

Programme of AJP2023

Author underlined → presenting author

* Plenary lecture

Thursday 19 October 2023			
8:40	AJP 2023 Opening (Room Minho)		
	Room Minho		
9:00*	Adjusting intensity distribution in laser beam welding – a solution for all problems? (AJP23_131) <u>JP Bergmann</u> (Technische Universität Ilmenau, Germany)		
	Session 1A – Joining by forming I (Chair: PAF Martins and MM Kasaei)	Session 1B – Laser welding I (Chair: K Dilger and U Reisgen)	Session 1C – 5th In-situ workshop I (Chair: T Kannengießer and A Kromm)
	Room Minho	Room Braga I	Room Braga II
9:40	Influence of the process time on a self-piercing riveting process with tumbling kinematic (AJP23_24) <u>S Wituschek</u> , <u>L Elbel</u> (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), M Lechner	Laser beam welding under vacuum of galvanized thick plate constructional steel (AJP23_4) <u>C Frey</u> (RWTH Aachen University, Germany), O Stocks, S Olschok, R Kühne, M Feldmann, U Reisgen	Investigations to improve the tool life during thermomechanical and incremental forming of steel auxiliary joining elements (AJP23_1) <u>T Borgert</u> (Paderborn University, Germany), AB Nordieker, W Homberg
10:00	Investigation of the influence of material property changes on the clinching process and the load-bearing capacity of the clinched joint (AJP23_25) <u>C Steinfeldt</u> (Technische Universität Dresden, Germany), D Rempel, A Brosius	Comparison of the mechanical-technological properties of Ni 99.6 thin sheets welded by different arc and laser welding processes (AJP23_32) <u>M Gamerding</u> , A Biber, <u>M Olesch</u> (RWTH Aachen University, Germany), R Sanei, R Sharma, S Olschok, U Reisgen	Investigation of the local strain behavior by digital image correlation and transverse tensile tests on welded differently micro-alloyed high-strength structural steel (AJP23_143) <u>N Schroeder</u> (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany), M Rhode, T Kannengiesser

10:20	Investigation of the influence of the rivet geometry on joint formation for a versatile self-piercing riveting process (AJP23_30) <u>F Kappe</u> (Paderborn University, Germany), M Bobbert, G Meschut	Increasing the robustness of laser beam submerged arc hybrid welding in the presence of joint gaps and offsets (AJP23_46) M Clemens, <u>S Olschok</u> (RWTH Aachen University, Germany), U Reisgen	Influence of residual stresses on stress relief cracking of thick-walled creep-resistant steel welds (AJP23_21) M Rhode, <u>A Kromm</u> (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany), RC Wimpory, S Gook, D Schroepfer, T Kannengiesser
10:40-11:00	COFFEE BREAK		
	Session 2A – Advanced joining processes I (Chair: U Reisgen and A Brosius)	Session 2B – Adhesive bonding I (Chair: C Sato and LFM da Silva)	Session 2C – 5th In-situ workshop II (Chair: T Kannengießler and A Kromm)
	Room Minho	Room Braga I	Room Braga II
11:00	Optimization of weldability and joint strength of Al-Mg-Si clad aluminum alloys based on a design of experiments investigation (AJP23_5) <u>P Bamberg</u> (RWTH University, Germany), A Schiebahn, A Marzzone, M Christ, U Reisgen	Digital twin development for heat transfer and curing kinetics of thick adhesive bond lines in 3D-printed moulds (AJP23_160) L Domenech, M Ibañez, V García, A Sakalytė, JA García, <u>F Sánchez</u> (University CEU Cardenal Herrera, Spain)	Joining technologies for hydrogen components: current need and future perspectives (AJP23_20) <u>M Rhode</u> (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany), T Kannengiesser
11:20	Influence of workpiece geometry and natural frequencies on Ultrasonic-Metal-Welding (AJP23_22) <u>FW Müller</u> (RWTH Aachen University, Germany), J Liu, A Schiebahn, U Reisgen	Lamb waves for the detection of degradation of adhesive-adherend interlayers (AJP23_159) <u>SA Kumar</u> (Anil Neerukonda Institute of Technology and Sciences, India), G Sudheer	In-situ CT – Analysis of the failure mechanisms of thermomechanically manufactured joints with auxiliary joining elements (AJP23_29) <u>T Borgert</u> (Paderborn University, Germany), D Köhler, R Kupfer, J Troschitz, W Homberg, M Gude
11:40	Selected properties of aluminium ultrasonic wire bonded joints with nickel-plated steel substrate for 18650 cylindrical cells (AJP23_35) <u>K Bieliszczuk</u> (Warsaw University of Technology, Poland), J Zręda, TM	New challenges of e-mobility for adhesive bonding (AJP23_16) <u>H Fricke</u> (Fraunhofer IFAM, Germany), M Ruetters	Neutron Bragg edge imaging for in situ mapping of crystallographic phase transformations and of temperature distributions during GTAW of supermartensitic stainless steel (AJP23_31) <u>A Griesche</u> (Federal Institute for Materials

