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FEUP FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO

MDA2022

4TH INTERNATIONAL CONFERENCE ON MATERIALS DESIGN AND APPLICATIONS

7-8 JULY 2022

FACULTY OF ENGINEERING - UNIVERSITY OF PORTO
PORTO - PORTUGAL

PROGRAMME

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Thursday 7 July 2022		
8:40	***MDA2022 Opening (Room B001)***	
	Session 1A – Composites I (Chair: LFM da Silva, RD Adams)	**Session 1B – Metals I** (Chair: A Rodríguez-Prieto, R Beygi)
	Room B001	***Room B002***
9:00	Measured and predicted dynamic properties of damped sandwich beams **(MDA22_4)** RD Adams (University of Bristol, UK), MM Singh	Analysis of different specimen fabrication methods for material characterization of metallic foils in uniaxial tensile test **(MDA22_5)** D Kohl (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), M Lenzen, M Kraus, M Merklein
9:20	Finite element simulations of mechanical behaviour and degradation of iron lattices **(MDA22_7)** MC Salama, F Alves, L Reis, AM Deus, MB Silva, C Santos, MJ Carmezim, MF Vaz (University of Lisbon, Portugal)	Reproducibility of low pressure sand casting for A356 alloy **(MDA22_12)** R Madureira (LAETA/INEGI, Portugal), R Soares, J Silva, H Nunes, I Frada, V Anjos, R Neto, A Reis, CS Ribeiro, O Emadinia, M Vieira
9:40	A study of fatigue life of carbon-epoxy laminated composites combining thermo-mechanical analysis and a residual strength model **(MDA22_10)** N Carrère (ENSTA Bretagne, France), K Demilly, Y Marco, J Cavoit, G Moreau	Tool condition monitoring in side milling of steel using fractal analysis of the spindle electric current signal **(MDA22_18)** M Jamshidi (École de Technologie Supérieure, Canada), JF Chatelain, X Rimpault, M Balazinski
10:00	Simulation strategies for dynamic and static behaviour of composite beams **(MDA22_94)** A Camões Alves, S Alves, N Peixinho (University of Minho, Portugal), V Carneiro, JP Mendonça, O Rodrigues	On the corrosion cracking of austenitic stainless steel in molten solar salt: A novel experimental approach and corrosion-mechanic damage model **(MDA22_29)** H Li (Nanjing Tech University, China), XW Wang, JQ Tang, SB Leen, JM Gong
10:20	Design of an innovative self-compacting material modified with recycled steel fibers and spent equilibrium catalyst for ultra-high performance applications **(MDA22_100)** H Abdolpour (University of Science and Technology, Poland), P Niewiadomski, Ł Sadowski, A Kwiecień	Finite element based comparative assessment of aluminium and copper for inter-wire fretting for submarine power cables **(MDA22_40)** C Poon (NUI Galway, Ireland), RA Barrett, SB Leen
10:40-11:00	***COFFEE BREAK (Coffee Lounge)***	
	Session 2A – Joining I (Chair: EAS Marques, A Ureña)	**Session 2B – Design** (Chair: RJC Carbas, FJ Lino)
	Room B001	***Room B002***
11:00	Comparative mechanical assessment of the common structural joining techniques implemented in the marine industry **(MDA22_35)** F Delzendehrooy (INEGI, Portugal), RLL Pereira, RJC Carbas, A Akhavan-Safar, AQ Barbosa, EAS Marques, LFM da Silva	Higher order modelling for the static and dynamic analysis of generally anisotropic doubly-curved shells employing the Generalized Differential Quadrature method **(MDA22_2)** F Tornabene, R Dimitri, M Viscoti (Università del Salento, Lecce, Italy)
11:20	Process limits in the manufacturing of tumbling self-piercing riveting joints **(MDA22_9)** S Wituschek (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), M Lechner	Experimental bench for the analysis of pulley-belt contact mechanics using Digital Image Correlation **(MDA22_54)** F Bucchi (University of Pisa, Italy), F Frendo, P Neri
