

SEZER ÖZERİNÇ

Middle East Technical University, Department of Mechanical Engineering
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EDUCATION

- Ph.D. in Mechanical Engineering** August 2015
University of Illinois at Urbana-Champaign Urbana, USA
Thesis title: *Microscale Mechanical Characterization of Materials for Extreme Environments*
Advisor: Prof. William P. King
- M.S. in Mechanical Engineering** June 2010
Middle East Technical University Ankara, Turkey
Thesis title: *Heat Transfer Enhancement with Nanofluids*
Advisor: Assoc. Prof. Almıla Güvenç Yazıcıoğlu Co-advisor: Prof. Sadık Kakaç (TOBB ETÜ)
- B.S. in Mechanical Engineering** June 2008
Middle East Technical University Ankara, Turkey
Ranked first in the class with GPA of 3.99/4.00

RESEARCH INTERESTS

- Mechanical and microstructural properties of thin films, nanostructured materials and metallic glasses.
- Development of thin film coatings for wear resistance and fatigue life enhancement.
- Advanced mechanical characterization through nanoindentation, microscratch, micropillar compression and *in situ* techniques.
- Mechanical behavior of 3D printed materials and structures.

ACADEMIC EXPERIENCE

- Assistant Director of Central Laboratory** May 2017 –
Middle East Technical University Ankara, Turkey
- Assistant Professor** Feb 2016 –
Middle East Technical University Ankara, Turkey
Department of Mechanical Engineering
- Lecturer** Oct 2015 – Jan 2016
Middle East Technical University Ankara, Turkey
Department of Mechanical Engineering
- Teaching Fellow** Jan 2015 – May 2015
University of Illinois at Urbana-Champaign Urbana, USA

PUBLICATIONS

Journal Publications

1. **S. Özerinç**, R.S. Averback, W.P. King, In situ Measurements of Irradiation-Induced Creep of Nanocrystalline Copper at Elevated Temperatures, *JOM*, 68, 2737-2741 (2016).
2. **S. Özerinç**, H.J. Kim, R.S. Averback, W.P. King, Direct measurements of irradiation-induced creep in micropillars of amorphous $\text{Cu}_{56}\text{Ti}_{38}\text{Ag}_6$, $\text{Zr}_{52}\text{Ni}_{48}$, Si and SiO_2 , *Journal of Applied Physics*, 117, 024310 (2015).
3. S. Mao, **S. Özerinç**, W.P. King, R.S. Averback, S.J. Dillon, Effect of irradiation damage on the shear strength of Cu-Nb interfaces, *Scripta Materialia* 90-91, 29-32 (2014).
4. **S. Özerinç**, R.S. Averback, W.P. King, *In situ* creep measurements on micropillar samples during heavy ion irradiation, *Journal of Nuclear Materials* 451, 104-110 (2014).
5. **S. Özerinç**, K. Tai, N.Q. Vo, P. Bellon, R.S. Averback, W.P. King, Grain boundary doping strengthens nanocrystalline copper alloys, *Scripta Materialia* 67, 720-723 (2012).
6. **S. Özerinç**, A.G. Yazıcıoğlu, S. Kakaç, Numerical analysis of laminar forced convection with temperature-dependent thermal conductivity of nanofluids and thermal dispersion, *International Journal of Thermal Sciences* 62, 138–148 (2012).
7. **S. Özerinç**, S. Kakaç, A.G. Yazıcıoğlu, Enhanced thermal conductivity of nanofluids: A state-of-the-art review, *Microfluidics and Nanofluidics* 8, 145-170 (2010).

Book Chapter

1. S. Özerinç, S. Kakaç, A.G. Yazıcıoğlu, Thermophysical Properties of Nanofluids in: Microscale and Nanoscale Heat Transfer Analysis, Design, and Application, eds. M. Rebay, S. Kakaç, R.M. Cotta, *CRC Press*, Boca Raton (2016).

Conference Proceedings

1. **S. Özerinç**, S. Mao, K. Tai, N. Vo, P. Bellon, S. Dillon, R.S. Averback, W.P. King, Micromechanical Testing of High Strength Copper-Niobium Nanostructures, *Proceedings of the 12th International Nanoscience and Nanotechnology Conference*, Kocaeli, Turkey, 119 (2016).
2. J. Pikul, **S. Özerinç**, R. Zhang, P. Braun, W.P. King, Micro architected porous material with high strength and controllable stiffness, *Proceedings of IEEE 29th International Conference on Micro Electro Mechanical Systems (MEMS)*, Shanghai, China, 451-454 (2016).
3. **S. Özerinç**, A.G. Yazıcıoğlu, S. Kakaç, Convective heat transfer enhancement with nanofluids: The effect of temperature-variable thermal conductivity, *Proceedings of the ASME 10th Biennial Conference on Engineering Systems Design and Analysis*, İstanbul, Turkey, 25235 (2010).