	Chmielewski		Research and Testing, Germany), T Mente, H Markötter, Ala'A M. Al-Falahat, N Kardjilov
12:00	Diffusion bonding and brazing Al-6%Mg alloy to stainless steel (AJP23_43) <u>AA Shirzadi</u> (The Open University, UK), MZ Mughal	Investigating mode I fracture behavior and fatigue crack growth in bi-material interfaces to enhance the semiconductor reliability (AJP23_17) <u>A Akhavan-Safar</u> (INEGI, Portugal), P Morais, RJC Carbas, EAS Marques, B Karunamurthy, LFM da Silva	Residual stress formation in DED-arc manufactured high strength steel components (AJP23_55) <u>K Wandtke</u> , <u>D Schröpfer</u> , <u>A Kromm</u> (Bundesanstalt für Materialforschung und -prüfung, Germany), <u>R Scharf-Wildenhain</u> , <u>A Hälsig</u> , <u>T Kannengießer</u> , <u>J Hensel</u>
12:20	Characterisation of wire-arc directed energy deposited stiffening structures in AA2024 profiles (AJP23_49) <u>M Silmbroth</u> (AIT Austrian Institute of Technology, Austria), <u>N Enzinger</u> , <u>C Schneider-Bröskamp</u> , <u>T Klein</u>	Effect of different interfaces on the water uptake of Zn coated high strength steel/epoxy adhesive joints (AJP23_33) <u>CSP Borges</u> (INEGI, Portugal), <u>JDP Sousa</u> , <u>EAS Marques</u> , <u>RJC Carbas</u> , <u>D Chaleix</u> , <u>F Gilbert</u> , <u>J Pirat</u> , <u>F Laffineur</u> , <u>L Rachiele</u> , <u>LFM da Silva</u>	Influence of the loading rate on the friction coefficient in preloaded bolted connections (AJP23_56) <u>J Mantik</u> (Fraunhofer IGP, Germany), <u>M Leicher</u> , <u>C Denkert</u> , <u>K Treutler</u> , <u>M Dörre</u> , <u>K-M Henkel</u> , <u>V Wesling</u>
12:40	Challenges in contacting metal-polymer current collectors in pouch cells (AJP23_50) <u>H Gruhn</u> (TU Braunschweig, Germany), <u>T Krüger</u> , <u>M Mund</u> , <u>MW Kandula</u> , <u>K Dilger</u>	In situ detection of contaminants during laser surface preparation of metal surfaces (AJP23_82) <u>S Kirchner</u> (IRT Saint Exupéry, France), <u>J Lecomte</u> , <u>L Ferres</u> , <u>T Balutch</u> , <u>C Debras</u> , <u>M Péron</u> , <u>N Cuvillier</u>	In-situ computed tomography damage analysis of thermoplastic composites with embedded metal inserts (AJP23_57) <u>J Troschitz</u> (Technische Universität Dresden, Germany), <u>R Füßel</u> , <u>M Gude</u>
13:00-14:00	LUNCH BREAK		
	Room Minho		
14:00*	Joining by forming of busbars for electrical applications (AJP23_81) <u>JPM Pragana</u> , <u>RFV Sampaio</u> , <u>IMF Bragança</u> , <u>CMA Silva</u> , <u>PAF Martins</u> (University of Porto, Portugal)		
	Session 3A – Friction stir welding I (Chair: R Beygi and K Dilger)	Session 3B – Additive manufacturing I (Chair: R Nunes and EAS Marques)	Session 3C – 5th In-situ workshop III (Chair: T Kannengießer and A Kromm)
	Room Minho	Room Braga I	Room Braga II
14:40	Modification of Al-Fe intermetallic structure with Cr and Ni and a tremendous enhancement of the joint	Effect of heat treatment on the mechanical properties of parts manufactured by WAAM (AJP23_36)	In-Situ control of weld pool size and mechanical properties in Wire Arc Additive Manufacturing (AJP23_75)

