

Tuncay M. M., Muniz-Lerma J. A., Bishop D. P., Brochu M.

MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.704, pp.154-163, 2017 (SCI-Expanded)

**IX. Evaluation of the Particle Bonding for Aluminum Sample Produced by Spark Plasma Sintering**

Tuncay M. M., Nguyen L., Hendrickx P., Brochu M.

JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.25, no.10, pp.4521-4528, 2016 (SCI-Expanded)

**X. Recyclability assessment of Al 7075 chips produced by cold comminution and consolidation using spark plasma sintering**

Hendrickx P., TUNÇAY M. M., Brochu M.

CANADIAN METALLURGICAL QUARTERLY, vol.55, no.1, pp.94-103, 2016 (SCI-Expanded)

**XI. Modeling residual porosity in thick components consolidated by spark plasma sintering**

Milligan J., Hendrickx P., TUNÇAY M. M., Olevsky E. A., Brochu M.

Scripta Materialia, vol.76, pp.53-56, 2014 (SCI-Expanded)

## Articles Published in Other Journals

**I. Comparative performance analysis of cold work tool steels used in mold industry**

Ünal A., Tünçay M. M., Şeşen M. K., Girit O.

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.12, no.2, pp.597-603, 2023 (Peer-Reviewed Journal)

## Books & Book Chapters

**I. Comparative Strength Analysis of PLA, ABS, PETG, TPU, and ASA Filaments: Influence of Nozzle Size and Filling Parameters**

ÇELİK S., TUNÇAY M. M., YUMUŞAK G.

in: Properties of Materials, Prof.Dr. İlyas UYGUR, Editor, BIDGE Publications, Ankara, pp.32-52, 2023

## Refereed Congress / Symposium Publications in Proceedings

**I. PRODUCTION AND CHARACTERIZATION OF BIOGLASS-YIG CERAMIC COMPOSITE**

DEMİRCİ S., ÇINAR Ö., ÇETİNER B. N., TUNÇAY M. M., GÜLLÜOĞLU A. N.

6.ULUSLARARASI MUHENDİSLİK MİMARLIK VE TASARIM KONGRESİ, İstanbul, Turkey, 17 - 18 December 2020

**II. Composite Material Selection in Avionic Radome**

Kaya B., Dağaçan Ç., Beşer D., TUNÇAY M. M., ÇINAR Ö., GÜLLÜOĞLU A. N.

5. International Conference on Material Science and Technology, Nevşehir, Turkey, 16 - 18 October 2020

**III. EFFECT OF THERMAL OXIDATION ATMOSPHERE ON PHOTOELECTROCHEMICAL (PEC) WATER SPLITTING OF HEMATITE PRODUCED FROM ELECTRODEPOSITED Fe FILM**

DEMİRCİ S., TUNÇAY M. M., DİKİCİ T., SARIOĞLU C.

19th International Metallurgy and Materials Congress, 25 - 27 October 2018

**IV. Investigation of tool stresses during isothermal SPS forging of Al-Zn-Mg-Cu alloy**

Tünçay M. M., Choi J., Brochu M.

REGAL Students' Day – JER2017, Montreal, Canada, 27 September 2017

- V. **Improvement of the sintering of Al-Zn-Mg-Cu alloy via upsetting using Spark Plasma Sintering**  
Tünçay M. M., Brochu M.  
REGAL Student's Day-JER2016, Quebec, Canada, 03 October 2016
- VI. **Improvement of the sintering of aluminum by Spark Plasma Sintering**  
Tünçay M. M., Brochu M.  
REGAL's Students Day 2015, Chicoutimi-Jonquiere, Canada, 11 November 2015
- VII. **The Influence of Surface Powder State on Neck Development and Diffusion during Spark Plasma Sintering**  
Brochu M., TÜNÇAY M. M., Rudinsky S., Nguyen L.  
Materials Science Technology 2015, United States Of America, 4 - 08 October 2015
- VIII. **Direct Pressing of Aluminum and AA7075 Near net Shapes by Spark Plasma Sintering**  
TÜNÇAY M. M., Nguyen L., Brochu M.  
Materials Science Technology 2015, United States Of America, 4 - 08 October 2015
- IX. **The Stress Distribution on the Buried Flexible Pipes having no Internal Pressure**  
Abdulaliyev Z., BULUT O., ATAÖĞLU Ş., TÜNÇAY M. M.  
International Conference on Advances in Applied and Computational Mechanics, İzmir, Turkey, 5 - 07 August 2015
- X. **Modeling densification of Al Mg and Al Zn alloys consolidated by Spark Plasma Sintering**  
TÜNÇAY M. M., Hendrickx P., Nguyen L., Brochu M.  
27th Canadian Materials Science Conference Materials Processing, Properties and Performance, 2 - 05 June 2015
- XI. **Evaluation of near net shapes for Spark Plasma Sintering of AA7075**  
Tünçay M. M., Ghosh A., Aydın H., Brochu M.  
62nd CASI Aeronautics Conference, Montreal, Canada, 19 - 21 May 2015
- XII. **Evaluation of triangular die geometries for spark plasma sintering of AA7075**  
Tünçay M. M., Brochu M.  
REGAL's Students Day 2014, Sherbrooke, Canada, 18 November 2014
- XIII. **Sintering of Al 7075 by SPS with Different Die Geometries**  
Tünçay M. M., Brochu M.  
REGAL's Students Day 2013, Montreal, Canada, 22 October 2013
- XIV. **Investigation of Porosity in Thick SPS Pucks and Finite Element Modeling of Gear Production**  
Tünçay M. M., Brochu M.  
REGAL's Students Day 2012, Quebec, Canada, 15 November 2012
- XV. **Comparison of Mechanical Properties of AISI 1040 4140 420 and 316 Steels after Boronizing Process**  
ÇINAR Ö., ÇETİNER B. N., TÜNÇAY M. M., TOPCU İ., GÜLLÜOĞLU A. N.  
International Iron and Steel Symposium 2012 Karabük, Karabük, Turkey, 2 - 04 April 2012
- XVI. **Comparison of Mechanical Properties of AISI 1040 4140 420 and 316 Steels after Coating with Vecalloy B P MET 297 and Alloys of These Two Components by Arc Spray**  
ÇINAR Ö., ÇETİNER B. N., TÜNÇAY M. M., TOPCU İ., GÜLLÜOĞLU A. N.  
International Iron and Steel Symposium 2012 Karabük, Karabük, Turkey, 2 - 04 April 2012
- XVII. **Comparison of Mechanical Properties of AISI 1040 4140 420 and 316 Steels after Nitriding**  
ÇINAR Ö., ÇETİNER B. N., TÜNÇAY M. M., TOPCU İ., GÜLLÜOĞLU A. N.  
International Iron and Steel Symposium 2012 Karabük, Karabük, Turkey, 2 - 04 April 2012

## Supported Projects

Tünçay M. M., Şerefoğlu Kaya M., TUBITAK Project, Çok Fazlı Erime Dinamikleri, 2023 - 2026

## **Metrics**

Publication: 31

Citation (WoS): 53

Citation (Scopus): 80

H-Index (WoS): 4

H-Index (Scopus): 5

## **Scholarships**

YÖK yurtdışı doktora bursu, YÖK, 2012 - 2017

## **Awards**

Tünçay M. M., The price of Quebec Metallurgy Center, Quebec Metallurgy Center, October 2013