

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: 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

- Development of advanced structural materials and the investigation of their structure-property relationships: nanostructured metals, metallic glasses, high entropy alloys, hard coatings, and composite structures.
- Design and analysis of additively manufactured materials and structures: FDM-produced thermoplastic composites, 3D printed foams and lattices, and polymer-metal composites.
- Advanced mechanical characterization and its applications: nanoindentation, nanoscratch, micropillar compression, microcantilever bending, high temperature, and *in situ* techniques.
- Aerospace materials and structures: Effects of defects and repair processes on the performance of CFRP composites, development of novel composite structures through additive manufacturing.

ACADEMIC EXPERIENCE

- Associate Professor** May 2020 –
Middle East Technical University Ankara, Turkey
Department of Mechanical Engineering
Affiliated Faculty Member of Department of Micro and Nanotechnology
Nanomechanics Laboratory Group Leader
- Assistant Professor** Feb 2016 – April 2020
Middle East Technical University Ankara, Turkey
Department of Mechanical Engineering
Nanomechanics Laboratory Group Leader

Assistant Director Middle East Technical University <i>Central Laboratory</i>	Mar 2017 – Mar 2018 Ankara, Turkey
Visiting Researcher University of Illinois at Urbana-Champaign <i>Frederick Seitz Materials Research Laboratory</i>	July 2016 – Sep 2016 Urbana, USA
Lecturer Middle East Technical University <i>Department of Mechanical Engineering</i>	Oct 2015 – Jan 2016 Ankara, Turkey
Teaching Fellow University of Illinois at Urbana-Champaign	Jan 2015 – May 2015 Urbana, USA
Graduate Research Assistant University of Illinois at Urbana-Champaign <i>Department of Mechanical Engineering</i>	Aug 2010 – Aug 2015 Urbana, USA

PUBLICATIONS

Journal Publications (1150+ citations & h-index of 13 in Google Scholar)

1. B.B. Tanrısevdi, O. El-Atwani, M. Chancey, Y.Q. Wang, **S. Özerinç**, Y.E. Kalay, E. Aydoğan, Irradiation behaviour of low-density oxygen-doped TiZrHfNbTa refractory high entropy alloys, *Journal of Nuclear Materials*, under review.
2. M. Kepenekci, B. Gharehpapagh, U. Yaman, **S. Özerinç**, Mechanical Performance of Carbon Fiber-Reinforced Polymer Cellular Structures Manufactured via Material Extrusion, *Polymer Composites*, under review.
3. E. Sonat, M. Bakır, **S. Özerinç**, Failure Behavior of On-Site Repaired CFRP Laminates, *Composite Structures*, pre-proof available online (2023).
4. A. Alduais, **S. Özerinç**, Tunable Mechanical Properties of Thermoplastic Foams Produced by Additive Manufacturing, *Express Polymer Letters*, 17, 317-333 (2023).
5. S.E Kim, N. Verma, **S. Özerinç**, S. Jana, S. Das, P. Bellon, R.S. Averback, Strengthening of Nanocrystalline Al by Grain Boundary Doping: Effects of thermal annealing and ion irradiation, *Materialia*, 26, 101564 (2022).
6. A. Behboud, A. Motallebzadeh, **S. Özerinç**, Nanostructured ZrTa Metallic Glass Thin Films with High Strength and Toughness, *Journal of Alloys and Compounds*, 901, 163578 (2022).
7. B. Nigar, S. Dönmez, D. Çöker, **S. Özerinç**, Understanding Mechanical Failure of Graphite Rocket Nozzle Throats under Thermal Stresses, *Aerospace Science and Technology*, 119, 107152 (2021).
8. **S. Özerinç**, B. Kaygusuz, M. Kaş, A. Motallebzadeh, Ş. Nesli, Ö. Duygulu, O. Yılmaz, Micromechanical Characterization of Additively Manufactured Ti-6Al-4V Parts Produced by Electron Beam Melting, *JOM*, 73 3021–3033 (2021).
9. M. Abboud, A. Motallebzadeh, Ö. Duygulu, R. Maaß, **S. Özerinç**, Microstructure and Nanomechanical Behavior of Sputtered CuNb Thin Films, *Intermetallics*, 136, 107249 (2021).
10. A. Bakır, R. Atik, **S. Özerinç**, Mechanical Properties of Thermoplastic Parts Produced by Fused Deposition Modeling: A Review, *Rapid Prototyping Journal*, 27, 537–561 (2021).