	strength: A comprehensive characterization (AJP23_10) <u>R Beygi</u> (INEGI, Portugal), RJC Carbas, EAS Marques, AQ Barbosa, LFM da Silva	M Mouhdi, A Mathieu, M Simon, <u>R Bolot</u> (University of Burgundy, France)	<u>K Treutler</u> (Clausthal University of Technology, Germany), T Gehling, M Scheck, A Richter, C Bohn, R Ehlers, C Rembe, V Wesling
15:00	High speed friction stir welding of Al alloy in lightweight battery trays for EV industry (AJP23_164) <u>V Patel</u> (University West, Sweden), J De Backer, M Igestrand, J Andersson	Characterization of intrinsic interfaces between fibre composites and additively manufactured metal for designing hybrid structures (AJP23_53) <u>R Grothe</u> (Technische Universität Dresden, Germany), M Pohl, J Troschitz, Ch Weiderman, K-P Weiß, M Gude	Analyzing the impact of individual alloying elements on weld microstructure: In situ chemical composition measurement during TIG welding and image analysis of Duplex Stainless Steels microstructure (AJP23_59) <u>L Quackatz</u> (Federal Institute for Materials Research and Testing, Germany), A Griesche, T Kannengiesser, K Treutler, V Wesling
15:20	Volumetric defect detection in friction stir welding through Convolutional Neural Networks generalized across multiple Al-alloys and sheet thicknesses (AJP23_47) <u>P Rabe</u> (RWTH Aachen University, Germany), A Schiebahn, U Reisgen	Plasma powder transferred arc additive manufacturing of ((Fe,Ni)-Al) intermetallic alloy and resulting properties (AJP23_74) <u>K Treutler</u> (Clausthal University of Technology, Germany)	In-situ synchrotron investigations of beam diameter influence on vapor capillary formation during laser beam welding of copper with a 450 nm laser beam source (AJP23_27) <u>C Spurk</u> (RWTH Aachen University, Germany), M Hummel, A Gillner, F Beckmann, J Moosmann, C Häfner
15:40	Dissimilar probeless-friction stir spot welding of aluminum alloy and USIBOR®1500 steel thin plates (AJP23_47) <u>M Rashkovets</u> (Polytechnic University of Bari, Italy), ME Palmieri, N Contuzzi, L Tricarico, G Casalino	The influence of the filler metal quality in the MIG welding of AlSi10Mg parts additively manufactured by L-PBF process (AJP23_92) <u>R Nunes</u> (Belgian Welding Institute, Belgium), K Faes, W Verlinde, W De Waele, W Sneyers, A Simar, M Lezaack	Process parameter optimization for Refill Friction Stir Spot Welding (Refill FSSW) of dissimilar AA5754 and electro galvanized DP600 joints (AJP23_26) GL Ghirdelli, <u>AH Plaine</u> (State University of Santa Catarina, Brazil), UFH Suhuddin, NG Alcântara
16:00-16:20	COFFEE BREAK		
	Session 4A – Joining by forming II (Chair: M Merklein and PAF Martins)	Session 4B – Laser welding II (Chair: J-M Jouvard and S Olschok)	Session 4C – Friction stir welding II (Chair: R Beygi and K Dilger)
	Room Minho	Room Braga II	Room Braga II

16:20	Multi-planar injection lap riveting (AJP23_42) M Sapage, JPM Pragana, RFV Sampaio, IMF Bragança, CMA Silva, <u>PAF Martins</u> (University of Lisbon, Portugal)	In-process determination of the local hardness during laser beam welding of steel (AJP23_62) <u>D Traunecker</u> (University of Stuttgart, Germany), M Jarwitz, A Michalowski, T Graf	Models for torque and forces in friction stir welding (AJP23_80) <u>KJ Quintana</u> (Universidade Federal do Rio de Janeiro, Brazil), JL Silveira
16:40	Experimental und numerical investigation of the influence of rolling-induced sheet metal deformation on clinched joints (AJP23_51) <u>M Böhnke</u> (Paderborn University, Germany), CR Bielak, M Bobbert, G Meschut	The investigation of laser beam interaction with aluminum/titanium overlap joint (AJP23_52) MR Kumar, I Tomashchuk, <u>J-M Jouvard</u> (Université de Bourgogne, France), M Duband	Failure mechanisms of FSW tools related to process control and tool geometry (AJP23_86) <u>M Hasieber</u> (Technische Universität Ilmenau, Germany), P Rudel, M Sennewald, T Löhn, JP Bergmann
17:00	Data-driven analysis and optimization of the pin joining process (AJP23_63) <u>D Römisch</u> (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), C Zirngibl, S Goetz, S Wartzack, M Merklein	In situ EDXRD measurement of dissimilar laser beam welded stainless steel (AJP23_84) <u>F Akyel</u> (RWTH Aachen University Germany), M Gamerding, K Mäde, KR Krishna Murthy, S Olschok, R Sharma, U Reisgen, G Abreu-Faria, G Dovzhenko	A novel lap-butt joint design for FSW of aluminum to steel in tee- configuration: Joining mechanism, intermetallic formation, and fracture behaviour (AJP23_9) <u>R Beygi</u> (INEGI, Portugal), AA Talkhabi, MZ Mehrizi, EAS Marques, RJC Carbas, LFM da Silva
17:20	Use of eddy currents for enhanced process monitoring and property prediction of clinched joints (AJP23_48) J Kalich, <u>HC Schmale</u> (TU Dresden, Germany), A Schilmann	Investigation of the influence of pulse parameters on the resulting weld seam quality in pulsed electron beam welding of AW-6061 (AJP23_88) <u>M Troise</u> (RWTH-Aachen University, Germany), S Olschok, U Reisgen	Effects of part fit-up and mating variations on the weld quality in friction stir welding (AJP23_109) <u>F Vieltorf</u> (Technical University of Munich, Germany), M E Sigl, M F Zaeh
17:40	Influence of manufacturing tolerances on the failure and deformation behavior of mechanical joints subjected to the crash loads (AJP23_37) <u>V Olfert</u> (Paderborn University, Germany), G Meschut, D Hein, S Sommer, P Rochel, P Bähr	Hybrid model for the threshold of deep-penetration laser welding (AJP23_95) <u>M Jarwitz</u> (University of Stuttgart, Germany), A Michalowski	Application of friction stir welding to ultrafine-grained aluminium plates (AJP23_166) <u>M Lipińska</u> (Military University of Technology, Poland), F Pixner, A Hütter, N Enzinger, M Lewandowska

