

## LIST OF PRESENTATIONS 21 November 2024

### Hall A - Opening Session

8.00 - 8.30	Registration	
8.30- 9.00	Opening Session and Welcome <b>Hülya Gedik</b> , Chair of the Board of the Trustees, İstanbul Gedik University <b>Prof. Dr. Ahmet Kesik</b> , Rector of İstanbul Gedik University <b>Prof. Dr. Mustafa Koçak</b> , Chair WAM 2023 International Conference	
9.00- 9.30	Keynote Lecture Wire + Arc Additive Manufacture (WAAM) Qualification – The Last Remaining Challenge for Widespread Industrial Applications? <b>Stewart Williams</b> , Cranfield University, UK (INVITED LECTURE)	
9.30- 10.00	Solid-State Joining of Additive Manufactured Metals for Lightweight Applications <b>Sergio Amancio</b> , Graz University of Technology, Austria IIW 2024 Halil Kaya Gedik Award Winner (INVITED LECTURE)	
<b>10.00- 10.30</b>	<b>COFFEE BREAK and POSTER SESSION</b>	
	<b>SESSION A1</b> Hall A - Advances in AM&WAAM Technologies - I Chair: <b>Prof. Dr. Mustafa Koçak</b> , İstanbul Gedik University, TÜRKİYE	<b>SESSION B1</b> Hall B - Advances in Welding Technologies Chair: <b>Prof. Dr. Güney Güven Yapıcı</b> , Özyeğin University, TÜRKİYE
10.30- 11.00	Towards a Digital Twin for Laser Metal Deposition <b>Peter Mayr and Stephan Hartmann</b> , Technical University of Munich, Germany (INVITED LECTURE)	Factors Affecting Arc Stability in Tandem Pulsed GMA Welding Process <b>Tomoyuki Ueyama</b> , OTC Daihen, Japan (INVITED LECTURE)
11.00- 11.30	Fitness-for-Purpose Based Acceptance Criteria for Distributed Discontinuities in Metallic AM Components <b>Pingsha Dong</b> , University of Michigan, USA (INVITED LECTURE)	Innovative Control of Robots for Manual Welding Application <b>Shahram Sheikhi</b> , Hamburg Technology University, Germany (INVITED LECTURE)
11.30- 12.00	Increasing LPBF Machines Availability By Using Machine Tool Design Principles <b>Hashan Wijesundara</b> , DMG MORI, Germany	Potentials of Handheld Laser Beam Welding <b>Simon Jahn</b> , IFW Jena, Germany (INVITED LECTURE)
12.00- 12.30	Challenges in Welding of Additively Manufactured (WAAM and PBF LB) Aluminum Alloy Components <b>Rafael Nunes</b> , K. Faes, W. Verlinde, W. D. Waele, M. Lezaack, A. Simar, Belgian Welding Institute, Belgium (INVITED LECTURE)	Innovative Welding Technologies for Enhancing Liquid Propulsion Systems <b>Murat Yücel</b> , ROKETSAN, Türkiye (INVITED LECTURE)
12.30- 13.00	Recent Developments on Aerospace Applications of DED Technologies <b>Remzi Ecmel Ece</b> , Turkish Aerospace Industries, Türkiye (INVITED LECTURE)	Tailoring Laser Properties for Efficient Laser Based Manufacturing <b>Danijela Rostohar</b> , Coventry University, UK (INVITED LECTURE)
<b>13.00- 14.00</b>	<b>LUNCH BREAK and POSTER SESSION</b>	
	<b>SESSION A2</b> Hall A - Design and Applications of AM&WAAM Technologies - I Chair: <b>Prof. Dr. Savaş Dilibal</b> , İstanbul Gedik University, TÜRKİYE	<b>SESSION B2</b> HALL B – Testing and Characterization - I Chair: <b>Assoc. Prof. Ulaş Yaman</b> , METU, TÜRKİYE
14.00- 14.30	Titanium Titans - The Remarkable World of Aircraft Manufacturing and the WAAM Evolution <b>Sebastian Recke</b> , GEFERTECH GmbH, Germany (INVITED LECTURE)	Fracture Toughness Characterization of Welds by Using Mini-CT Specimens: FRACTESUS Project Findings <b>Sergio Cicero González</b> , University of Cantabria, Spain (INVITED LECTURE)