11. E. Sonat, **S. Özerinç**, Failure Behavior of Scarf-Bonded Woven Fabric CFRP Laminates, *Composite Structures*, 258, 113205 (2021).
12. A. Bakır, R. Atik, **S. Özerinç**, Effect of fused deposition modeling process parameters on the mechanical properties of recycled PET parts, *Journal of Applied Polymer Science*, 138, 49709 (2021).
13. S. Hasçelik, Ö.T. Öztürk, **S. Özerinç**, Mechanical Properties of Nylon Parts Produced by Fused Deposition Modeling, *International Journal of Modern Manufacturing Technologies*, Vol. XIII, 34-38 (2021).
14. B. Kaygusuz, **S. Özerinç**, Improving the ductility of PLA parts produced by fused deposition modeling through PHA additions, *Journal of Applied Polymer Science*, 136, 48154 (2019).
15. M. Abboud, **S. Özerinç**, Size independent strength of amorphous – HCP crystalline metallic nanolayers, *Journal of Materials Research*, 34, 2275-2284 (2019).
16. **S. Özerinç**, Experimental measurements of interfacial strength at the nanoscale, *Journal of the Faculty of Engineering and Architecture of Gazi University*, 34, 1645-1652 (2019).
17. J. Pikul, **S. Özerinç**, B. Liu, R. Zhang, P. Braun, V. Deshpande, W.P. King, High strength metallic wood from nanostructured nickel inverse opal materials, *Scientific Reports*, 9, 719 (2019).
18. F. Sıkan, S.E. Atabay, A. Motallebzadeh, **S. Özerinç**, İ. Kalay, E. Kalay; Effect of Sm on Thermal and Mechanical Properties of Cu-Zr-Al Bulk Metallic Glasses, *Materials Science & Engineering A*, 743, 168-174 (2019).
19. M. Abboud, A. Motallebzadeh, N. Verma, **S. Özerinç**, Nanoscratch behavior of metallic glass-crystalline nanolayered composites, *JOM*, 71, 593–601 (2019).
20. **S. Özerinç**, Finite element analysis of nanoindentation on nanolaminated materials, *Eskişehir Technical University Journal of Science and Technology A - Applied Sciences and Engineering*, 19, 991-1000 (2018).
21. B. Kaygusuz, **S. Özerinç**, Investigation of the mechanical properties of 3D printed PLA-based structures, *MATİM Journal*, 16, 1-6 (2018).
22. **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).
23. **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).
24. 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).
25. **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).
26. **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).
27. **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).
28. **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. A.A. Bakır, R. Neshani, **S. Özerinç**, Mechanical Properties of 3D-Printed Elastomers Produced by Fused Deposition Modeling in: Fused Deposition Modeling Based 3D Printing, eds. H.K. Dave, J.P. Davim, *Springer Nature*, Switzerland (2021).
2. C. Okuyucu, B. Kaygusuz, C. Işıksaçan, O. Meydanoğlu, A. Motallebzadeh, **S. Özerinç**, Y.E. Kalay, Al-Sm Alloys under Far-from-Equilibrium Conditions in: Light Metals 2021, eds. L. Perander, The Minerals, Metals & Materials Series, *Springer*, Cham, Switzerland (2021).
3. **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 (Full paper)