18:00	Study on formability of similar and dissimilar FSW joints of AA2024 and AA7075 aluminum sheets during biaxial tension (AJP23_44) M Fallahi, M Jabbari, <u>R Beygi</u> (INEGI, Portugal), LFM da Silva	Development of an in situ alloying method for high-performance welding processes to achieve an LTT effect by local modification of the alloy content (AJP23_69) <u>M Gamerdinger</u> (RWTH Aachen University, Germany), M Clemens, S Olschok, U Reisgen	Dissimilar metal joints of multiple-principal element alloys friction stir welded to conventional austenitic steel 304 (AJP23_140) M Rhode, K Erxleben, T Richter, <u>D Schroepper</u> (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany), T Kannengiesser
19:00	Poster session and RECEPTION		
Laser welding			
Poster 1	Laser beam welding under vacuum of galvanized thick plate constructional steel (AJP23_4)	<u>C Frey</u> (RWTH Aachen University, Germany), O Stocks, S Olschok, R Kühne, M Feldmann, U Reisgen	
Poster 2	Dissimilar welding between Cu-6Al-2Ni alloy and stainless steel 316L using continuous Ytterbium YAG laser (AJP23_58)	<u>N Haglon</u> (Université de Bourgogne, France), R Bolot, I Tomashchuk, A Mathieu, S Lafaye	
Poster 3	Investigating the phase fractions of stainless steel with LTT effect using dilatometer in laser beam welding (AJP23_78)	<u>KR Krishna Murthy</u> , <u>F Akyel</u> (RWTH Aachen University, Germany), U Reisgen, S Olschok	
Poster 4	Laser welding of UNS S32750 duplex steel with addition of Ni and Co (AJP23_125)	BB Seloto, EJ Cruz Jr, A Zambon, I Calliari, <u>VA Ventrella</u> (São Paulo State University, Brazil)	
Poster 5	Synchrotron EDXRD strain-temperature measurement during laser welding (AJP23_141)	<u>K Mäde</u> (RWTH Aachen University, Germany), U Reisgen, R Sharma, F Akyel, S Olschok, M Gamerdinger, T Evers, K Krishna-Murthy, G Abreu Faria, G Dovzhenko	
Poster 6	A general analytical solution for two-dimensional columnar crystal growth during laser beam welding of thin steel sheets (AJP23_146)	<u>A Artinov</u> (Germany)	
Poster 7	Numerical and experimental study of the variation of keyhole depth in an aluminum alloy (AJP23_147)	<u>A Meena</u> (Technical University of Denmark, Denmark), A Lassila, D Lonn, K Salmonsson, W Wang, CV Nielsen, M Bayat	
Poster 8	Evaluation of hydrogen diffusion and trapping in AHSS and effects of laser-welding (AJP23_150)	<u>A Hopf</u> (Mercedes-Benz AG, Germany), S Jüttner	
Poster 9	Filler wire laser welding of Al-Si coated press-hardened steel sheet (AJP23_152)	<u>CY Lee</u> (Hyundai Steel, South Korea), SH Park, JS Kim, SG Jang, W Yook, JS Hyun	

Friction stir welding		
Poster 10	The effect of preheating temperature on joint improvement in friction drilling of dissimilar sheet metals (AA6061/AISI304L) (AJP23_45)	M Azizi, A Jabbari, E Soury, S Dehghan, <u>R Beygi</u> (INEGI, Portugal), LFM da Silva
Poster 11	Investigation of microstructure, mechanical and wear properties of AA5083 based hybrid composite produced by cooling assisted friction stir process (AJP23_162)	V Bhojak, <u>JK Jain</u> (Malaviya National Institute of Technology, India)
Additive manufacturing		
Poster 12	Comparative study in 316LSi stainless steel elaborated by Welding Arc Additive Manufacturing (WAAM) modes: Microstructural and mechanical properties characterisation (AJP23_3)	SA Aberkane, <u>BR Mehdi</u> (University of Science and Technology Houari Boumediene, Algeria), RI Badji
Poster 13	Damage process of additively manufactured stainless steel 316L under tensile loading in the presence of process-induced defects (AJP23_136)	<u>JN Dastgerdi</u> (Amirkabir University of Technology, Iran), ML Yasouri, H Remes
Poster 14	On numerical modelling of distortions and residual stresses in parts produced by Fused Deposition Modelling (FDM) (AJP23_138)	<u>A Morvayova</u> (Polytechnic University of Bari, Italy), N Contuzzi, G Casalino
Poster 15	Stretchable Kirigami bio-inspired heterojunctions (AJP23_157)	A Burr, <u>SAE Boyer</u> (Mines Paris PSL, France)
Adhesive bonding		
Poster 16	Exploring mixed mode fatigue and fracture of polyurethane adhesives: Strain rate and temperature effects (AJP23_18)	<u>A Akhavan-Safar</u> (INEGI, Portugal), M Ribas, RJC Carbas, EAS Marques, S Wenig, LFM da Silva
Poster 17	Indirect curing of epoxy adhesives between thin metal foils by means of inductive heating (AJP23_28)	V Ginster, MK Heym, CJA Beier, A Schiebahn, <u>M Epperlein</u> (RWTH Aachen University, Germany), U Reisinger
Poster 18	The role of adhesive bonding in the sustainable design of vehicle structures (AJP23_61)	<u>EAS Marques</u> (University of Porto, Portugal), LPF Garrido, CSP Borges, S Jalali, RJC Carbas, LFM da Silva
Poster 19	Designing a cyclic creep testing machine – An apparatus customized to pressure sensitive adhesives (AJP23_122)	EMD Fernandes, <u>BD Simões</u> (INEGI, Portugal), EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
Poster 20	The performance of composite adhesive joints reinforced with thin-ply (AJP23_14)	<u>RCJ Carbas</u> (INEGI, Portugal), F Ramezani, EAS Marques, LFM da Silva

