

**UFGNSM****10th International Conference on
Ultrafine Grained and
Nanostructured Materials**

July 8–9, 2026 | Özyeğin University | İstanbul, Türkiye

Technical Program

Wednesday July 8, 2026	
08:20-09:00	Registration
Opening Remarks	
09:00	Güney Güven Yapıcı (Conference Chair)
09:10	Barış Tan (Ozyegin University Rector)
Session 1 Session chair : Hyoung Seop Kim	
09:20	<i>Keynote Speaker</i> Irene Beyerlein (University of California Santa Barbara, USA) Heterostructured Interfaces in Bimetallic Nanolaminates
09:50	<i>Keynote Speaker</i> Mahmoud Nili Ahmadabadi (University of Tehran, Iran) Materials Engineering Perspectives on Shape Memory Alloys: A Review on Processing, Microstructure to Properties and Performance
10:20	<i>Invited Speaker</i> Ali Reza Eivani (Iran University of Science and Technology, Iran) Toward Nanosized Structures in Severe Plastic Deformation of Aluminum Alloys: Unveiling Critical Parameters and Future Roadmap
10:40	Coffee Break
11:10	<i>Invited Speaker</i> Hamidreza Jafarian (Iran University of Science and Technology, Iran) Improvement of Strength and Corrosion Resistance of Zn-1.15Mg Alloy by Hot ECAP Processing
11:30	Siddika Mertdinç-Ülküseven (Istanbul Technical University, Türkiye) Characterization of graphene nanoplatelets-reinforced Al-3.5 wt% Cu composites synthesized via mechanical alloying and microwave assisted sintering
11:45	Fatemeh Kaffash Charandabi (University of Tehran, Iran) Machine Learning Prediction of Martensite Start Temperature in NiTi-Based Shape Memory Alloys: Feature Optimization and Experimental Insight
12:00	Conference Group Photo
12:15-13:30	Lunch Break

Session 2 Session chair : Mahmoud Nili Ahmadabadi	
13:30	<i>Keynote Speaker</i> Michael J Zehetbauer (University of Vienna, Austria) UFG Functional Materials Processed by SPD
14:00	<i>Invited Speaker</i> Hasan Kotan (Bursa Technical University, Türkiye) Thermodynamic and Kinetic Approaches to Enhance Grain Size Stability of Nanostructured and Ultrafine-grained Materials
14:20	<i>Invited Speaker</i> Farzad Khodabakhshi (University of Tehran, Iran) Physical metallurgy behind nickel-aluminum bronze (NAB) alloy by additive manufacturing technologies
14:40	Farhan Raza (Ozyegin University, Türkiye) Effect of Process Parameters on the Joint Integrity of Solid-State Welded Aluminum and Stainless Steel
14:55	Arash Gholami (University of Tehran, Iran) Microstructural Evolution and Mechanical Properties During High-Temperature Deformation of AlCoCrFeNi HEA
15:10	Coffee Break
15:40	<i>Keynote Speaker</i> Gelareh Momen (École de Technologie Supérieure (ÉTS), Canada) Nanostructured Smart Coatings for Harsh Environment Applications: Advances in Anti-Icing, Corrosion Protection, and Multifunctional Surface Engineering
16:10	<i>Invited Speaker</i> Ali Mirzai (Shiraz University of Technology, Iran) Formaldehyde sensing properties of ZnO-NiO composite at room temperature
16:30	<i>Invited Speaker</i> Mohammad Hossein Sarrafzadeh (University of Tehran, Iran) A Charge-Tunable Reactive Membrane Based on Poly(vinylimidazolium)-Functionalized g-C ₃ N ₄ /Fe ₃ O ₄ -PVDF for Selective Water Pollutant Removal
17:30	Departure for Conference Social
18:30-22:00	Social Event
Thursday July 9, 2026	
08:20-09:00	Registration
09:00	Mahmoud Nili Ahmadabadi - Farzad Khodabaskhi (Conference Co-Chair)
09:10	Tanju Erdem (Ozyegin University Vice Rector)