1. A. Alduais, F. Kazanç, G. Bayram, **S. Özerinç**, ABS-Fly Ash Composite Filaments for Fused Deposition Modeling, *Advances in Manufacturing: Processes & Systems - Select Proceedings of RAM 2021*, Eds: Dr. Harshit K Dave, Dr. Uday Shanker Dixit, Dr. Dumitru Nedelcu, Surat, India (2021).
2. S. Hasçelik, Ö. T. Öztürk, **S. Özerinç**, Mechanical Properties of Nylon Parts Produced by Fused Deposition Modeling, *Advances in Manufacturing: Processes & Systems - Select Proceedings of RAM 2021*, Eds: Dr. Harshit K Dave, Dr. Uday Shanker Dixit, Dr. Dumitru Nedelcu, Surat, India (2021).
3. A.T. Alpkaya, A. Motallebzadeh, **S. Özerinç**, Probing the Mechanical Behavior of Nanostructured Materials Through Micropillar Compression Experiments, *Proceedings of the 19th International Metallurgy and Materials Congress*, İstanbul, Turkey (2018).
4. **S. Özerinç**, A. Motallebzadeh, Y.E. Kalay, Advanced micromechanical characterization techniques for understanding materials behavior at the nanoscale, *Proceedings of the 19th International Metallurgy and Materials Congress*, İstanbul, Turkey (2018).
5. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Mechanical properties of layered metallic glass – crystalline metal nanocomposites, *Proceedings of the 19th International Metallurgy and Materials Congress*, İstanbul, Turkey (2018).
6. B. Kaygusuz, B. Nigar, L. Ünlüsoy, D. Çöker, **S. Özerinç**, Mechanical and microstructural evolution of solid graphite nozzle throats in extreme temperature and pressure conditions, *Proceedings of the 19th International Metallurgy and Materials Congress*, İstanbul, Turkey (2018).
7. A.T. Alpkaya, A. Motallebzadeh, **S. Özerinç**, Solid Solution Strengthening in Nanolayered Metals, *Proceedings of the 13th International Nanoscience and Nanotechnology Conference*, Antalya, Turkey, 388 (2017).
8. **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).
9. 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).
10. **S. Özerinç**, S. Kakaç, A.G. Yazıcıoğlu, Heat transfer enhancement in laminar convective heat transfer with nanofluids, *International Symposium on Thermal and Materials Nanoscience and Nanotechnology (TMNN)*, 2011, Antalya, Turkey.

11. **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).

Other

1. **S. Özerinç**, R.S. Averbach, W.P. King, *In situ* Measurements of Irradiation-Induced Creep on Amorphous Micropillars, *Application Note*, Attocube Systems AG, 2014, München, Germany.
2. **S. Özerinç**, Metals getting lighter: Nanofoam metal from METU, *Interview Article*, Herkese Bilim Teknoloji (weekly popular science magazine), March 2019, İstanbul, Turkey.