Poster 21	Development of a unified specimen for adhesive characterisation: Numerical and experimental study on the mode I and II fracture components (AJP23_7)	<u>DS Correia</u> (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
Poster 22	A novel adhesive bonding process for the next generation of wood milling tools (AJP23_8)	RJF de Sousa, PN Gomes, <u>DS Correia</u> (INEGI, Portugal), EAS Marques, RJC Carbas, PJC das Neves, WP Afonso, LFM da Silva
Poster 23	Testing method to determine the strength and fracture toughness of adhesives in a single continuous test (AJP23_34)	<u>CSP Borges</u> (INEGI, Portugal), EAS Marques, RJC Carbas, A Akhavan-Safar, C Ueffing, P Weissgraeber, LFM da Silva
Poster 24	The performance of adhesive joints with bent composite adherends (AJP23_15)	<u>RCJ Carbas</u> (INEGI, Portugal), VDC Pires, BD Simões, EAS Marques, LFM da Silva
Poster 25	Cure parameters' effect on adhesive glass transition temperature and strength of autoclaved epoxy sheet film adhesive joints (AJP23_161)	<u>SA Nassar</u> (Oakland University, USA), A Smail, S Jagatap
Poster 26	Effect of cure parameters on film adhesive glass transition temperature and strength of autoclaved GFRP joints (AJP23_163)	<u>SA Nassar</u> (Oakland University, USA), A Smail, S Jagatap, N Lemmons
Advanced joining processes		
Poster 27	Electrical quantification of welded joints for electrical applications (AJP23_23)	M Müller, <u>FW Müller</u> (RWTH Aachen University, Germany), A Schiebahn, U Reisgen
Poster 28	Emissions during ultrasonic metal welding of stranded-wire to terminal applications and conclusions for occupational health and safety (AJP23_77)	<u>E Helfers</u> (RWTH Aachen University, Germany), M Möller, F Müller, A Schiebahn, U Reisgen, T Kraus
Poster 29	Resistance welding of multi-layered components for PEM electrolyser (AJP23_99)	<u>M Epperlein</u> (RWTH Aachen University, Germany), A Schiebahn, U Reisgen
Poster 30	Numerical study of the Cold Metal Transfer (CMT) welding of thin austenitic steel plates with an equivalent heat source approach (AJP23_117)	H Aberbache, A Mathieu, <u>N Haglon</u> (Université de Bourgogne Franche-Comté, France), R Bolot, L Bleurvacq, A Corolleur, F Laurent
Poster 31	Storage of non-alloy steel flux-cored welding wires in simulated conditions (AJP23_142)	<u>A Świerczyńska</u> (Gdańsk University of Technology, Poland), M Landowski, D Fydrych
Poster 32	Component test for the assessment of hydrogen assisted cracking susceptibility of thick-walled submerged arc welded offshore steels (AJP23_19)	<u>M Rhode</u> (Bundesanstalt für Materialforschung und -prüfung (BAM), Germany), A Kromm, T Mente, D Czeskleba, D Brackrock, T Kannengiesser

Poster 33	Microstructure and mechanical properties of TiBw/TA15 composite argon arc welding joint (AJP23_153)	<u>L Geng</u> (Harbin Institute of Technology, China), L Yang, J Zhang, LJ Hunag
Poster 34	Microstructure, mechanical property and bonding mechanism of SiC ceramic joint using a novel Y2Si2O7/Mullite glass-ceramic interlayer alloy (AJP23_156)	<u>J Zhang</u> (Harbin Institute of Technology, China), L Sun, D Wang
Poster 35	Adaptation of flowdrill technology for mechanical joining of dissimilar thin sheets (AJP23_158)	<u>A Guzanová</u> (Technical University of Kosice, Slovakia), J Brezinová, N Veligotskyi
5th In-situ workshop		
Poster 36	Biaxial tensile test and in-situ observation for hot cracking study (AJP23_54)	A Azzam, A Mathieu, L Bleurvacq, <u>R Bolot</u> (UMR 6303 CNRS / UB, France)
Joining by forming		
Poster 37	Hole hemming for joining metal and polymer sheets (AJP23_12)	<u>MM Kasaei</u> (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
Poster 38	A new design for improving the joinability of magnesium and aluminum sheets in hole hemming (AJP23_13)	<u>MM Kasaei</u> (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva

Friday 20 October 2023			
	Room Minho		
9:00*	Structural adhesive joints for high performance applications - A design and testing approach (AJP23_60) <u>EAS Marques</u> (University of Porto, Portugal), CSP Borges, PDP Nunes, BD Simões, A Akhavan-Safar, RJC Carbas, LFM da Silva		
	Session 5A – Fatigue of joints (Chair: H Remes and A Akhavan-Safar)	Session 5B – Hybrid joining (Chair: H Fricke and RJC Carbas)	Session 5C – Joining by forming III (Chair: A Brosius and CMA Silva)
	Room Minho	Room Braga I	Room Braga II
9:40	Fatigue strength assessment of HFMI treated welded joints according to the peak stress method (AJP23_6) <u>G Meneghetti, A Campagnolo</u> (University of Padova, Italy), G Sacchet	A novel hybrid bonded-hole hemming process for joining lightweight materials (AJP23_11) <u>MM Kasaei</u> (INEGI, Portugal), A Haran-Nogueira, A Akhavan-Safar, RJC Carbas, EAS Marques, LFM da Silva	Joining of hybrid busbars for e-mobility: an economic and environmental study (AJP23_41) <u>JPM Pragana, M Sapage, RFV Sampaio, IMF Bragança, I Ribeiro, CMA Silva</u> (University of Lisbon, Portugal), PAF Martins
10:00	Influence of residual stress and material surface imperfection on fatigue behavior of HFMI-treated welded joints (AJP23_120) <u>Y Ono</u> (Aalto University, Finland), H Remes, K Kinoshita, HC Yildirim, A Nussbaumer	Mechanical investigation of recyclability for sustainable use of laser-based metal-polymer joints (AJP23_119) <u>C Wortmann</u> (Fraunhofer ILT, Germany), M Brosda	Investigation on the load-bearing capacity of hybrid functional components joined by orbital forming (AJP23_71) <u>A Hetzel</u> (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), S Wituschek, D Römisch, F Sippel, M Lechner, M Merklein
10:20	Fatigue resistance of components in bearing type connections with blind rivets under the influence of notch effect and the material strength (AJP23_127) <u>F Kalkowsky</u> (Fraunhofer Institute for Large Structures in Production Engineering IGP, Germany), R Glienke, K-M Henkel	Fundamental investigations on the reparability of hybrid joints (AJP23_124) <u>C Gundlach</u> (Technische Universität Braunschweig, Germany), K Dilger, S Hartwig	Investigation of different process routes for joining thermoplastic composite/steel joints via the embedding of cold formed metallic pin structures (AJP23_85) <u>J Popp</u> (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), D Drummer
10:40-11:00	COFFEE BREAK		

	Session 6A – Advanced joining processes II (Chair: S Zhang and J Hensel)	Session 6B – Knowbond project and Adhesive bonding II (Chair: AQ Barbosa and E Meiß)	Session 6C – Laser welding II (Chair: JP Bergmann and TM Chmielewski)
	Room Minho	Room Braga I	Room Braga II
11:00	Evaluation of the load-bearing behaviour of screws, bolts and lockbolt systems under combined axial and shear loading (AJP23_64) <u>A Holch</u> (Fraunhofer IGP, Germany), R Glienke, M Dörre, K-M Henkel	Building up the knowledge of the adhesive bonding personnel - Knowbond project (AJP23_38) <u>AQ Barbosa</u> (INEGI, Portugal), E Meiß, A Almeida, T Avelino, F Mañas, A Toledo, M Uran, M Tonnhofer, EAS Marques, RJC Carbas, LFM da Silva	Data-driven analysis of surface roughness influence on weld quality and defect formation in laser welding of Cu-Al alloys (AJP23_101) M Norouzian, MA Elahi, <u>RM Zaeem</u> (University of Luxembourg, Luxembourg), <u>P Plapper</u> (University of Luxembourg, Luxembourg)
11:20	A study of nano-SnAgCu solder paste connection performance using microwave hybrid heating (AJP23_66) <u>S Zhang</u> (Harbin Institute of Technology, China), P He	Update of the European Adhesive Bonder Curricula - Knowbond project (AJP23_39) <u>E Meiß</u> (Fraunhofer IFAM, Germany), A Almeida, AQ Barbosa, T Avelino, F Mañas, A Toledo, M Uran, M Tonnhofer, EAS Marques, RJC Carbas, LFM da Silva	Time-dependent characteristics of keyhole and melt pool in laser beam welding of aluminum-copper joints by means of high-speed synchrotron X-ray imaging (AJP23_104) <u>K Schricker</u> (Technische Universität Ilmenau, Germany), M Seibold, L Schmidt, H Friedmann, C Diegel, F Fröhlich, S Eichler, A Rack, H Requardt, Y Chen, JP Bergmann
11:40	Keyhole-mode GTAW of the Ni-base Superalloy Haynes 282 (AJP23_133) <u>AK Sunil</u> (IIT Hyderabad, India), A Pal, S Chatterjee	Learning in updated European Adhesive Bonder curricula – Tools for flexible learning (AJP23_40) T Avelino, <u>AQ Barbosa</u> (INEGI, Portugal), A Almeida, E Meiß, F Mañas, A Toledo, M Uran, M Tonnhofer, EAS Marques, RJC Carbas, LFM da Silva	Temporal and spatial determination of solidification rate during pulsed laser beam welding of hot-crack susceptible aluminum alloys by means of high-speed synchrotron X-ray imaging (AJP23_105) <u>M Seibold</u> (Technische Universität Ilmenau, Germany), K Schricker, L Schmidt, H Friedmann, C Diegel, P Hellwig, F Fröhlich, F Nagel, P Kallage, A Rack, H Requardt, Y Chen, JP Bergmann