Session 3 Session chair : Irene Beyerlein	
09:20	<i>Keynote Speaker</i> Hyoungh Seop Kim (Pohang University of Science and Technology, South Korea) Designing Metallic Materials from Natural Architectures to Additive Heterostructures
09:50	<i>Invited Speaker</i> Okan Ünal (Karabük University, Türkiye) Enhancing Additively Manufactured Metallic Parts Through Surface Severe Plastic Deformation: A Review on Microstructure, Residual Stress, and Fatigue
10:10	<i>Invited Speaker</i> Özkan Gökçekaya (University of Osaka, Japan) Low Thermal Expansion in Invar Alloy Using PBF-LB/M
10:30	<i>Invited Speaker</i> Seyed Ali Niknam (Iran University of Science and Technology, Iran) On the effects of heat treatment strategies on the mechanical properties and corrosion resistance of the Pb-Sn-Ca alloy
10:50	Bahman Paygozar (TOBB University of Economics and Technology, Türkiye) Surface Finish Effects on Mechanical Behavior of Ti-6Al-4V Specimens Manufactured by Electron Beam Powder Bed Fusion Process
11:05	Coffee Break
11:35	<i>Invited Speaker</i> Özgür Duygulu (TÜBİTAK, Marmara Research Center) Severe Plastic Deformation Studies on Magnesium Alloys
11:55	Ali Reza Eivani (Iran University of Science and Technology, Iran) An insight into FSP-Fabricated Mg-Based Bio-Composites: Evaluating Microstructure, Biodegradation, Biocompatibility, and Cellular Responses
12:10	Huzaifa Asif (Ozyegin University, Türkiye) Thermal Treatment-Driven Microstructural Modification and Wear Performance of Additive-Manufactured Inconel 718 Superalloys
12:25	Mahdi Shafizadeh (Ozyegin University, Türkiye) Mechanical and Tribological Characteristics of Additive-Manufactured CoCrMo Alloy Subjected to Post Heat Treatment Processes
12:40-13:30	Lunch Break
Session 4 Session chair : Farzad Khodabakhshi	
13:30	<i>Keynote Speaker</i> Gerhard Dehm (Max Planck Institute for Sustainable Materials, Germany) Unravelling the impact of grain boundaries on mechanical properties at small length scales by mechanical microscopy

14:00	<i>Keynote Speaker</i> Yuntian Zhu (City Univeristy of Hong Kong, China) Heterostructured Materials: A New Direction for Ultrafine-grained and Nanostructured Materials
14:30	İlayda Süzer Çiçek (Istanbul Technical University, Türkiye) Powder Metallurgical Synthesis and Characterization Studies of MAX and MXene $Ti_xAl_yC_z$ ($x/y/z = 1, 2, 3$)
14:45	Soroush Nekoei (University of Tehran, Iran) Effect of Hot Extrusion Parameters on Slip Systems and Twinning Contribution in Commercially Pure Magnesium: Macro Texture Analysis, FEM and Microstructure Study
15:00	Diba Daei (University of Tehran, Iran) An Investigation into the Microstructural Evolutions and Mechanical Properties of an EBM manufactured Ti-6242 Alloy under Compression
15:15	Coffee Break
15:45	<i>Invited Speaker</i> Ramin Hashemi (Iran University of Science and Technology, Iran) Effect of Holes on Crashworthiness of Dual Phase Steel Rectangular Profiles Under Lateral Loading
16:05	<i>Invited Speaker</i> Zeynel Güler (University of New Mexico, USA) Advanced Fabrication and Characterization of Micro-Nano Structured Flexible Piezoelectric and Magnetic Thin Films for Zero-Power Smart Grid Sensors
16:25	Mohammad Hossein Sarrafzadeh (University of Tehran, Iran) Surface Modification of Reverse Osmosis Membranes with Polydopamine-Hydroxyapatite Nanoparticles Composites for Improved Antibiofouling Performance
16:40	Arvin Afshari (University of Tehran, Iran) Effect of Laser Welding Parameters on Weld Geometry, Microstructure, Defects and Mechanical Properties of A-286 Joints
16:55	Alireza Rouhafza (University of Tehran, Iran) Ultrafast and High Energy-Efficient CsPbBr ₃ Perovskite Quantum Dot-Infiltrated TiO ₂ Scaffold on ITO for Neuromorphic Optoelectronics
17:10	Mohammad Mahdi Hosseinieh Farahani (University of Tehran, Iran) Synthesis and Characterization of Multifunctional NiZnFe ₂ O ₄ /MoO ₂ Magnetic Nanocomposites for Photothermal Cancer Therapy
17:25	Mahsan Ardeshir-tanha (University of Tehran, Iran) Precipitation-Controlled Morphology and Optical Response of Mixed CsCu ₂ I ₃ /Cs ₃ Cu ₂ I ₅ Phases: Preliminary Investigation of an In Situ g-C ₃ N ₄ Composite
17:40	Closing Remarks
Poster Session : 9th of July Thursday 13:30-15:00	
P1	Fatemeh Asghari (University of Tehran, Iran) Influence of Laser-Powder Bed Fusion and Heat Treatments on Microstructural Evaluations for Additively Manufactured IN939 Superalloy