PRESENTATIONS

Conference Presentations

1. G. Güngör, Ü. Aytar, M. Bakır, M. Kepenekci, F. Bulun, S. Altınok, İ.E. Tekin, H. Yavaş, **S. Özerinç**, Mechanical Properties of Continuous Carbon Fiber-Reinforced Thermoplastic Parts Produced by Fused Filament Fabrication, *Additive Manufacturing Conference (AMC Turkey)*, 2022, Kuşadası, Turkey.
2. A. Alduais, **S. Özerinç**, Foaming PLA Parts Produced by Fused Filament Fabrication, *Additive Manufacturing Conference (AMC Turkey)*, 2022, Kuşadası, Turkey.
3. **S. Özerinç**, What Can We Learn from Micromechanical Testing: A Case Study for EBM-Produced Ti-6Al-4V, *TMS Annual Meeting & Exhibition*, 2022, Anaheim, USA.
4. M. Abboud, A. Motallebzadeh, Ö. Duygulu, R. Maaß, **S. Özerinç**, Cu-Nb Metallic Glasses with High Hardness, *TMS Annual Meeting & Exhibition*, 2022, Anaheim, USA.
5. H. Zeibalabedini, **S. Özerinç**, Microscratch Characterization of Multilayered Cu-Nb Produced by Accumulative Roll Bonding, *TMS Annual Meeting & Exhibition*, 2022, Anaheim, USA.
6. R. Neshani, D.J. McGregor, S. Tawfick, W.P. King, **S. Özerinç**, Mechanical Characterization of Elastomeric Lattice Parts Produced by Continuous Liquid Interface Production (Digital Light Synthesis), *MRS Fall Meeting & Exhibit*, 2021, Boston, USA.
7. **S. Özerinç**, B. Kaygusuz, M. Kaş, A. Motallebzadeh, Ş. Nesli, Ö. Duygulu, O. Yılmaz, Small-Scale Mechanical Behavior of Ti-6Al-4V Parts Produced by Electron Beam Melting, *Additive Manufacturing Conference (AMC Turkey)*, 2021, İstanbul, Turkey.
8. S. Fathipour, A. Motallebzadeh, Ö. Duygulu, **S. Özerinç**, Solid Solution Strengthening in Amorphous-Crystalline Metallic Composites, *20th International Metallurgy and Materials Congress*, 2021, virtual.
9. B. Kaygusuz, A. Motallebzadeh, Ö.D. Karadayı, K. Kazmanlı, **S. Özerinç**, Microscale Fracture Toughness Testing on Hard Coatings, *20th International Metallurgy and Materials Congress*, 2021, virtual.
10. A.B. Behboud, Ö.G. Tarman, A. Motallebzadeh, **S. Özerinç**, Characterization of Zirconium-Tantalum Metallic Glass Coatings Produced by Combinatorial Sputtering, *International Metallurgy and Materials Congress*, 2021, virtual.
11. Ö.G. Tarman, M.Y. Köhnfartun, A. Motallebzadeh, **S. Özerinç**, Nanostructured High Entropy Alloys with High Strength, *20th International Metallurgy and Materials Congress*, 2021, virtual.
12. B. Kaygusuz, **S. Özerinç**, Enhancing the Ductility of 3D-Printed Polylactic Acid, *20th International Metallurgy and Materials Congress*, 2021, virtual.