12:00	<p>Process optimisation for realisation of crack-free Ni-based wear protection coatings and assessment of machinability by subsequent milling processes to produce defined surfaces (AJP23_108)</p> <p><u>M Gräbner</u> (Institute of Welding and Machining (ISAF), Germany), M Giese, K Treutler, S Lorenz, D Schröpfer, V Wesling, T Kannengiesser</p>	<p>The mechanical and fracture properties of PSAs: An experimental study to understand different influencing parameters (AJP23_121)</p> <p><u>BD Simões</u> (INEGI, Portugal), EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva</p>	<p>Keyhole behavior in full penetration laser beam welding affected by a local gas flow by means of high-speed synchrotron x-ray imaging (AJP23_106)</p> <p><u>C Diegel</u> (Technische Universität Ilmenau, Germany), K Schrickler, L Schmidt, M Seibold, H Friedmann, P Hellwig, F Fröhlich, P Kallage, F Nagel, H Requardt, A Rack, Y Chen, JP Bergmann</p>
12:20	<p>Influence of high heat input on structural integrity of a welded joint (AJP23_111)</p> <p><u>M Vukovojac</u> (Faculty of Mechanical Engineering and Naval Architecture, Croatia), B Jalušić, T Lesičar, M Perić, I Skozrit, Z Tonković</p>	<p>Investigating and analyzing the stress distribution in flexible adherend for peel-loaded adhesive joints (AJP23_144)</p> <p><u>R Al-Sabur</u> (University of Basrah, Iraq), HI Khalaf, A Kubit</p>	<p>Optimization of Ti-GFRP laser joining process to achieve superior mechanical performance for overlap configuration (AJP23_137)</p> <p><u>MA Elahi</u> (University of Luxembourg, Luxembourg), M Norouzian</p>
12:40	<p>Thick-wire-GMAW for fusion welding of high-strength steels (AJP23_65)</p> <p>M Neumann, A Hälsig, K Hofer, <u>J Hensel</u> (Chemnitz University of Technology, Germany)</p>	<p>Static and impact strength of hat-beam specimens bonded adhesively (AJP23_129)</p> <p><u>K Ikeda</u> (Tokyo Institute of Technology, Japan), K Shimamoto, T Yamazaki, Y Sekiguchi, C Sato</p>	<p>Experimental analysis and numerical simulation of laser welding of thin austenitic stainless-steel sheets using two models: Bilinear isotropic strain hardening model and Johnson-Cook model (AJP23_116)</p> <p>H Aberbache, A Mathieu, <u>R Bolot</u> (Université de Bourgogne Franche-Comté, France), L Bleurvacq, A Corolleur, F Laurent</p>
13:00-14:00	LUNCH BREAK		
	Room Minho		
14:00*	<p>Welding of high performance thermoplastics and composites: from material properties to mechanical strength of assemblies (AJP23_90)</p> <p><u>C Garnier</u> (University of Toulouse, France), <u>F Chabert</u> (University of Toulouse, France), A Levy</p>		

	Session 7A – Adhesive bonding III (Chair: LFM da Silva and A Akhavan-Safar)	Session 7B – Advanced joining processes III (Chair: TM Chmielewski and M Gude)	Session 7C – Additive manufacturing II (Chair: EAS Marques and R Bolot)
	Room Minho	Room Braga I	Room Braga II
14:40	Interface modeling of hybrid FRP steel components for an improved design in crash simulation (AJP23_87) <u>N Günther</u> (Gesellschaft für Numerische Simulation, Germany), M Griese, E Ince, E Stammen, J Krost, K Dilger	Determination and validation of preload losses on coated parts in rail vehicles (AJP23_73) <u>F Wegener</u> (Fraunhofer Institute for Large Structures in Production Engineering, Germany), C Denkert, M Dörre, K-M Henkel	Development of an indirect measurement method for the Contact Tube to Workpiece Distance (CTDW) in the Direct Energy Deposition – Arc (DED-ARC) process for different arc types (AJP23_107) <u>M Rohe</u> (Technische Universität Ilmenau, Germany), M Knester, J Hildebrand, JP Bergmann
15:00	Low molecular weights intumescent flame-retardant additives for temperature-controlled debonding of bonded aluminium substrates (AJP23_103) <u>O Kachouri</u> (Luxembourg Institute of Science and Technology (LIST), Luxembourg), J Bardon, D Ruch, A Laachachi	Influence of surface condition of copper and aluminum sheets on ultrasonic metal welding (AJP23_76) <u>E Helfers</u> (RWTH Aachen University, Germany), F Müller, A Schiebahn, U Reisinger	Weldability of additively manufactured aluminium parts produced by Wire Arc Additive Manufacturing (WAAM) by MIG welding process: Influence of heat input and laser cleaning prior to welding (AJP23_93) <u>R Nunes</u> (Belgian Welding Institute, Belgium), K Faes, W Verlinde, W De Waele, W Sneyers, A Simar, M Lezaack
15:20	Semi-automated material modeling to determine potentials of SMC reinforcements for crash applications (AJP23_112) <u>J Krost</u> (Gesellschaft für Numerische Simulation, Germany), E Ince, N Guenther, R Thomas	Microstructure homogenization by adapting the melting behavior of flux cored wires in GMAW (AJP23_83) <u>K Hoefler</u> (Chemnitz University of Technology, Germany), F Fritzsche, J Hensel	Innovative design strategies for AM heat pipes (AJP23_97) <u>S Reich</u> (RWTH Aachen University, Germany), B Pinto, M Fátima Vaz, JH Schleifenbaum
15:40	Production related effects on the adhesive bondline performance of structural adhesives joining dissimilar materials (AJP23_118)	Calculation method of thread-forming screw connections (AJP23_89) A Lamm, T Binder, V Johne, M Klein, <u>HC Schmale</u> (TU Dresden, Germany), M Oechsner	Mechanical properties of lattice structures produced with WAAM and stud welding (AJP23_110) <u>F Riegger</u> (Technical University of Munich,