14.30- 15.00	Mechanical Properties of Wire Plus Arc Additive Manufactured Steel, Stainless Steel and Nickel Nickel-Based Superalloys and Potential Challenges in Defect Assessment <b>Yin Jin Janin</b> , The Welding Institute (TWI), UK (INVITED LECTURE)	Severe Plastic Deformation for Post-Processing of Additive Additive-Manufactured Alloys <b>Güney Güven Yapıcı</b> , Özyeğin University, Türkiye (INVITED LECTURE)
15.00- 15.30	WAAM of Multi Multi-Material and Functionally Graded Structures and in in-Situ Alloy Development Using Multi Multi-Wire Mixing <b>Jialuo Ding</b> , WAAM3D, UK	Insights into Grain Structure Formation During Friction Stir Welding/Processing of Metals and Alloys <b>Akbar Heidarzadeh</b> , M. Javidani, Rasoul Khajeh, Azarbaijan Shahid Madani University, Iran (INVITED LECTURE)
15.30- 16.00	Effect of Cooling Cycles on Microstructure Formation in Wire Arc Additive Manufacturing <b>Ozan Can Ozaner</b> , R. Talemi, T. Tjahjowidodo, A. Sharma, Katholieke Universiteit Leuven, Belgium (INVITED LECTURE)	Sandwich Welding Design: Improving Ballistic Resistance of High Hardness Armor Steels <b>Ceren Çelik</b> , Uğur Gürol, İstanbul Gedik University, Türkiye
<b>16.00- 16.30</b>	<b>COFFEE BREAK and POSTER SESSION</b>	
	<b>SESSION A3</b> Hall A - Design and Applications of AM&WAAM Technologies - II Chair: <b>Dr. Remzi Ecmel Ece</b> , TAI, Ankara, TÜRKİYE	<b>SESSION B3</b> HALL B – Testing and Characterization - II Chair: <b>Dr. Ali İhsan Koruk</b> , BOSAL Energy, Belgium
16.30- 17.00	Improving Printability of Large Directed Energy Deposition Components <b>Alejandro Lázaro</b> , Carretero, F., Olivieri, G., Escobar, E., Ramos, A., Robinson, C., MELTIO,	Defense Industry Additive Manufacturing Roadmap <b>Deniz Demirci</b> , Secretariat of Defense Industries, Advanced Materials and Energy

	Spain (INVITED LECTURE)	Program Manager, Türkiye (INVITED)
17.00- 17.30	Keynote Lecture (ONLINE) Materials Design and Additive Manufacturing of Metal Matrix Composites <b>Ju Li</b> , Massachusetts Institute of Technology, USA (INVITED LECTURE)	Recent Advances in the Manufacturing of Magnesium Components Using Directed Energy Deposition Techniques <b>Gürel Çam</b> , A. Günen, Iskenderun Technical University, Türkiye (INVITED LECTURE)
17.30- 18.00	A Multi -Laser Approach for In In-Situ Thermo Thermo-Mechanical Treatment of Metals and Alloys <b>Huang Sheng</b> , Massachusetts Institute of Technology, USA (INVITED LECTURE)	Impact of Volumetric Energy Density on Mechanical Properties of Magnesium Alloy via Selective Laser Melting (ONLINE) <b>Dhanesh G. Mohan</b> , University of Sunderland, UK (INVITED LECTURE)
18.00- 18.30	Design and Applications on SLM-based Additive Manufacturing of Shape Memory Alloys (ONLINE) <b>Mohammad Elahinia</b> , University of Toledo, USA (INVITED LECTURE)	Advanced In Situ Deformation Monitoring in Wire Arc Additive Manufacturing via Digital Image Correlation (ONLINE) <b>Amir Kordijazi</b> , A. Lanba, University of Southern Maine, USA Savaş Dilibal, Doruk Gürkan, İstanbul Gedik University
<b>22 November 2024</b>		
	<b>SESSION A4</b> Hall A - Advances in AM&WAAM Technologies - II Chair: <b>Ozan Can Ozaner</b> , KU Leuven, Belgium	<b>SESSION B4</b> HALL B - Properties of Welding and AM Parts - I Chair: <b>Prof. Dr. Zuheir Barsoum</b> , KTH Sweden