PRESENTATIONS

1. N. Verma, **S. Özerinç**, S. Kim, R.S. Averback, Effects of Annealing and Heavy Ion Irradiation on the Mechanical Properties of AlSc Alloys, *MRS Spring Meeting & Exhibit*, 2017, Phoenix, USA.

2. **S. Özerinç**, S. Mao, K. Tai, Nhon Vo, P. Bellon, S. Dillon, R.S. Averback, W.P. King, Micromechanical Testing of High Strength Copper-Niobium Nanostructures, *12th International Nanoscience and Nanotechnology Conference*, 2016, Kocaeli, Turkey.
3. **S. Özerinç**, *Invited Talk*, IMDEA Materials Institute, 2016, Madrid, Spain.
4. **S. Özerinç**, *Invited Talk*, Department of Metallurgical and Materials Engineering, Middle East Technical University, 2016, Ankara, Turkey.
5. **S. Özerinç**, R.S. Averback, W.P. King, In Situ Irradiation Induced Creep Measurements on Micropillar Specimens at Elevated Temperatures, *TMS Annual Meeting & Exhibition*, 2016, Nashville, USA.
6. **S. Özerinç**, H.J. Kim, R.S. Averback, W.P. King, Measurements of irradiation-induced creep in amorphous materials using *in situ* micropillar compression, *MRS Spring Meeting & Exhibit*, 2015, San Francisco, USA.
7. **S. Özerinç**, *Invited Talk*, Department of Mechanical Engineering, Middle East Technical University, 2014, Ankara, Turkey.
8. **S. Özerinç**, *Invited Talk*, Department of Mechanical Engineering, Middle East Technical University, 2014, Ankara, Turkey.
9. **S. Özerinç**, *Invited Talk*, Department of Mechanical Engineering, Bilkent University, 2014, Ankara, Turkey.
10. **S. Özerinç**, R.S. Averback, W.P. King, *In situ* measurement of heavy-ion-irradiation-induced plastic flow of amorphous CuTiAg micropillars, *TMS Annual Meeting & Exhibition*, 2014, San Diego, USA.
11. **S. Özerinç**, K. Tai, N.Q. Vo, R.S. Averback, P. Bellon, S. Dillon, W.P. King, Grain boundary strengthening in dilute nanocrystalline Cu alloys, *MRS Fall Meeting & Exhibit*, 2011, Boston, USA.
12. **S. Özerinç**, A.G. Yazıcıoğlu, S. Kakaç, Convective heat transfer enhancement with nanofluids: The effect of temperature-variable thermal conductivity, *ASME 10th Biennial Conference on Engineering Systems Design and Analysis*, 2010, İstanbul, Turkey.

PROJECTS

TÜBİTAK 3501

(Mar 2017 – Dec 2019)

- Project Title: Investigation of the Mechanical Properties of Nanolayered Metals with Microcompression Testing
 - Role: Principal Investigator
 - Budget: 224.725 TL

TÜBİTAK 2232

(Jan 2017 – Dec 2018)

- Project Title: Investigation of the Relationship between Hardness and Yield Strength in Nanostructured Thin Films
 - Role: Principal Investigator
 - Budget: 30.000 TL

METU-BAP Project

(Jun 2016– Dec 2017)

- Project Title: Development of Wear Resistant Metallic Glass Nanocomposite Coatings
 - Role: Principal Investigator

- Budget: 30.000 TL

HONORS AND AWARDS

- TÜBİTAK 2232 – Research Fellowship 2016
- List of Teachers Ranked as Excellent by their Students, UIUC 2015
- UIUC MechSE Alumni Association Teaching Fellow Award 2015
- Teaching Fellowship, University of Illinois at Urbana-Champaign 2015
- TÜBİTAK National Graduate Study Fellowship 2008 – 2010
- Ranked first in his class of Mechanical Eng. in Middle East Technical Univ. 2008

PROFESSIONAL MEMBERSHIPS

- Machine Design and Manufacturing Association (MATİM) – Board Member
- American Society of Mechanical Engineers
- Materials Research Society
- The Minerals, Metals and Materials Society

SERVICE AND ACTIVITIES

Journal Reviewer Appointments

- International Journal of Heat and Mass Transfer
- Materials Science and Engineering: B
- Computational Materials Science
- Journal of Aerospace Engineering
- MATİM Journal

Participated Workshops

- ASELSAN 2nd Materials Technologies Workshop, 2016, Ankara, Turkey
- METU Academic Development Program, 2016, Ankara, Turkey
- Graduate Academy for College Teaching, 2015, Urbana, USA
- 5th Advanced Materials Characterization Workshop, 2011, Urbana, USA
- NATO Advanced Study Institute on Microsystems for Security – Fundamentals & Applications, 2009, Çeşme, Turkey