13. A. Alduais, F. Kazanç Özerinç, G. Bayram, **S. Özerinç**, ABS-Fly Ash Composite Filaments for Fused Deposition Modeling, *RAM-2021: Recent Advances in Manufacturing*, 2021, virtual.
14. S. Hasçelik, Ö. T. Öztürk, **S. Özerinç**, Mechanical Properties of Nylon Parts Produced by Fused Deposition Modeling, *Recent Advances in Manufacturing*, 2021, virtual.
15. A. Behboud, A. Motallebzadeh, **S. Özerinç**, Mechanical Behavior of ZrTa Metallic Glass Thin Films and Nanolayered Composites, *MRS Spring Meeting & Exhibit*, 2021, virtual.
16. **S. Özerinç**, *Invited Talk*, Probing the Mechanical Behavior of Irradiated Materials through Micromechanical Testing, invited talk, *TMS Annual Meeting & Exhibition*, 2021, virtual.
17. S. Fathipour, A. Motallebzadeh, Ö. Duygulu, **S. Özerinç**, Effect of Alloying Additions on the Strength of Confined Nanocrystalline Layers, *TMS Annual Meeting & Exhibition*, 2021, virtual.
18. A. Behboud, F.K. Özerinç, **S. Özerinç**, Characterization of Reactive Metallic Nanolayers through High-speed Imaging, *TMS Annual Meeting & Exhibition*, 2021, virtual.
19. A. Bakır, **S. Özerinç**, Mechanical Properties of 3D-Printed Elastomeric Foams, *MRS Spring/Fall Meeting & Exhibit*, 2020, virtual.
20. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Mechanical Behavior of Metallic Glass / HCP Crystalline Nanolayers, *TMS Annual Meeting & Exhibition*, 2020, San Diego, USA
21. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Nanolayered Metallic Glass-Crystalline Composites with High Strength and Wear Resistance, *TMS Annual Meeting & Exhibition*, 2020, San Diego, USA
22. İ. Kalay, T.H. Ulucan, **S. Özerinç**, Y.E. Kalay, Micromechanical Properties of Marginal Glass Forming Alloys, *TMS Annual Meeting & Exhibition*, 2020, San Diego, USA.
23. A. Bakır, R. Atik, **S. Özerinç**, Mechanical Properties of 3D Printed Parts Made of Recycled Polymers, *Additive Manufacturing Conference*, 2019, İstanbul, Turkey.
24. **S. Özerinç**, *Invited Talk*, Mechanical Behavior of Metallic Glass / HCP Nanolayered Coatings, European Congress and Exhibition on Advanced Materials and Processes (EUROMAT), 2019, Stockholm, Sweden.
25. **S. Özerinç**, Understanding Plasticity of Nanostructured Metals through Advanced Micromechanical Testing, *1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials*, 2019, Ankara, Turkey.
26. E. Sonat, F. Oğuz, **S. Özerinç**, Effect of Repair Processes on the Mechanical Properties of Composites used in Aerospace Applications, *1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials*, 2019, Ankara, Turkey.
27. M. Kepenekci, **S. Özerinç**, Finite Element Analysis of Interfacial Shear Strength Measurements Performed on Nanolayered Metals, *1st International Workshop on Plasticity, Damage and Fracture of Engineering Materials*, 2019, Ankara, Turkey.
28. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Metallic Glass/Crystalline Nanolayered Coatings with High Nanoscratch Resistance and Damage Tolerance, *46th International Conference on Metallurgical Coatings and Thin Films*, 2019, San Diego, USA.
29. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Size-Independent High Strength of CuTi/Ti Metallic Glass/Crystalline Nanolayers, *46th International Conference on Metallurgical Coatings and Thin Films*, 2019, San Diego, USA.
30. A. Bakır, **S. Özerinç**, Mechanical properties of 3D-Printed parts made of recycled plastics, *METU Engineering Day*, 2019, Ankara, Turkey.

31. M. Abboud, A. Motallebzadeh, **S. Özerinç**, A Combinatorial Investigation of Cu-Nb Metallic Glass Thin Films, *TMS Annual Meeting & Exhibition*, 2019, San Antonio, USA.
32. B. Kaygusuz, **S. Özerinç**, Mechanical Properties of PLA/PHA Blends for Fused Deposition Modeling Applications, *1st International Conference on Advances in Mechanical and Mechatronics Engineering*, 2018, Ankara, Turkey.
33. S. Aydın, U. Yaman, **S. Özerinç**, Effects of Annealing on the Structure and Mechanical Properties of 3D Printed PLA Components, *1st International Conference on Advances in Mechanical and Mechatronics Engineering*, 2018, Ankara, Turkey.
34. A.T. Alpkaya, A. Motallebzadeh, **S. Özerinç**, Probing the Mechanical Behavior of Nanostructured Materials Through Micropillar Compression Experiments, *19th International Metallurgy and Materials Congress*, 2018, İstanbul, Turkey.
35. **S. Özerinç**, M. Abboud, A. Motallebzadeh, Y.E. Kalay, Advanced micromechanical characterization techniques for understanding materials behavior at the nanoscale, *19th International Metallurgy and Materials Congress*, 2018, İstanbul, Turkey.
36. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Mechanical properties of layered metallic glass – crystalline metal nanocomposites, *19th International Metallurgy and Materials Congress*, 2018, İstanbul, Turkey.
37. B. Kaygusuz, B. Nigar, L. Ünlüsoy, D. Çöker, **S. Özerinç**, Mechanical and microstructural evolution of solid graphite nozzle throats in extreme temperature and pressure conditions, *19th International Metallurgy and Materials Congress*, 2018, İstanbul, Turkey.
38. F. Sikan, İ. Kalay, **S. Özerinç**, E. Kalay, Effect of Sm on Mechanical Properties of Cu-Zr-Al Bulk Metallic Glasses, *Materials Science & Technology*, 2018, Columbus, USA.
39. M. Abboud, Z. Artvin, A. Motallebzadeh, **S. Özerinç**, Multilayered Metallic Glass-Crystalline Nanocomposites with Improved Wear Resistance, *TMS Annual Meeting & Exhibition*, 2018, Phoenix, USA.
40. **S. Özerinç**, N. Verma, R.S. Averback, Strengthening in multilayered Cu-Nb through alloying, *MRS Fall Meeting & Exhibit*, 2017, Boston, USA.
41. A. Alpkaya, A. Motallebzadeh, **S. Özerinç**, Solid Solution Strengthening in Nanolayered Metals, *13th International Nanoscience and Nanotechnology Conference*, 2017, Antalya, Turkey.
42. 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.
43. F. Sikan, İ. Kalay, **S. Özerinç**, Y.E. Kalay, Effect of Sm Micro-alloying on the mechanical behavior and crystallization kinetics of Cu-Zr-Al BMGs, *TMS Annual Meeting & Exhibition*, 2017, San Diego, USA.
44. **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.
45. **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.
46. J. Pikul, **S. Özerinç**, R. Zhang, P. Braun, W.P. King, Micro architected porous material with high strength and controllable stiffness, *The 29th IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2016)*, 2016, Shanghai, China.