P2	Mohammad Hossein Sarrafzadeh (University of Tehran, Iran) From Nanofiltration to Nanochannels: Enhancing Lithium Recovery from Brine
P3	Mohammad Hossein Sarrafzadeh (University of Tehran, Iran) Fabrication and evaluation of photocatalytic membranes containing ternary nanoparticles for wastewater treatment
P4	Mohammad Hossein Sarrafzadeh (University of Tehran, Iran) Design of Bioactive Electrospun Nanofibrous Membranes with Controlled Hydration and Sustained Therapeutic Delivery
P5	Morteza Khodaei Vaighan (University of Tehran, Iran) A Smart PDMS-Based Hydrogel Scaffold for Localized Pirfenidone Delivery, Wound Healing, and Scar Modulation
P6	Zeynep Hazal Ozyurt (Istanbul Technical University, Türkiye) AI-Assisted Modeling of the Effects of Metallization Process and Materials on Optical Reflectance Performance
P7	Mahdi Shafizadeh (Ozyegin University, Türkiye) Effects of Post-Manufacturing Processing on an Additive-Manufactured Precipitation Hardenable High Entropy Alloy
P8	Altuğ Bakırcı (Bursa Uludağ University, Türkiye) Development and Preliminary Study of Iron Particle-Based Conductive Ink for Printed Electronics Applications
P9	Farhan Raza (Ozyegin University, Türkiye) Near Elastic-Perfectly Plastic Behavior at Elevated Temperatures in Direct-Aged Additive-Manufactured Inconel 718
P10	Yashar M. Sardroudi (Ozyegin University, Türkiye) Cryogenic and Elevated-Temperature Tensile Response of Laser Directed Energy Deposited Fe ₃₀ Cr ₃₀ Ni ₂₅ Mn ₁₀ Co ₅ High-Entropy Alloy
P11	Yashar M. Sardroudi (Ozyegin University, Türkiye) Mechanical Strength Improvement of a Dual-Phase TRIP-Assisted High-Entropy Alloy at Cryogenic Temperature
P12	Huzaifa Asif (Ozyegin University, Türkiye) Microstructural Stability and Strength–Ductility Trade-off in Artificially Aged TIG-Welded Dissimilar AA2024–AA7075 Joints with ER4043 Filler
P13	Abdullah Selim (Ozyegin University, Türkiye) Direction-Dependent Damping Behaviour in 316L Stainless Steel Produced via Wire Arc Additive Manufacturing
P14	Abdullah Selim (Ozyegin University, Türkiye) The Impact of a Layerwise Alternating Deposition Strategy on the Microstructure, Mechanical Properties, and Surface Roughness of WAAM Low Carbon Steel
P15	Ahmet Kabil, Mert Günyüz (Assan Alüminyum, Türkiye) Investigation of the High-Temperature Annealing on the Precipitation Behavior of Secondary Phases in Al-Fe-Mn Alloys
P16	Canay Işıl (Ozyegin University, Türkiye) Ultrafine Grain Refinement and Twinning-Induced Strengthening in a Non-Equiatomic High Entropy Alloy

P17	Canay Işıl (Ozyegin University, Türkiye) Low-Cycle Fatigue Behavior and Microstructural Evolution in an Ultrafine-Grained High Entropy Alloy
P18	Sezer Pıçak (Karabük University, Türkiye) Ultrahigh Strength–Ductility Synergy in UFG/Nanostructured Equiatomic VCoNi through ECAP-Induced Defect Architecture
P19	Zeynel Güler (Ozyegin University, Türkiye) Effects of Constrained Groove of Constrained Groove Pressing on FCC, BCC, and HCP Crystal