	M Griese (Technische Universität Braunschweig, Germany), N Günther, E Stammen, K Dilger		Germany), MF Zaeh
16:00-16:20	COFFEE BREAK		
	Session 8A – Advanced joining processes IV (Chair: TM Chmielewski and S Simões)	Session 8B – Joining by forming IV (Chair: PAF Martins and MM Kasaei)	Session 8C – Polymer joining (Chair: F Chabert and C Garnier)
	Room Minho	Room Braga I	Room Braga II
16:20	Investigation of generatively manufactured components in a sealed welding chamber using the tungsten inert gas hot wire process (AJP23_91) <u>S Imrich</u> (Clausthal University of Technology, Germany), K Treutler, V Wesling	Self-Piercing Riveting (SPR) of aluminum and magnesium high pressure die casting (AJP23_154) <u>Y Tabatabaei</u> (Meridian Lightweight Technologies, Canada), G Wang, J Weiler	Numerical investigations on fibre orientation mechanisms of continuous fiber reinforced thermoplastics by joining with metallic pins (AJP23_68) <u>B Gröger</u> (Technische Universität Dresden, Germany), A Hornig, M Gude
16:40	Development of interlayers films for Ti6Al4V to Al2O3 brazing (AJP23_98) B Monteiro, <u>S Simões</u> (University of Porto, Portugal)	In-situ computed tomography and transient dynamic analysis – Failure analysis of a single-lap tensile shear test with clinch joints (AJP23_102) G Reschke, D Köhler, R Kupfer, J Troschitz, <u>A Brosius</u> (Technische Universität Dresden, Germany)	Thermal diffusion and joint quality according to different energy director thicknesses during ultrasonic welding of CF/PEEK composites (AJP23_70) <u>A Korycki</u> (University of Toulouse, France), F Carassus, C Garnier, F Chabert, T Djilali
17:00	Joining aluminium die castings and wrought aluminium by resistance spot welding (AJP23_100) <u>M Epperlein</u> (RWTH Aachen University, Germany), A Schiebahn, U Reisinger	Uncertainty quantification for the effects of hard-to-measure material parameters on clinching joint geometries: A finite element method simulation approach (AJP23_114) <u>HT Nguyen</u> (Thu Dau Mot University, Vietnam), DV Nguyen, P-Cn Lin, MC Nguyeu, Y-J Wu, XV Tran	Ultrasonic welding of thermoplastic composites using multimode control (AJP23_72) <u>F Carassus</u> (University of Toulouse, France), A Korycki, F Chabert, C Garnier, T Djilali

17:20	Mixed meshless local Petrov-Galerkin collocation method for modeling heat transfer during welding process (AJP23_123) <u>B Jalušić</u> (Faculty of Mechanical Engineering and Naval Architecture, Croatia), T Jarak, M Vukovojac, J Sorić, Z Tonković	Numerical and experimental investigation of the Influence of the surrounding sheet geometry on a clinched joint (AJP23_96) <u>S Martin</u> (Paderborn University, Germany), C Steinfeld, A Brosius, T Tröster	On the influence of process control on temperature uniformity and bondline characteristics in electrical resistance welding of carbon fiber-reinforced polyphenylene sulfide (AJP23_115) <u>M Endrass</u> (German Aerospace Center, Germany), S Jarka, M Löbbecke, J Freund, S Bauer, M Kupke
17:40	Selected properties of X120Mn12 steel welded joints by means of the PTA-MAG hybrid method (AJP23_126) B Skowrońska, B Szulc, J Szulc, M Baranowski, <u>TM Chmielewski</u> (Warsaw University of Technology, Poland)	Influence of process variations on clinch joint characteristics (AJP23_132) C Zirngibl, <u>S Goetz</u> (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), S Wartzack	Joining high-performance thermoplastic parts by LTW: relationship between material properties, process parameters and weld quality (AJP23_130) <u>M Matus Aguirre</u> (LGP-ENIT-INPT, France), C Garnier, R Gilblas, B Cosson, A Asseko, F Schmidt, F Chabert
18:00	Correlation between electrodes surface state and dynamic resistance during resistance spot welding of 5182 aluminum alloy (AJP23_155) <u>A Evdokimov</u> (Brandenburg University of Technology Cottbus, Germany)	Experimental study on optimal design of high-strength rivet for hot press forming steel with aluminum material (AJP23_151) <u>JH Park</u> (Hyundai Steel, South Korea), WR Lee, W Yook, JS Hyun	Metal threaded inserts in thermoplastic Fused-Layer Modelling (FLM) components – Investigation of the pull-out behaviour (AJP23_135) <u>C Vogel</u> (Technische Universität Dresden, Germany), J Troschitz, T Kastner, I Heuzeroth, N Modler, M Gude
20:00	AJP2023 BANQUET Colunata Eventos		