11:40	Design of an experimental tool for direct generation of cohesive zone law data of adhesives **(MDA22_24)** DS Correia (INEGI, Portugal), ID Costa, EAS Marques, RJC Carbas, A Akhavan-Safar, LFM da Silva	Design of an adaptative car **(MDA22_67)** MB Dias, FJL Alves, AT Marques (University of Porto, Portugal)

12:00	High frequency fatigue testing of metal-epoxy bonded joints **(MDA22_27)** F Moroni (University of Parma, Italy), A Pirondi	Social responsibility in Mechanical Engineering **(MDA22_68)** HC Daloia, RN Jorge, AT Marques (University of Porto, Portugal)
12:20	Tensile properties of various types of polyurethane adhesive in high strain rates **(MDA22_88)** R Okumura (Tokyo Institute of Technology, Japan), K Shimamoto, Y Sekiguchi, C Sato	Simulation of blade containment test for structural integrity assessment of a turbofan casing **(MDA22_86)** H Sepúlveda (Universidad de La Frontera, Temuco, Chile), G Pincheira, V Tuninetti
13:00-14:00	**LUNCH BREAK (Coffee Lounge)**	
	Session 3A – Additive Manufacturing I (Chair: EAS Marques, MF Vaz)	**Session 3B – Polymers** (Chair: F Moroni, A Akhavan-Safar)
	Room B001	***Room B002***
14:00	Infiltration of aluminium in 3D printed metallic inserts **(MDA22_11)** H Nunes (LAETA/INEGI, Portugal), J Costa, R Madureira, R Soares, J Silva, I Frada, V Anjos, A Reis, F Viana, O Emadinia, M Vieira	Optimization of the production process of foamed geopolymers with the use of various foaming agents **(MDA22_3)** P Bazan (Cracow University of Technology, Poland), M Łach, B Kozub, B Figiela, K Korniejenko
14:20	3D multi-material laser powder bed fusion: An innovative 420 stainless steel-Cu solution for plastic injection molds **(MDA22_43)** A Cunha (University of Minho, Portugal), A Marques, F Silva, M Gasik, B Trindade, O Carvalho, F Bartolomeu	Development of toughened composite materials subjected to static and impact loads **(MDA22_78)** S Jalali (University of Porto, Portugal), RJC Carbas, A Akhavan-Safar, EAS Marques, LFM da Silva
14:40	Multi-functional Inconel 718 - Pure Copper parts fabricated by 3D multi-material laser powder bed fusion: A novel technological and designing approach for rocket engine **(MDA22_44)** A Marques (University of Minho, Portugal), A Cunha, M Gasik, O Carvalho, FS Silva, F Bartolomeu	Highly sensitive and flexible sensors based on graphene reinforced polydimethylsiloxane (PDMS) for strain and crack propagation monitorization **(MDA22_65)** A Ureña (Universidad Rey Juan Carlos, Spain), A del Bosque, XF Sánchez-Romate, M Sánchez
15:00	Effects of a square profile extrusion die on the manufacturing of FFF parts **(MDA22_45)** JL Alves (University of Porto, Portugal), JT Melo, L Santana, HT Idogava	Determination of mode I cohesive law of structural adhesives using the direct method **(MDA22_79)** BD Simões (INEGI, Portugal), PDP Nunes, EAS Marques, RJC Carbas, LFM da Silva
15:20	Mechanical and geometric characterization of parts manufactured by 3D printing **(MDA22_70)** C Oliveira (Instituto Politécnico de Bragança, Portugal), J Rocha, J Ribeiro	Effect of water and surfactant contamination on the mechanical properties of a silicone adhesive, before and after curing **(MDA22_81)** CSP Borges (INEGI, Portugal), RR Brandão, A Akhavan-Safar, EAS Marques, RJC Carbas, C Ueffing, P Weissgraeber, LFM da Silva
