



Programme of EM2026

Author underlined → presenting author

* Keynote lecture

Thursday 7 May 2026	
8:40	EM 2026 Opening (Room B032)
9:00*	Innovative approaches to the minting of collector coins (EM26_1) <u>PAF Martins</u> (University of Lisbon, Portugal)
	Session 1 – Forming (Chair: PAF Martins and MM Kasaei)
	Room B032
9:40	Towards a new formability test to characterize the fracture between mode II and III (EM26_31) <u>IM Almeida</u> (University of Lisbon, Portugal), JP Magrinho, PA Martins, MB Silva
10:00	Evaluation of forming-induced ductile damage on fatigue damage mechanisms in 16MnCrS5 steel by resistometry (EM26_47) <u>LA Lingnau</u> (TU Dortmund University, Germany), LM Sauer, F Walther
10:20	Self-pierce riveting of hybrid polymer–metal structures for lightweight EV battery pack design (EM26_10) FMRM Quelhas, <u>MM Kasaei</u> (INEGI, Portugal), RJC Carbas, EAS Marques, J Hrachova, LFM da Silva
10:40-11:00	COFFEE BREAK
	Session 2 – Additive manufacturing I (Chair: F Walther and JL Alves)
	Room B032
11:00	Development of laser assisted AM technology for recycling of glass and glass-ceramics (EM26_28) H Sajjad, M González-Longueira, J del Val, E Calvo-García, <u>R Comesaña</u> (University of Vigo, Spain), J Pou
11:20	Benchmarking Ttt-to-3D generative AI outputs (OBJ) for additive manufacturing (EM26_35) ML Empinotti, L Santana, MJ Baldessar, <u>JL Alves</u> (University of Porto, Portugal)
11:40	Integration of additive manufacturing and post-process surface engineering for enhanced fatigue performance (EM26_36) <u>ME Korkmaz</u> (Yildiz Technical University, Turkey), MK Gupta
12:00	Directional-field optimization for continuous fibre path generation in composite 3D printing using a stripe pattern approach (EM26_7) <u>M Iozzi</u> (Univeristy of Bordeaux, France), M Montemurro, J Paihes, A Catapano
12:20	Evaluation of the mechanical properties of additive manufactured thermoplastic polyurethane skeletons on biobased polyurethane resin (EM26_19) JG Teixeira, R Lima, <u>MF Vaz</u> (Universidade de Lisboa, Portugal), ST Freitas

12:40	Food design: from contemporary food technology to additive technology (EM26_25) L Afreixo, <u>A Pais</u> (University of Porto, Portugal), F Providência, JL Alves
13:00-14:00	LUNCH BREAK
	Room B032
14:00*	Advanced scalable surface engineering technologies for industrial applications (EM26_4) L Zhang, Q Xiao, H Jing, X Wang, M Lv, <u>J Sun</u> (Dalian University of Technology, China)
	Session 3 – Surface engineering (Chair: J Sun and AA Minea)
	Room B032
14:40	Experimental insights into surfactant advantages and drawbacks on nanocolloids for heat transfer applications (EM26_5) GC Tofan, CA Tugui, D Bejan, B Pricop, <u>AA Minea</u> (Technical University “Gheorghe Asachi”, Romania)
15:00	Rheology, velocity and surface tension effects on adhesive flow in manufacturing polypropylene-aluminium adhesive joints (EM26_20) <u>D Garcia</u> (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, J Hrachova, AMP Afonso, LFM da Silva
15:20	Advanced semiconductor packaging: challenges in durability assessment of multi-material interfaces and interconnectors (EM26_9) <u>A Akhavan-Safar</u> (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
15:40	A physics-informed generative tip deconvolution approach for AFM nanoimaging (EM26_37) <u>Z Zhao</u> (University of Strathclyde, UK), W Xie, X Luo, Z Wang
16:00-16:20	COFFEE BREAK
	Session 4 – Welding and joining by forming (Chair: DM Neto and R Beygi)
	Room B032
16:20	Numerical and experimental investigation of the influence of chemical composition and welding position in a partially or fully penetrated weld pool in GTAW (EM26_24) <u>C Jaubert</u> (Arts et Métiers Institute of technologies, France), N Coniglio, M Bedel, L Barrallier
16:40	Material flow during joining with friction spun joint connectors (EM26_18) <u>AB Nordieker</u> (Paderborn University, Germany), R Köchling, W Homberg
17:00	Optimization of steel-aluminium friction stir welding through control of intermetallic growth (EM26_50) <u>EAS Marques</u> (University of Porto, Portugal), R Beygi, RJC Carbas, LFM da Silva
17:20	FSW of magnesium and copper: A step forward to weld magnesium and steel (EM26_49) MB Hesari, <u>R Beygi</u> (Arak University, Iran), A Rahimi, F Azizi, RJC Carbas, EAS Marques, LFM da Silva
17:40	Effect of Reuleaux-triangle clinch-joint orientation on mechanical properties: A finite-element study (EM26_40) <u>DR Devulapally</u> (University of Paderborn, Germany), T Tröster
18:00	Thermal–electrical performance and interfacial durability of overmolded polypropylene compound insulation for EV busbars (EM26_12) VPNC Henriques, MM Kasaei, <u>RJC Carbas</u> (University of Porto, Portugal), EAS Marques1, J Hrachova, LFM da Silva