47. **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.
48. **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.
49. **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.
50. **S. Özerinç**, S. Kakaç, A.G. Yazıcıoğlu, Heat transfer enhancement in laminar convective heat transfer with nanofluids, *International Symposium on Thermal and Materials Nanoscience and Nanotechnology (TMNN)*, 2011, Antalya, Turkey.
51. **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.

Invited Talks

1. Advanced Materials and Manufacturing Processes for Structural Applications, *Turkish Aerospace Industries, R&D and Innovation Department*, 2022, Ankara, Turkey.
2. What Can We Learn from Micromechanical Testing: A Case Study for EBM-Produced Ti-6Al-4V, *TMS Annual Meeting & Exhibition*, 2022, Anaheim, USA.
3. Advanced Materials and Structures for Engineering, *Turkish Aerospace Industries, Materials Division*, 2021, Ankara, Turkey.
4. Probing the Mechanical Behavior of Irradiated Materials through Micromechanical Testing, invited talk, *TMS Annual Meeting & Exhibition*, 2021, online.
5. Advanced Materials for Additive Manufacturing of Polymeric Structural Parts, *TAMA Additive Days*, 2020, online.
6. Mechanical Behavior of Metallic Glass / HCP Nanolayered Coatings, *European Congress and Exhibition on Advanced Materials and Processes (EUROMAT)*, 2019, Stockholm, Sweden.
7. Micromechanical Measurements as a High Resolution Property Mapping Tool, *Gazi University*, 2019, Ankara, Turkey.
8. *TÜBİTAK MAM Materials Institute*, 2018 Gebze, Turkey.
9. Department of Metallurgical and Materials Engineering, *İstanbul Technical University*, 2018, İstanbul, Turkey.
10. *IMDEA Materials Institute*, 2016, Madrid, Spain.
11. Department of Metallurgical and Materials Engineering, *Middle East Technical University*, 2016, Ankara, Turkey.
12. Department of Mechanical Engineering, *TOBB-ETÜ University of Economy and Technology*, 2014, Ankara, Turkey.
13. Department of Mechanical Engineering, *Middle East Technical University*, 2014, Ankara, Turkey.
14. Department of Mechanical Engineering, *Bilkent University*, 2014, Ankara, Turkey.