15:40	3D printing of magnified polyester yarns scanned by micro computed tomography **(MDA22_107)** M Abdelkader (Technical University of Liberec, Czech Republic)	Reinforced hybrid CFRP laminates using thin-ply **(MDA22_74)** F Ramezani (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
16:00-16:20	**COFFEE BREAK (Coffee Lounge)**	
	Session 4A – Joining II (Chair: RDSG Campilho, A Akhavan-Safar)	**Session 4B – Composites II** (Chair: AT Marques, RJC Carbas)
	Room B001	**Room B002**
16:20	Effect of bio-inspired surface texture on the resistance of polycarbonate's bonded joints with 3D-printed specimens **(MDA22_32)** N Naat (Monastir University, Tunisia), Y Boutar, S Naïmi, S Mezlini, LFM da Silva	The effect of angle plies on the strength of hybrid composite laminates **(MDA22_118)** F Ramezani (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
16:40	Surface preparation, adhesive bonding and mechanical testing of non-crimp CFRP composite laminates **(MDA22_1)** T Gao (University of Waterloo, Canada), M Alfano	Thermal properties of geopolymer composites containing microencapsulated phase change materials **(MDA22_17)** K Pławecka (Cracow University of Technology, Poland), A Bąk, P Bazan, M Łach
17:00	Numerical and experimental study of laser welding procedure for joining fibre reinforced polymers **(MDA22_95)** LRR Silva, EAS Marques (INEGI, Portugal), RJC Carbas, LFM da Silva	Hydroxiapatite modified with defects and dopants: Modeling and experimental data **(MDA22_19)** VS Bystrov (Russian Academy of Sciences, Russia), EV Paramonova, NV Bulina

17:20	Adhesive type effect on adhesively-bonded aluminium T-joints **(MDA22_58)** JPM Lopes, RDSG Campilho (Instituto Politécnico do Porto, Portugal), RJB Rocha, IJ Sánchez-Arce	Static analysis of axially FG straight beams on generalized Winkler foundation via mixed FEM **(MDA22_20)** Y Bab (Istanbul Technical University, Turkey), M Ermis, A Kutlu, N Eratlı, MH Omurtag
17:40	The interaction of mode mixity and temperature on the S-N response of an epoxy adhesive **(MDA22_36)** FVBC Lopes, A Akhavan-Safar (INEGI, Portugal.), RJC Carbas, EAS Marques, R Goyal, J Jennings, LFM da Silva	Development of Mg-based metal matrix biomedical composites for ACL fixation by reinforcing with rare earth oxide and hydroxyapatite- A mechanical, corrosion and microstructural perspective **(MDA22_21)** D Aggarwal (Thapar Institute of Engineering and Technology, India), V Kumar, S Sharma
18:00	Mode I fatigue threshold energy assessment of different adhesives: Effects of temperature **(MDA22_37)** D Santos, A Akhavan-Safar (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva	Increased post-breakage strength of point-fixed laminated glass with locally embedded woven steel mesh **(MDA22_109)** M Kozłowski (Silesian University of Technology, Poland), D Wasik, K Zemła
19:00	**Poster session and RECEPTION (Coffee Lounge)**	
Metals		
Poster 1	Numerical modelling and analysis of microstructural evolution in multi-material co-extrusion of bimetallic Ti6Al4V-AZ31B billets **(MDA22_42)**	D Fernández (UNED, Spain), A Rodríguez-Prieto, AM Camacho
Poster 2	Electrochemical evaluation of magnetron sputtering thin-films to prevent hydrogen damage in steel substrates **(MDA22_52)**	R Gonzalez (UNED, Spain), A Rodríguez-Prieto, AM Camacho
Poster 3	Influence of milling time on phase composition and product structure of Mg-Zn-Ca-Ag alloys obtained by mechanical synthesis **(MDA22_72)**	M Karolus (University of Silesia, Poland), S Lesz (Silesian University of Technology, Poland), A Gabryś
