

# Hüseyin ŞEVİK

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## EDUCATION

- (2004-2011) Ph. D. Program, Department of Metallurgy and Materials,  
University of Sakarya, Turkey.
- (2001-2004) M.Sc., Department of Metallurgy and Materials,  
University of Sakarya, Turkey.
- (1997-2001) B.Sc., Department of Metallurgy and Materials,  
University of Sakarya, Turkey.

## EXPERIENCE

- 2019-2020 Helmholtz Zentrum, Geesthacht, Magnesium Innovation Center (MagIC),  
Germany, Visitor Researcher
- 2018- University of Mersin, Assoc. Prof. Dr.
- 2012-2018 University of Mersin, Assist. Prof. Dr.
- 2011-2012 University of Birmingham, School of Metallurgy and Materials, U.K., Visitor  
Researcher
- 2002-2011 University of Sakarya, Research assistant.
- 2003-2011 University of Sakarya, Laboratory demonstrator, wear testing of metallic  
materials.
- 2004-2007 University of Sakarya, Laboratory demonstrator, damping testing of metallic  
materials.
- 2005-2011 University of Sakarya, Laboratory demonstrator, torsion testing of metallic  
materials.

## RESEARCH INTERESTS

- Mechanical metallurgy of light metal alloys.
- Metal matrix composites.

## TECHNICAL SKILLS

- Word, Excel and PowerPoint (Advanced)
- AutoCAD (Advanced)

- Dreamweaver (User)
- Mac-OS X Catalina(Advanced)

## PARALLEL ACTIVITIES

- President of Cinema and Photography Club, 2002-2007.
- Department's ERASMUS Representative, Sakarya University, 2007-2012.
- Play bass guitar.

## *PHD RESEARCH DESCRIPTION*

Project in collaboration with the Scientific and Technical Research Council of Turkey(TUBITAK) on the science and design of new magnesium alloy systems for industrial applications. New types of magnesium alloys have been melted in a specially designed furnace and then, casted to dies by controlling pressure and atmosphere. Their mechanical behaviours under tensile and impact loading were characterised experimentally and compared with literature.

*“In this study, magnesium-aluminium based alloy (Mg- Al 6 wt.%) were produced under a controlled atmosphere by a squeeze-casting process and then, the effect of manganese and titanium, which were added as 0.1, 0.2, 0.3 and 0.4 wt.%, on the microstructure and mechanical properties of Mg- 6Al alloy were investigated. After experience was gained from a pre-study, the Mg-%6Al-%0,3Mn-%0,3Ti alloy was produced as a master alloy and it was called as “A1”. Then, different levels of the strontium (0.3, 0.5, 1 and 2 wt.%) were added into this master alloy and it was called as A2, A3, A4 and A5, respectively. The master alloy with tin 1 wt.% was prepared and called as “B1”. Then, four alloys with different strontium content (0.3, 0.5, 1 and 2 wt.%) by using B1 alloy were prepared and called as B2, B3, B4 and B5, respectively. The microstructure of all alloys was investigated using optical and scanning electron microscope. Phases presented in these alloys were analyzed by X-ray diffraction and energy dispersive spectroscopy methods, and their grain sizes were measured by an image analyzer. The mechanical properties (i.e. hardness, tensile and impact strength) of all alloys were investigated.”*

## *M.SC. RESEARCH DESCRIPTION*

In this study; matrix material selected as LM6 alloy. Composite materials are produced by adding 5 %, 10 %, % 15 per volume alumina particulars by using cold pressurized die casting method under 100 MPa. Experimental analyses of their mechanical behaviours such as hardness, strength and wear were obtained and compared with literature.

## *JOURNAL PUBLICATIONS*

1. Can Kurnaz , **Hüseyin Şevik**, Ahmet Türk, Ugur Ozsarac **“The Effect of Ti–B and Sr on the mechanical behaviour of the Zinc–Aluminum-based ZA-12 alloy produced by gravity casting”**, International Journal of Materials Research 2006/08, Page 1152-1157.

