

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

- Advanced structural materials and the investigation of their structure-property relationships: nanostructured metals, metallic glasses, high entropy alloys, hard coatings and composite structures.
- Mechanical behavior of additively manufactured metals and polymers: fused deposition modeling, continuous liquid interface production, electron beam melting.
- Advanced mechanical characterization and its applications: nanoindentation, nanoscratch, micropillar compression, microcantilever bending, high temperature and *in situ* techniques.

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
Affiliated Faculty Member of Department of Micro and Nanotechnology
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 (800+ citations, h-index: 8)

1. B. Nigar, D. Çöker, **S. Özerinç**, Understanding Mechanical Failure of Graphite Rocket Nozzle Throats under Thermal Stresses, *Aerospace Science and Technology*, submitted.
2. **S. Özerinç**, B. Kaygusuz, M. Kaş, A. Motallebzadeh, Ş. Nesli, O. Yılmaz, Micromechanical Characterization of Additively Manufactured Ti-6Al-4V Parts Produced by Electron Beam Melting, *JOM*, submitted.
3. A. Bakır, R. Atik, **S. Özerinç**, Mechanical Properties of Thermoplastic Parts Produced by Fused Deposition Modeling: A Review, *Rapid Prototyping Journal*, accepted for publication.
4. E. Sonat, **S. Özerinç**, Failure Behavior of Scarf-Bonded Woven Fabric CFRP Laminates, *Composite Structures*, 258, 113205 (2021).
5. 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).
6. 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).
7. M. Abboud, **S. Özerinç**, Size independent strength of amorphous – HCP crystalline metallic nanolayers, *Journal of Materials Research*, 34, 2275-2284 (2019).
8. **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).
9. 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).
10. 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).
11. M. Abboud, A. Motallebzadeh, N. Verma, **S. Özerinç**, Nanoscratch behavior of metallic glass-crystalline nanolayered composites, *JOM*, 71, 593–601 (2019).

12. **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).
13. B. Kaygusuz, **S. Özerinç**, Investigation of the mechanical properties of 3D printed PLA-based structures, *MATİM Journal*, 16, 1-6 (2018).
14. **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).
15. **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).
16. 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).
17. **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).
18. **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).
19. **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).
20. **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, *in press* (2021).
2. Y.E. Kalay, C. Okuyucu, B. Kaygusuz, C. Işıksaçan, O. Meydanoğlu, A. Motallebzadeh, **S. Özerinç**, Al-Sm Alloys under Far-from-Equilibrium Conditions in: Light Metals 2021, The Minerals, Metals & Materials Society, *in press* (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

1. 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).
2. **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).
3. 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).
4. 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).

5. 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).
6. **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).
7. 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).
8. **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.
9. **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. Averback, 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. A. Bakır, **S. Özerinç**, Mechanical Properties of 3D-Printed Elastomeric Foams, *MRS Spring/Fall Meeting & Exhibit*, 2020, virtual.
2. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Mechanical Behavior of Metallic Glass / HCP Crystalline Nanolayers, *TMS Annual Meeting & Exhibition*, 2020, San Diego, USA
3. 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
4. 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.
5. A. Bakır, R. Atik, **S. Özerinç**, Mechanical Properties of 3D Printed Parts Made of Recycled Polymers, *Additive Manufacturing Conference*, 2019, İstanbul, Turkey.
6. **S. Özerinç**, *Invited Talk*, Mechanical Behavior of Metallic Glass / HCP Nanolayered Coatings, European Congress and Exhibition on Advanced Materials and Processes (EUROMAT), 2019, Stocholm, Sweden.
7. **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.