PROJECTS

Horizon Europe (Grant ID 101075408)

(Oct 2022 – Sep 2025)

- **Project Title:** Support to the Activities of the Concentrated Solar Thermal Technology Area of the Set Plan
- Role: Researcher
- Budget: €56.000

TÜBİTAK 1001 (Grant # 219M381)

(Jul 2020 – Jul 2023)

- **Project Title:** Development of High Strength Nanolayered Composites by Accumulative Roll Bonding
- Role: Principal Investigator
- Budget: 719.500 TL

TÜBİTAK 1001 (Grant # 118M201)

(Nov 2018 – Apr 2021)

- **Project Title:** Micromechanical Characterization of High Toughness Hard Coatings
- Role: Principal Investigator
- Budget: 264.700 TL

TÜBİTAK 1002 (Grant # 218M219)

(Dec 2018 – Dec 2019)

- **Project Title:** Development of Zirconium-based Metallic Glass Coatings using Combinatorial Sputtering
- Role: Principal Investigator
- Budget: 30.000 TL

TÜBİTAK 3501 (Grant # 116M429)

(Mar 2017 – Sep 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 Nanohardness and Yield Strength of Multilayered Nanomaterials
- Role: Principal Investigator
- Budget: 28.890 TL

METU-BAP Projects

- Mechanical Properties of Nanocrystalline CoCrFeNi Alloys (PI, 40.000 TL) (Jan 2023 – Dec 2023)
- Development of High Entropy Alloy – Metallic Glass Thin Film Nanocomposites (PI, 70.000 TL) (Jan 2023 – Dec 2023)
- Development of High Strength Composite Structures by Additive Manufacturing and Electrodeposition (PI, 131.000 TL) (Jan 2022 – Jan 2023)
- Micromechanical Characterization of Wear Resistance Coatings for Additively Manufactured Metal Parts (PI, 17.500 TL) (Jan 2022 – Jan 2023)
- An Investigation of the Effects of Repair Parameters on the (Feb 2021 – Feb 2022)

- Mechanical Properties of CFRP Composites (PI, 20.000 TL)
- Mechanical Properties of Polyurethane Foams Produced by Additive Manufacturing (PI, 45.000 TL) (Feb 2021 – Feb 2022)
- Investigation of the Combustion Behavior of Reactive Metallic Nanolayers (researcher, 51.600 TL) (Jan 2020 – Jan 2022)
- Investigation of the Mechanical Properties of Cu-Ti Nanocomposites (PI, 18.000 TL) (Jan 2018 – Dec 2018)
- Development of Wear Resistant Metallic Glass Nanocomposite Coatings (PI, 30.000 TL) (Jun 2016 – Dec 2018)
- Development of Nanolayered Metallic Coatings (PI, 19.300 TL) (Jan 2017 – Dec 2017)
- Investigation of the Mechanical Properties of Cu-Zr-Al Metallic Glasses (PI, 8.000 TL) (Jan 2017 – Dec 2018)
- Investigation of the Mechanical Behavior of Microstructures through Finite Element Analysis (PI, 5000 TL) (Jan 2017 – Dec 2017)

SUPERVISING

M.S. Theses

- Development of Impact Absorbing Polymeric Structures by Additive Manufacturing, Vahdet Emre Ersoy (ongoing).
- High-Efficiency Heat Transfer Channels Produced by Additive Manufacturing, Hakan Uysal (ongoing)
- Effect of Overlap and Gap Defects on the Mechanical Strength of CFRP Composites, Yaman Arslanca (ongoing).
- Mechanical Behavior of Polymeric Lattice Structures Produced by Additive Manufacturing, Şükrü Güray Kalaycıoğlu (2022).
- Impact Absorbing Lattice Structures Produced by Additive Manufacturing, Roozbeh Neshani (2022).
- Effect of Annealing on the Mechanical Properties of PLA Parts Produced by Fused Filament Fabrication, Sencer Aydın (2021).
- Mechanical Behavior of Additively Manufactured Polymer Composite Structures and Interfaces, Mehmet Kepenekci (2021).
- Development of Nanostructured Metallic Glasses with High Toughness, Ali Bagheri Behboud (2021).
- Characterization of Novel Materials for Fused Filament Fabrication, Abdullah Alduais (2021)
- Analysis of Crack Initiation and Propagation in Solid Rocket Motor Nozzle Throats, Barış Nigar (2019).
- Experimental Investigation of the Mechanical Properties of Nanolayered Alloys, Alican Tuncay Alpkaya (2018).
- Micromechanical Characterization of Metallic Glass – Crystalline Nanocomposite Coatings, Mohammad Abboud (2018).