2. Ahmet Türk, Can Kurnaz, **Hüseyin Şevik** “**Comparison of the wear properties of modified ZA-8 alloys and conventional bearing bronze**” Materials and Design, 2007/03 Volume 28, Issue 6, Page 1889-1897.
3. **Şevik, H.** Kurnaz, S.C. “**Properties of Alumina Particulate Reinforced Aluminum Alloy Produced By Pressure Die Casting**”, Materials and Design Volume 27, Issue 8, 2006, Pages 676-683.
4. **Hüseyin Sevik**, Sehzat Açıköz, S. Can Kurnaz “ **The effect of tin addition on the microstructure and mechanical properties of squeeze cast AM60 alloy**”, Journal of Alloys and Compounds, Volume 508, 2010, Pages 110-114.
5. S. Can Kurnaz, **Hüseyin Şevik**, Sehzat Açıköz, Ahmet Özel “**Influence of titanium and chromium addition on the microstructure and mechanical properties of squeeze cast Mg-6Al alloy**”, Journal of Alloys and Compounds, Volume 509, 2011, Pages 3190-3196.
6. Sehzat Açıköz, **Hüseyin Şevik**, S. Can Kurnaz, “**Influence of silver addition on the microstructure and mechanical properties of squeeze cast Mg-6Al-1Sn-0.3Mn-0.3Ti**”, Journal of Alloys and Compounds Volume 509, Issue 27, 2011, Pages 7368-7372.
7. Öbekcan Mediha, Ayday Aysun, **Sevik Hüseyin**, Kurnaz Süleyman Can “ **Addition of strontium to an Mg-3Sn Alloy and investigation of its properties**” Materials Technology 2013, 47.
8. **Sevik Hüseyin**, “**The effect of silver on wear behavior of zinc-aluminium-based ZA12 alloy produced by gravity casting**”, Materials Characterization, Volume 89 , 2014, pages 81-87.
9. **Sevik Hüseyin**, Kurnaz Süleyman Can, “ **The effect of strontium on the microstructure and mechanical properties of Mg-6Al-0.3Mn-0.3Ti-1Sn**” Journal of Magnesium and Alloys, Volume 2, 2014, pages 214-219.

10. Gülşah Germen, Yarkadas Güven, **Sevik Hüseyin**, “**Influence of strontium addition on the wear behavior of Mg-3Al-3Sn alloys produced by gravity casting**” *Materials Testing*, Volume 11-12, 2015, pages 997-1000.
11. Yarkadas Güven, Kumruoğlu Cenk, **Sevik Hüseyin**, “**The effect of Cerium addition on microstructure and mechanical properties of high pressure die cast Mg-5Sn alloy**”, *Materials Characterization*, 2018, Volume 136, pages 152-156.
12. Selma Özarslan, **Hüseyin Şevik**, İdris Sorar, “Microstructure, mechanical and corrosion properties of novel Mg-Sn-Ce alloys produced by high pressure die casting” *Materials Science and Engineering C*, 2019, Volume 105.
13. Aslı Önür , Gülşah Germen Tutaş, **Hüseyin Şevik**, “ Role of Cerium on the creep properties of the Mg-Sn-Al based alloys” *International Journal of Cast Metals Research*, 2020, Volume 33, pages 278-285.

### ***CONFERENCE PROCEEDINGS***

1. Kurnaz, S.C., **Şevik, H.**, "Wear Properties of Ni coated - graphite Particulate Reinforced Zinc-Aluminum Alloy Produced by Pressure Die Casting", **10. Denizli Materials Proceeding and Exhibition, 65-70, Denizli, 14-16 Nisan (2004) TURKEY.**
2. **Sevik, H.**, Kurnaz, S.C., “The effect of strontium addition on the microstructure and mechanical properties of squeeze cast Mg-6Al-0,3Mn-0,3Ti alloy” **EUROMAT 2011, European Congress on Advanced Materials Science, Montpellier, France, (oral presentation).**
3. **Sevik, H.**, Kurnaz, S.C., Aydın, Y., “Investigation of the effect of Cr additives on mechanical properties and microstructure of The Zinc-Aluminum-based ZA-12” **HighTechMet 2011 Congress, Kiev, Ukrania(oral presentation).**
4. Karaer Hüseyin, Yarkadaş Güven, Tan Güher, **Şevik Hüseyin** “ The Effect of Nano Al<sub>2</sub>O<sub>3</sub> Particle Addition on the Mechanical Properties of Mg-5Sn Alloy” **19. International Metallurgy and Materials Congress, 2018 (oral presentation).**

## **Project:**

- **Researcher for “Effect of alloying elements to Zinc-Aluminum alloys” a 2 year project was supported by The Scientific Research Projects Committee of The Sakarya University (SAU-BAPK). Project accomplished in 2005.**
- **Researcher for “The Production of Magnesium Alloys Using by Pressure Die Casting and the Examination of the Effect of Alloying Elements to the Properties” a 2 year project supported by The Scientific and Technical Research Council of Turkey-TÜBİTAK. Project accomplished in July 2009.**
- **Coordinator for “Production of Nano-composite materials and characterization Laboratory” a for 2 Year project supported by Development Agency of Turkey, Project accomplished in July 2016.**
- **Coordinator for “The production of ceramic components-reinforced magnesium based nano composites and the investigation of their elevated temperature properties.” a for 30 months project supported by The Scientific and Technical Research Council of Turkey-TÜBİTAK project 2019.**
- **Postdoctoral study “Magnesium Nanocomposites with Functionalized Nanodiamonds” for 12 months project supported by The Scientific and Technical Research Council of Turkey-TÜBİTAK (2219- International Postdoctoral Research Fellowship Program) 2020.**