8. 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.
9. 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.
10. 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.
11. 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.
12. A. Bakır, **S. Özerinç**, Mechanical properties of 3D-Printed parts made of recycled plastics, *METU Engineering Day*, 2019, Ankara, Turkey.
13. M. Abboud, A. Motallebzadeh, **S. Özerinç**, A Combinatorial Investigation of Cu-Nb Metallic Glass Thin Films, *TMS Annual Meeting & Exhibition*, 2019, San Antonio, USA.
14. 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.
15. 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.
16. 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.
17. **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.
18. M. Abboud, A. Motallebzadeh, **S. Özerinç**, Mechanical properties of layered metallic glass – crystalline metal nanocomposites, *19th International Metallurgy and Materials Congress*, 2018, İstanbul, Turkey.
19. 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.
20. 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.
21. M. Abboud, Z. Artvin, A. Motallebzadeh, **S. Özerinç**, Multilayered Metallic Glass-Crystalline Nanocomposites with Improved Wear Resistance, *TMS Annual Meeting & Exhibition*, 2018, Phoenix, USA.
22. **S. Özerinç**, N. Verma, R.S. Averbach, Strengthening in multilayered Cu-Nb through alloying, *MRS Fall Meeting & Exhibit*, 2017, Boston, USA.
23. A. Alpkaya, A. Motallebzadeh, **S. Özerinç**, Solid Solution Strengthening in Nanolayered Metals, *13th International Nanoscience and Nanotechnology Conference*, 2017, Antalya, Turkey.

24. 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.
25. F. Sıkan, 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.
26. **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.
27. **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.
28. 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.
29. **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.
30. **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.
31. **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.
32. **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.
33. **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. **S. Özerinç**, Advanced Materials for Additive Manufacturing of Polymeric Structural Parts, *TAMA Additive Days*, 2020, online.
2. **S. Özerinç**, Mechanical Behavior of Metallic Glass / HCP Nanolayered Coatings, *European Congress and Exhibition on Advanced Materials and Processes (EUROMAT)*, 2019, Stockholm, Sweden.
3. **S. Özerinç**, Micromechanical Measurements as a High Resolution Property Mapping Tool, *Gazi University*, 2019, Ankara, Turkey.
4. **S. Özerinç**, *TÜBİTAK MAM Materials Institute*, 2018 Gebze, Turkey.
5. **S. Özerinç**, Department of Metallurgical and Materials Engineering, *İstanbul Technical University*, 2018, İstanbul, Turkey.
6. **S. Özerinç**, *IMDEA Materials Institute*, 2016, Madrid, Spain.
7. **S. Özerinç**, Department of Metallurgical and Materials Engineering, *Middle East Technical University*, 2016, Ankara, Turkey.

8. **S. Özerinç**, Department of Mechanical Engineering, *TOBB-ETÜ University of Economy and Technology*, 2014, Ankara, Turkey.
9. **S. Özerinç**, Department of Mechanical Engineering, *Middle East Technical University*, 2014, Ankara, Turkey.
10. **S. Özerinç**, Department of Mechanical Engineering, *Bilkent University*, 2014, Ankara, Turkey.

PROJECTS

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

- 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

- 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)
- Structure-Property Relationships in Polymers Manufactured by Fused Deposition Modeling, Sencer Aydın, ongoing.
- Mechanical Behavior of Multimaterial Polymer Interfaces Produced by Fused Deposition Modeling, Mehmet Kepenekci, ongoing.
- Mechanical Characterization of High Entropy Alloy Thin Films, Roozbeh Neshani, ongoing.
- Micromechanical Characterization of Thin Film Metallic Glasses, Ali Behboud, ongoing.
- Mechanical Properties of PLA Foams Produced by Fused Deposition Modeling, Abdullah Alduais, ongoing.

Ph.D. Theses

- Micromechanical Characterization of Hard Coatings, Burçin Kaygusuz, ongoing.
- Experimental and Numerical Investigation of the Failure Behavior of Scarf-Repaired CFRP Composites, Emine Evren Sonat, ongoing.

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

HONORS AND AWARDS

- METU Young Investigator Award 2021
- 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
- Machine Design and Manufacturing Association (MATİM) – Board Member
- Journal of Machine Design and Manufacturing Journal (MATİM Journal) – Associate Editor
- METU Research and Application Center for Space and Accelerator Technologies – Board Member

SERVICE AND ACTIVITIES

Departmental Service

- 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
- TÜBİTAK 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 Applied Polymer Science
- Journal of Materials Science
- Journal of Micromechanics and Microengineering
- Journal of the Faculty of Engineering and Architecture of Gazi University
- Journal of Thermal Science and Technology
- Materials Research Express
- Materials Science and Engineering A
- Materials Science and Engineering B
- Materials Science and Technology
- MATİM Journal
- 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