18:30	Poster session and RECEPTION	
Additive manufacturing		
Poster 1	Additive manufacturing–enabled topology optimization of a power transformer clamping plate (EM26_43)	L Garrido (INEGI, Portugal), C Costa, J Castro, JR Matos, P Lopes, H Lopes, F Barbosa
Welding and joining by forming		
Poster 2	An overview of advanced welding processes for automotive applications (EM26_51)	EAS Marques (University of Porto, Portugal), R Beygi, RJC Carbas, LFM da Silva
Poster 3	Durability of tube fit joints for busbar–prismatic cell interconnections in electric vehicles (EM26_11)	GFS Ferreira, MM Kasaei (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, LFM da Silva
Adhesive bonding		
Poster 4	A comparative study of thermoplastic and thermoset adhesives for CFRP joints under varying temperatures and strain rates (EM26_13)	RCJ Carbas (University of Porto, Portugal), F Ribeiro, EAS Marques, LFM da Silva
Poster 5	Characterization and debonding of adhesive tapes for prismatic cell-to-cell bonding (EM26_15)	VCMB Rodrigues (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
Poster 6	Interface and durability assessment of an epoxy-thermoplastic film for reusable adhesive bonding in horseshoeing (EM26_17)	CMC Ferreira (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, LFM da Silva
Poster 7	Exacerbated roughness patterns on adhesive flow in manufacturing bonded joints (EM26_21)	D Garcia (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, J Hrachova, AMP Afonso, LFM da Silva
Poster 8	Design, validation, and manufacturing insights of a custom cyclic creep testing station for pressure-sensitive adhesives (EM26_27)	EMD Fernandes, BD Simões (INEGI, Portugal), EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
Optimization of manufacturing processes		
Poster 9	Development and characterization of waste-based biomaterials (EM26_52)	J Seijo, H Domínguez, MD Torres (University of Vigo, Spain)