Poster 4	Mechanical and wear properties of multilayer graphene reinforced Ti-6Al-4V composites fabricated by spark plasma sintering **(MDA22_103)**	D Sharma (Thapar Institute of Engineering and Technology, India), V kumar, S Singh
Poster 5	Effect of the molding material on the roughness of the castings **(MDA22_114)**	AB Moreira (University of Porto, Portugal), J Freitas, D Teixeira, LMM Ribeiro, MF Vieira
Polymers		
Poster 6	Phenomenological modeling of the ductile fracture of polycarbonate **(MDA22_89)**	MM Kasaei (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
Poster 7	PMMA lens arrays for micro concentrator solar cells produced by hot embossing **(MDA22_115)**	BMC Oliveira, MN Silva Jr, RF Santos, M Alves, S Sadewasser, EW Sequeiros (LAETA/INEGI, Portugal)
Composites		
Poster 8	Application of laser heating to increase of adhesion of chosen hard composite coatings to replaceable cutting inserts made of sintered carbides **(MDA22_49)**	MJ Kupczyk (Poznan University of Technology, Poland)
Poster 9	The use of a super-hard boron nitride composite c-BN+h-BN with increased resistance to brittle cracking for anti-wear coatings **(MDA22_50)**	MJ Kupczyk (Poznan University of Technology, Poland)
Poster 10	Modelling of the axial strain distribution in graphene flakes for graphene/SU-8/PMMA nanocomposite under thermomechanical load **(MDA22_53)**	RK Vladova (Bulgarian Academy of Sciences, Bulgaria), TS Petrova, EG Kirilova, AG Apostolov, BH Boyadjiev, TV Rangelov
Poster 11	Effect of cross-section configuration on CF-PEEK overmolded grid reinforcements **(MDA22_75)**	CJ Rodríguez-Mondéjar (UNED, Spain), A Rodríguez-Prieto, AM Camacho
Poster 12	Application of finite element method and lattice discrete particle modeling for an novel ultra high performance self compacting mortar comprised of recycled steel fiber and equilibrium catalyst **(MDA22_101)**	H Abdolpour (University of Science and Technology, Poland), P Niewiadomski, Ł Sadowski, GL Sherzer, YF Alghalandis
Poster 13	Proposal of acoustical materials made recycling used cigarette filters **(MDA22_111)**	CM González, VG Escobar (University of Extremadura, Spain), MJA Caballero, MLD Martín-Merás, GR Gozalo, CJP Sánchez, CO Caraballo, RM Sanz, JC del Río
Poster 14	Vibration response of functionally graded material sandwich plates with elliptical cut-outs and geometric imperfections under mixed boundary conditions **(MDA22_113)**	D Singh (Shiv Nadar University, India), A Gupta

Joining		
Poster 15	Study of the ultrasonic welding of a polycarbonate-glass fiber laminate **(MDA22_14)**	A Pirondi (Università di Parma, Italia), P Palmiero, L Marchini, M Bercella
Poster 16	Fatigue life assessment of composite-to-metal bonded joints **(MDA22_51)**	E Marques (LINEACT CESI EA 7527, France), F Ruvira, S Khazaie, S Teixeira de Freitas, P Casari, S de Barros
Poster 17	Parametric optimization of ultrasonic welding on thermoplastic fiber-reinforced composites by the implementation of statistical analysis of variance method (ANOVA) **(MDA22_46)**	F Delzendehrooy (INEGI, Portugal), RLL Pereira, AQ Barbosa, RJC Carbas, LFM da Silva
Poster 18	Numerical optimization of a unified specimen for adhesive characterization **(MDA22_117)**	ID Costa (INEGI, Portugal), DS Correia, EAS Marques, RJC Carbas, A Akhavan-Safar, LFM da Silva
Design		
Poster 19	Development of an innovative test machine for tyre, wheel and suspension systems for automotive and industrial vehicles **(MDA22_25)**	L Solazzi, A Mazzoni (University of Brescia, Italy), M Cima
Additive manufacturing		