8.30- 9.00	Impact and Potential of In-Situ Monitoring on the Development of Metal Laser Powder Bed Fusion (L L-PBF) Technologies <b>Aydın Yağmur</b> , EOS GmbH, Additive Mind, Germany (INVITED LECTURE)	Local Approach for Fracture Assessment of Components with Heterogeneity of Mechanical Properties (ONLINE) <b>Mitsuru Ohata</b> , Osaka University, Japan (INVITED LECTURE)
9.00- 9.30	A New Method to Control Thermal Behavior of WAAM: Active Heating via Infrared Technology (ONLINE) <b>Oğuzhan Yılmaz</b> , Gazi University, Türkiye (INVITED LECTURE)	Engineering Assessment Procedure of the Local Thin Areas (LTA) in Welded Pipelines <b>Fikri Başar Yalçiner</b> , NMDC Group, Abu Dhabi Mustafa Koçak, İstanbul Gedik University, Türkiye
9.30- 10.00	Utilization of Additive Manufacturing Methods in the Energy and Emission Sectors <b>Ali İhsan Koruk</b> , BOSAL Energy, Belgium (INVITED LECTURE)	Breaking the Boundaries of Additive Manufacturing: Additive Friction Stir Deposition <b>Evren Yasa</b> , University of Sheffield, UK (INVITED LECTURE)
10.00- 10.30	Additive Manufacturing and Biomedical Applications <b>Binnur Sagbas</b> , Yıldız Technical University, Türkiye (INVITED LECTURE)	The Influence of Heat Input and Cooling Time on the Residual Stress During Wire Arc Additive Manufacturing <b>Atilla Savaş</b> , Piri Reis University, Türkiye
<b>10.30- 11.00</b>	<b>COFFEE BREAK and POSTER SESSION</b>	
	<b>SESSION A5</b> HALL A - Additive Manufacturing Applications - I Chair: <b>Assoc. Prof. Binnur Sagbas</b> , Yıldız Technical University, Türkiye	<b>SESSION B5</b> HALL B- Properties of Welding and AM Parts - II Chair: <b>Prof. Dr. Gürel Çam</b> , Iskenderun University, TÜRKİYE
11.00- 11.30	Purge Gas for Welding of Stainless-Steel Pipes: Must or Luxury <b>Emel Taban</b> , Kocaeli University, Türkiye (INVITED LECTURE)	Application of Resistance Spot Welding in Cold-Formed Steel Structures <b>Viorel Ungureanu</b> , Ioan Both, J. Hulka, A. Popescu, S. Saraolu, A. A. Cristian, Politehnica University Timisoara, Romania
11.30- 12.00	Additive Manufacturing Designers: A Comparison Between IAMQS Professional Profiles and Relevant ISO Standards <b>Pedro Catarino</b> , EWF, Portugal (INVITED LECTURE)	Effect of Filler Metals on Strength and Toughness of High Hardness Armor Steel <b>Recep Murat Kurt</b> , Uğur Gürol, Mustafa Koçak, İstanbul Gedik University, Türkiye and VESUVIUS, Türkiye, M. Tümer, Kocaeli University, Türkiye
12.00- 12.30	Overview of Laser Shock Peening Processing for Improvements of Metal Additive Manufactured Part at HiLASE Centre <b>Sanin Zulic</b> , Hilase Center, Czechia	Potential of Process Gases for the WAAM to Increase Quality and Productivity <b>Çerkez Kaya</b> , Air Liquide Deutschland GmbH, Germany
12.30- 13.00	High-Speed Laser Laser-Directed Energy Deposition of Ti/Al Multi Multi-Material Component (ONLINE) <b>Dongsheng Wu</b> , H. Komen, M. Tanaka, Osaka University, Japan J. Sun, Z. Li, Shanghai Jiao Tong University, China	Advanced Process Modeling and Simulation of Multi Multi-Material Directed Energy Deposition <b>Emre Osmanoglu and Peter Mayr</b> , Technical University of Munich, Germany
<b>13.00- 14.00</b>	<b>LUNCH BREAK and POSTER SESSION</b>	
	<b>SESSION A6</b> HALL A - Additive Manufacturing Applications Applications-II Chair: <b>Yin Jin Janin</b> , TWI, UK	<b>SESSION B6</b> HALL B- Additive Manufacturing - I Chair: <b>Akbar Heidarzadeh</b> , Azarbaijan Shahid Madani University, Iran