Friday 8 May 2026	
	Room B032
8:40*	Hybrid micromachining - a paradigm shift in micromanufacturing (EM26_3) <u>X Luo</u> (University of Strathclyde, UK)
	Session 5 – Machining (Chair: X Luo and R Laheurte)
	Room B035
9:20	Environmental assessment of rough milling: Conventional vs. dynamic trochoidal strategies (EM26_6) <u>M Jeulin</u> (University of Bordeaux, France), R Laheurte, P Darnis
9:40	An experimental method for measuring kinematic fields in orthogonal machining (EM26_41) <u>L Raulin</u> (University of Bordeaux, France), R Laheurte, M Calamaz, D Coupard
10:00	Reliability investigation of measurement acquisition chains of consumption in machining processes (EM26_22) <u>A Laffitte</u> (University of Bordeaux, France), R Laheurte, P Darnis, M Jeulin
10:20	A-axis support redesign for a 5-axis stone-cutting CNC: Lightweighting via topology optimization and wire-fed AM (EM26_38) <u>JR Matos</u> (INEGI, Portugal), J Castro, L Garrido, C Costa, F Barbosa, A Gouveia
10:40-11:00	COFFEE BREAK
	Session 6 – Additive manufacturing II (Chair: MF Vaz and RD Vicente)
	Room B032
11:00	Fatigue damage tolerance of additively manufactured metals (EM26_46) S Stammkoetter, N Kloos, P Karentzopoulos, M Teschke, A Koch, <u>F Walther</u> (TU Dortmund University, Germany)
11:20	Functionally graded adhesive joints fabricated via multi-material additive manufacturing (EM26_45) <u>M Frascio</u> (University of Genoa, Italy), M Minuto, M Gulino, S Morchio, F Musiari, L Rosseti
11:40	Hybrid wire-arc additive manufacturing for customized three-dimensional thin-walled components (EM26_30) PMS Rosado, RFV Sampaio, JM Medeiros, JPM Pragana, <u>IMF Bragança</u> (Polytechnic of Lisbon, Portugal), CMA Silva, PAF Martins
12:00	Limitations of cantilever geometries for calibrate the inherent strain values used in L-PBF modelling (EM26_48) BM Marques, <u>DM Neto</u> (University of Coimbra, Portugal), MC Oliveira, LF Menezes
12:20	Investigation of 3D-printed carbon PEEK composites using shearography (EM26_33) <u>V Pagliarulo</u> (National Council of Research, Institute of Applied Sciences & Intelligent Systems (CNR-ISASI) “E. Caianiello”, Italy), M Paturzo
12:40	Comparative study of additive and conventional manufacturing for mechanical plug retention components (EM26_39) <u>J Conceição</u> (INEGI, Portugal), B Oliveira, J Matos, C Costa, L Garrido, P Lopes, A Brasil, F Barbosa
13:00-14:00	LUNCH BREAK
	Room B032
14:00*	Data-empowered sensing: A keystone for smart manufacturing (EM26_2) <u>RX Gao</u> (Case Western Reserve University, OH, USA)

	Session 7 – Optimization of manufacturing processes (Chair: A Catapano and R Comesaña)
	Room B032
14:40	Improvement of automotive control cable production by automation principles (EM26_34) JPM Pinto, <u>AFV Pedroso</u> (Polytechnic of Porto, Portugal), RDSG Campilho, FJG Silva
15:00	An alloy-specific mechanical criterion for predicting solidification cracking in Al–Mg alloys (EM26_23) <u>N Coniglio</u> (Arts et Métiers Institute of Technologies, France)
15:20	Industrial applicability of beam theory under large strain conditions (EM26_32) <u>C Zehetner</u> (University of Applied Sciences Upper Austria, Austria), C Reisinger, S Mayr
15:40	Thermal effects on the fatigue behaviour of H13 hot forging tool steel (EM26_29) E Calvo-García, M González-Longueira, H Sajjad, M González-Quintas, A Riveiro, <u>R Comesaña</u> (University of Vigo, Spain)
16:00-16:20	COFFEE BREAK
	Session 8 – Adhesive bonding (Chair: LFM da Silva and M Frascio)
	Room B032
16:20	Novel practical life prediction tools for fatigue design of adhesively bonded structures (EM26_8) <u>A Akhavan-Safar</u> (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
16:40	Thermally triggered interfacial debonding for lid to frame disassembly in electric vehicle battery pack (EM26_14) <u>VCMB Rodrigues</u> (INEGI, Portugal), MM Kasaei, EAS Marques, RJC Carbas, R Szymanski, M Olive, LFM da Silva
17:00	Universal creep kinetics framework for pressure-sensitive adhesives: predictive modelling for manufacturing lifecycle optimization (EM26_26) <u>BD Simões</u> (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
17:20	A novel manufacturing process for testing and adhesive joining of full culm bamboo (EM26_42) <u>Y Windeln</u> (FH Aachen University of Applied Sciences, Germany), M Schleser, S Kallweit, A Schwarz
17:40	Improving equine welfare: high performance adhesive films for fast and reusable horseshoe attachment (EM26_16) <u>CMC Ferreira</u> (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, LFM da Silva
18:00	A cost-effective synthetic rat sciatic nerve model for mechanical testing of tissue adhesives (EM26_44) M Minuto, M Frascio, A Lagazzo, A Spallarossa, G Taccola, V Belotti, M Avalor, <u>L Rossetti</u> (University of Genoa, Italy)
20:00	EM2026 BANQUET (Restaurant Vincci Porta de Ferro)