Poster 20	Cellular lattice cores of sandwich panels fabricated by additive manufacturing: effect of dimensions and relative density **(MDA22_8)**	D Pereira, F Alves, L Reis, M Leite, AM Deus, M Sardinha, MF Vaz (University of Lisbon, Portugal)
Poster 21	3D printed passive end-effector for industrial collaborative manipulators **(MDA22_47)**	D Castagnetti, A Sorrentino, L Nicolini (University of Modena and Reggio Emilia, Italy)

Friday 8 July 2022		
	Session 5A – Composites III (Chair: AJ Brunner, N Carrère)	**Session 5B – Joining III** (Chair: C Sato, A Pirondi)
	Room B001	***Room B002***
8:40	Development and characterization of novel densified wood-cork composites **(MDA22_23)** LMRM Corte-Real (University of Porto, Portugal), EAS Marques, R Eghbalpoor, RJC Carbas, LFM da Silva	Development of hybrid laminate composite adhesive joints with high performance **(MDA22_28)** RJC Carbas (INEGI, Portugal), F Malbijar, EAS Marques, LFM da Silva
9:00	Modelling and validation of the axial strain distribution in WS_2 flakes at WS_2/Epoxy/PMMA nanocomposite under axial load **(MDA22_22)** TS Petrova (Bulgarian Academy of Sciences, Bulgaria), EG Kirilova, RK Vladova, BH Boyadjiev, W Becker, PS Dineva-Vladikova	Volume change and viscoelastic properties of UV-curable adhesives for precise positioning during curing process and their formulation **(MDA22_116)** A Takahashi (Tokyo Institute of Technology, Japan), Y Sekiguchi, C Sato
9:20	Low velocity impact on epoxy foam structures reinforced by aramid plies **(MDA22_99)** L Boutros (University of Balamand, Lebanon), I Tawk, P Navarro, S Marguet, JF Ferrero	The interaction of mode mixity and humidity on the S-N response of an epoxy adhesive **(MDA22_38)** FVBC Lopes (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, R Goyal, J Jennings, LFM da Silva
9:40	Estimation of free vibration frequencies of axially functionally graded straight beams using XGBoost algorithm **(MDA22_26)** G Aydogan, O Kir, M Ermis (Kırklareli University, Turkey)	Load control vs. displacement control strategy in fatigue threshold analysis of adhesives: Effects of temperature **(MDA22_39)** D Santos (INEGI, Portugal), A Akhavan-Safar, EAS Marques, RJC Carbas, LFM da Silva
10:00	Analysis of material removal process when scratching unidirectional fibers reinforced polyester composites **(MDA22_33)** S Mzali (Université de Monastir, Tunisia), F Elwasli, B Alzahrani, F Zemzemi, S Mezlini, ML Bouazizi	Fracture toughness of joints bonded with polyurethane adhesive under hot-humid conditions **(MDA22_87)** R Okumura (Tokyo Institute of Technology, Japan), Y Sekiguchi, C Sato
10:20	Manufacturing automation of complex CFRP parts for the aeronautic industry **(MDA22_71)** C Campos-Garrido, E Casarejos (Universidade de Vigo, Spain), A Segade, S Suárez	Joining magnesium and aluminum alloy sheets by a novel hole hemming process **(MDA22_85)** JAC Pereira (University of Porto, Portugal), MM Kasaei, RJC Carbas, EAS Marques, LFM da Silva
10:40-11:00	**COFFEE BREAK (Coffee Lounge)**	

	Session 6A – Forming (Chair: PAF Martins, MM Kasaei)	Session 6B – Composites IV (Chair: AM Ferreira, A Akhavan-Safar)
	Room B001	***Room B002***
11:00	Investigation on micro textured tappets from design and production to the application properties **(MDA22_6)** M Reck (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), C Orgeldinger, S Tremmel, M Merklein	Design, thermal-mechanical coupling analysis and optimization of composite sandwiches with a lattice core exposed to a high temperature **(MDA22_34)** H Alamouri, K Khalil (Lebanese University, Lebanon), G Rizk, S Alfayad