Ph.D. Theses

- Development of Nanolayered Composite Alloys by Accumulative Roll Bonding, Roozbeh Neshani, ongoing.
- Nanostructured High Entropy Alloy – Metallic Glass Composites, Amir Fadaie, ongoing.
- Micromechanical Characterization of Hard Coatings, Burçin Kaygusuz (2021).
- Mechanical Properties of Repaired Carbon Fiber Reinforced Polymer Composites, Emine Evren Sonat (2021).

TEACHING

University of Illinois at Urbana-Champaign

- ME 370 Mechanical Design I

Middle East Technical University

- ME 206 Strength of Materials
- ME 301 Theory of Machines I
- ME 303 Manufacturing Engineering
- ME 308 Machine Elements II
- ME 310 Numerical Methods
- ME 498 Mechanical Characterization of Materials
- MNT 502 Characterization Techniques at the Nanoscale
- MDM 501 Advanced Engineering Mathematics
- MDM 502 Numerical Methods for Engineers
- MDM 531 Non-Conventional Machining

Middle East Technical University North Cyprus Campus

- MECH 227 Engineering Materials (online course)

HONORS AND AWARDS

- METU Development Foundation Young Researcher Award 2022
- METU Young Investigator Award 2020
- METU Best Thesis Award, M.S. Supervisor of Mohammad Abboud 2020
- METU Academic Performance Award 2019
- Marie Skłodowska-Curie Actions Seal of Excellence 2017
- 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

- Materials Research Society
- The Minerals, Metals and Materials Society
- TMS Nanomechanical Behavior of Materials Committee
- TMS Mechanical Behavior of Materials Committee
- American Society of Mechanical Engineers
- Journal of Machine Design and Manufacturing Journal (MATİM Journal) – Associate Editor
- METU Research and Application Center for Space and Accelerator Technologies – Board Member
- Center for Science Technology Engineering and Mathematics Education – Board Member

SERVICE AND ACTIVITIES

Departmental Service

- ABET Accreditation Committee Member 2019
- Development of new course: ME 498 Characterization of Materials 2019
- Establishment of Nanomechanics Laboratory 2018 –
- METU Department of Mechanical Engineering Web Site Coordinator 2017 –
- METU Department of Mechanical Engineering Social Media Coordinator 2017 –
- METU-MECH Innovation Society Academic Advisor 2016 – 2018

Project Evaluations

- Horizon 2020 ERA-Net Cofund
- TÜBİTAK 1001 & 1002
- TÜBİTAK TEYDEB
- KOSGEB Ar-Ge İnovasyon, Teknoyatırım
- TEKNOFEST
- METU BAP Projects
- METU AdımODTÜ Undergraduate Projects

Journal Reviewer Appointments

- Computational Materials Science
- International Journal of Heat and Mass Transfer
- International Journal of Mechanical Sciences
- Journal of Aerospace Engineering
- Journal of Alloys and Compounds
- Journal of Applied Polymer Science
- Journal of Materials Science
- Journal of Micromechanics and Microengineering
- Journal of Thermal Science and Technology
- Materials Research Express
- Materials Science and Engineering A
- Materials Science and Engineering B
- Materials Science and Technology
- Rapid Prototyping Journal
- Scripta Materialia
- Surface and Coatings Technology

Participated Workshops

- METU-BİLTİR Industry 4.0 Workshop, 2018, Ankara, Turkey
- 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