14.00- 14.30	Understanding the Thermally Induced Martensitic Transformation in Nitinol Manufactured via Electron Beam Powder Bed Fusion <b>Tymur Sabirov</b> , A. Lanba, University of Maine, USA S. Dilibal, G. Peduk, İstanbul Gedik University Türkiye	Design for Material Properties of Additively Manufactured Metals Using Topology Optimization <b>Can Ayas</b> , Delft University of Technology, The Netherlands (INVITED LECTURE)
14.30- 15.00	Material Selection & Development, and Metal Additive Manufacturing Process for AR/MR/VR Products <b>Ustun Duman</b> , Meta Platforms, California, USA (INVITED LECTURE)	Development of Fast Fast-Paced Modular Microsatellite Production By AdditiveManufacturing <b>Sertaç Altınok</b> , Turkish Aerospace Ind. Company, Türkiye (INVITED LECTURE)
15.00- 15.30	Metal Additive Manufacturing and its Unique Corrosion Mechanisms (ONLINE) <b>Iris De Graeve</b> , Vrije Universiteit Brussel, Belgium (INVITED LECTURE)	Enhancing Material Performance: Evaluating Shot Peening and Laser Peening Processes for Industrial Applications (INVITED LECTURE) <b>Simge Gençalp</b> , Manisa Celal Bayar University, Türkiye

15.30- 16.00	Determination Of Solid Particle Erosion Wear Behavior of Aircraft Turbine Blades Specific to Additive Manufacturing Orientation Effects <b>Mehmet Esat Aydın</b> , M. Demirci, M. Bağcı, Konya Technical University, Türkiye	Metallic Additive Manufacturing: Opportunities and Challenges for Passive Microwave Components in Telecommunications and Defense <b>Bülent Alıcıoğlu</b> , Asartech ARGE Tasarım Mühendislik, Türkiye
<b>16.00- 16.30</b>	<b>COFFEE BREAK and POSTER SESSION</b>	
	<b>SESSION A7</b> HALL A - Additive Manufacturing Software and Applications Chair: <b>Assoc. Prof. Atilla Savaş</b> , Piri Reis University, Türkiye	<b>SESSION B7</b> HALL B- Additive Manufacturing - II Chair: <b>Dr. Sertaç Altınok</b> , Turkish Aerospace Ind. Company, Türkiye
16.30- 17.00	Digitized Quality Inspection in Welding Production Role and Significance of the Software for the Development of Additive Manufacturing Technology <b>Zuheir Barsoum</b> , KTH Royal Institute of Technology, Sweden (INVITED LECTURE)	Enhancing Texture in High Entropy Alloys with Nb: In-Situ Synthesis and Microstructural Insights via Laser Powder Bed Fusion <b>Isaqueo A. B. Moura</b> , G. G. Ribamar, J. Shen, W. Zhang, T. S. Nunes, F. Zhang, J. P. Oliveira, Universidade NOVA de Lisboa, Portugal
17.00- 17.30	The Significant Role of Software Development for the Additive Manufacturing Technology <b>Jonas Zielinski</b> , Moduleworks GmbH, Germany (INVITED)	Welding and Characterization of P355GH Steel Used in Pressure Vessels <b>Ismail Oguzhan Ayhan</b> , Hakan Ateş, Gazi University, Ankara, Türkiye
17.30- 18.00	Non-Destructive Evaluation Approaches for Wire Arc Additive Manufacturing <b>Ulaş Yaman</b> , METU, Türkiye (INVITED LECTURE)	A Method for Detecting Bead Geometry of Thin Thin-Wall Structural Aviation Components in Wire Arc Additive Manufacturing (ONLINE) <b>Rostislav Palivoda</b> , Transport and Telecommunication Institute, Latvia
18.00- 18.30	Investigating Slag Accumulation in Wire Arc Additive Manufacturing of High Strength Low Alloy Steel <b>Malan Jayawickrama</b> , Mattias Igestrand, Nicolas Coniglio, Paul Kah University West, Sweden Arts Et Métiers Institute of Technology, France	Thermal Modeling of Tungsten Inert Gas Wire Arc Additive Manufacturing of Ti-6Al6Al-4V Alloy <b>Mustafa Çağrı Özkader</b> , Öncü Akyildiz and Cengiz Baykasoğlu, Hitit University, Ankara, TÜRKİYE