11:20	The effect of rubber hardness on the channel depth of the metallic bipolar plates fabricated by rubber pad forming **(MDA22_31)** H Talebi-Ghadikolaee, M Elyasi, S Shahgaldi, MM Kasaei (INEGI, Portugal), LFM da Silva	Assessment of the effectiveness of secondary anti-damp insulation in materials of historic buildings: current state-of-the art knowledge, research gaps and perspectives **(MDA22_60)** N Szemiot (Wroclaw University of Science and Technology, Poland), A Hoła, Ł Sadowski
11:40	The effect of lubrication on the formability of AA6061-T6 at elevated temperatures **(MDA22_30)** R Safdarian, MM Kasaei (INEGI, Portugal), LFM da Silva	Design of cementitious material modified with the addition of sodium silicate and granite fine aggregate for the application as mortars with low capillary suction **(MDA22_61)** N Szemiot (Wroclaw University of Science and Technology, Poland), Ł Sadowski
12:00	Thermoelectric performance of hybrid busbars: An experimental and numerical investigation **(MDA22_62)** RFV Sampaio JPM Pragana, IMF Bragança, CMA Silva, PAF Martins (University of Lisbon, Portugal)	Tailoring the optical and UV reflectivity of CFRP-epoxy composites: Approaches and selected results **(MDA22_66)** L Haiden (Montanuniversität Leoben, Austria), AJ Brunner, AV Pansare, M Feuchter, G Pinter
12:20	Failure prediction of Al6061-T6 Sheet in bending process using GTN model **(MDA22_48)** M Khademi, HM Naeini, MJ Mirnia, MM Kasaei (INEGI, Portugal), LFM da Silva	Coir and Hop fibers: Tensile characterization and comparison between fibres from distinct climates **(MDA22_69)** J Aguiar (Instituto Politécnico de Bragança, Portugal), J Rocha, L Queijo, J Ribeiro
13:00-14:00	**LUNCH BREAK (Coffee Lounge)**	
	Session 7A – Additive Manufacturing II (Chair: PAF Martins, M Vieira)	**Session 7B – Metals II** (Chair: MM Kasaei, R Beygi)
	Room B001	***Room B002***
14:00	Graded infill density printing from superposition of topological optimizations **(MDA22_93)** S Rilling, I Ríos (Universidad de La Frontera, Chile), E Leal, R Hunter, V Tuninetti	Frequency analysis of random fatigue: An experimental study **(MDA22_41)** M Sgamma (University of Pisa, Italy), A Chiocca, F Bucchi, F Frendo
14:20	Design and evaluation of hexagons head screws manufactured by stereolithography **(MDA22_55)** HV Lara-Padilla, SD Castellanos, XR Sanchez, EE Haro (Universidad de las Fuerzas Armadas, Ecuador)	Microstructure and strength properties of the Mg-Zn-Ca-Er alloy produced by spark plasma sintering method (SPS) **(MDA22_76)** S Lesz (Silesian University of Technology, Poland), B Hrapkowicz, M Karolus (University of Silesia, Poland)
14:40	Experimental study of thermal performance of heat sinks produced by indirect additive manufacturing and aluminum casting **(MDA22_56)** HV Lara-Padilla (Universidad de las Fuerzas Armadas, Ecuador), CG Helguero, JL Amaya	Annealing time dependent mechanical properties of intercritically treated 5% medium-Mn steels **(MDA22_96)** A Skowronek (Silesian University of Technology, Poland), A Grajcar
15:00	Evaluation of mechanical properties for thermosets fabricated by additive reactive inkjet printing **(MDA22_63)** F Baciu, C Stochioiu, DA Apostol (University Politehnica of Bucharest, Romania), D Tudose, KK Krawczyk, CR Picu, K Popovic, A Wheeldon, M Sieberer, Ş Sorohan, DM Constantinescu	Mechanical properties and ductile damage of magnesium alloy processed by friction stir processing **(MDA22_83)** R Beygi (INEGI, Portugal), RJC Carbas, AQ Barbosa, EAS Marques, LFM da Silva
15:20	3D-printed nanocomposites and thermoset resins with multishape memory and reprocessing capabilities **(MDA22_64)** M Campo (Universidad Rey Juan Carlos, Spain), A Cortés, I Lorero, A Jiménez-Suarez, SG Prolongo	Micro-scale modeling of the mechanical behavior of stainless steel foils **(MDA22_77)** MK Firouzjaei, HM Naeini, MM Kasaei (INEGI, Portugal), MJ Mirnia, LFM da Silva

15:40	Quasi-static axial crushing response of 3D printed polymer composite cylindrical tubes with wavy stiffeners **(MDA22_106)** AP Kumar (Easwari Engineering College, India), MV Sezhian	A flexible tool for joining dissimilar materials by the novel hole hemming process **(MDA22_80)** AGC Conceição (University of Porto, Portugal), MM Kasaei, EAS Marques, RJC Carbas, LFM da Silva
16:00-16:20	**COFFEE BREAK (Coffee Lounge)**	
	Session 8A – Joining IV (Chair: LFM da Silva, RD Adams)	**Session 8B – Composites V** (Chair: AJ Brunner, AT Marques)
	Room B001	***Room B002***
16:20	Finite element analysis to predict the strength of bone screw fixation **(MDA22_98)** V Prasannavenkadesan, P Pandithevan (Indian Institute of Information Technology, India)	Super-flexible continuous glass nanofibers produced by a novel technique: Cofiblas **(MDA22_73)** R Barciela (Universidade de Vigo, Spain), F Quintero, A Fernández, JM Molina-Aldareguia, A Riveiro, J del Val, R Comesaña, F Lusquiños, J Pou
16:40	Numerical investigation of the influence of a movable die base on joint formation in semi-tubular self-piercing riveting **(MDA22_112)** F Kappe (Paderborn University, Germany), M Bobbert, G Meschut	Study on influencing parameters of RC circular members confined by CFRP under low velocity impact **(MDA22_102)** KH Al-Bukhaiti (Southwest Jiaotong University, China.), LI Yanhui, ZH Shichun, HU Abas, X Nan, Y Lang, YX Yu, H Daguang
17:00	Evaluation of the CLS test for mixed-mode fracture toughness estimation of adhesive joints **(MDA22_59)** RBP Barros, RDSG Campilho (Instituto Politécnico do Porto, Portugal), IJ Sánchez-Arce, JMM Dionísio	Design and testing of additively manufactured impact resistant bio-inspired materials **(MDA22_79)** EAS Marques (INEGI, Portugal), RU Silva, RJC Carbas, LFM da Silva
17:20	Effect of tool design on the joint strength of Al2024-Al7075 welds made by FSW: A response surface analysis **(MDA22_84)** R Beygi (INEGI, Portugal), S Mohammadi, LFM da Silva	Mechanical behaviour of honeycomb core under dynamic L-W shear-compression loading: Development of an experimental characterization device **(MDA22_82)** L Bridonneau (Institut Clément Ader, France), J-F Ferrero, S Marguet, L Gornet, P Rozycki
17:40	Fiber orientation in continuous fiber reinforced thermoplastics/metal hybrid joining via multi-pin arrays **(MDA22_91)** J Popp (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), D Drummer	Potential use of sugarcane bagasse ash in cementitious mortars for 3D printing **(MDA22_90)** M Jesus (University of Porto, Portugal), J Teixeira, JL Alves, S Pessoa, AS Guimarães, B Rangel
18:00	Adhesive characterization, joint testing and numerical modelling of impact resistant bonded joints for automotive applications **(MDA22_111)** EAS Marques (INEGI, Portugal), PDP Nunes, A Akhavan-Safar, CSP Borges, RJC Carbas, LFM da Silva	Investigation of inhomogeneous lattice compared to homogeneous lattice structure in the application of camber morphing wing aircraft **(MDA22_110)** JA Somnic, BW Jo (State University of New York, Korea)
20:00	**MDA2022 BANQUET (Porto Caves Calém)**	