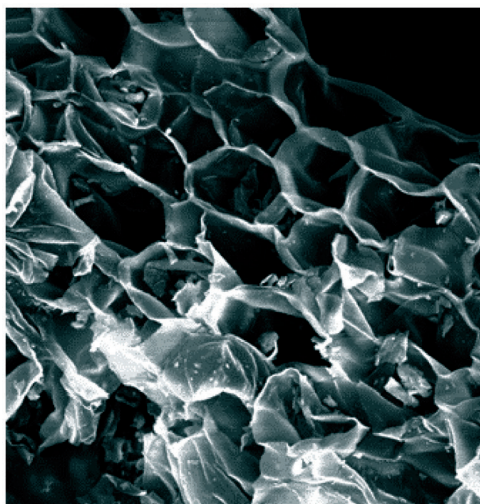


2nd International Conference on Materials Design and Applications 2018

Programme

5 - 6 July 2018

FACULTY OF ENGINEERING
UNIVERSITY OF PORTO
PORTO - PORTUGAL



MDA2018

2nd International Conference
on Materials Design and Applications

PROGRAMME OF MDA2018
 Author underlined → presenting author

Thursday 5 July 2018			
8:45 MDA2018 Opening (Room A101, also called 'Auditorium')			
	Session 1A – Vibrations (Chair: RD Adams, V Tita)	Session 1B – Polymers (Chair: AJ Brunner, J Belinha)	Session 1C – Metals (Chair: SB Leen)
	Room A101 (Auditorium)	Room B032	Room B035
9:00	Damping in Materials of Engineering Interest (MDA18_10) <u>RD Adams</u> (University of Oxford, UK)	New Hybrid Materials Based on Functionalized Vegetable Oil and Halloysite (MDA18_9) <u>B Balanuca</u> (University Politehnica Bucharest, Romania), A Ghebaur, R Stan, H Iovu	Development of High Strength Lightweight Steels for Automotive Applications (MDA18_7) <u>NJ Kim</u> (Pohang University of Science and Technology, Korea)
9:20		Fluid Based Protective Structures (MDA18_13) <u>D Pacek</u> (Military Institute of Armament Technology, Poland)	Determination of previous austenite grain size 9%Ni low carbon steel and its effect on impact toughness at -196°C (MDA18_12) SSM Tavares, <u>RPC da Cunha</u> (CEFET/RJ, Brasil), C Barbosa, MR Silva, RA Vinhosa
9:40	Design of Composite Structures including Structural Health Monitoring System (MDA18_38) D Marques, R Medeiros, D Vandepitte, <u>V Tita</u> (University of São Paulo, Brazil)	Implementation of an Elastomer Dielectric Behaviour using Abaqus (MDA18_40) <u>B Areias</u> (University of Porto, Portugal), M Parente, F Gentil, E Almeida, R Natal Jorge	Characterizing the Mechanical Behavior of Bilayer Thin Films by an Inverse Analysis Method (MDA18_21) <u>N Chakroun</u> (University of Monastir, Tunisia), A Tekaya, H BelHadjSalah, T Benameur
10:00	A Dynamic Effective Medium of Layered Elastic Composites Considering Non-uniform Imperfect Adhesion (MDA18_41) <u>HB Santana</u> (University of São Paulo, Brazil), AJM Ferreira, RR Ramos, V Tita	Numerical Simulation of Compression and Tensile Tests on Thermoplastics: a Meshless Approach (MDA18_55) <u>DES Rodrigues</u> (INEGI, Portugal), J Belinha, RM Natal Jorge, LMJS Dinis	Comparison Between Hot Rolled and PM/HIP Processed Duplex Stainless Steel UNS S31803 (MDA18_69) JVS Matias, HMLF de Lima, JM Pardal, <u>SSM Tavares</u> (Universidade Federal Fluminense, Brazil)
10:20	Application of CuAlMn SMA Alloy for Passive Control of Wind Turbine Blades Vibration (MDA18_91) <u>P Haghdoost</u> (Politecnico di Milano, Italy), A Lo Conte, S Cinquemani, N Lecis	A Constitutive Model for Chemo-relaxation of Flat and Thick Rubber Structures (MDA18_78) <u>A Dinari</u> (Monastir University, Tunisia), M Chaabane, F Zairi, T Benameur	Through-process Modelling of 9Cr Ferritic Steel Pressure Vessels for Power Generation (MDA18_72) P Mac Ardghail, N Harrison, <u>SB Leen</u> (NUI Galway, Ireland)
10:40-11:00 COFFEE BREAK (Room under the Auditorium)			
	Session 2A – Joining (Chair: E Marques, F Moroni)	Session 2B – Design (Chair: E Dragoni, J Lino)	Session 2C – Ceramics (Chair: B Vaidhyanathan)
	Room A101 (Auditorium)	Room B032	Room B035
11:00	Modelling of Adhesive Layers with Temperature-dependent Cohesive Zone Elements for Predicting Adhesive Failure During the Drying Process of Cataphoretic Dip Coating (MDA18_60) <u>N Günther</u> (Technische Universität Braunschweig, Germany), M Griese, E Stammen, K Dilger	Analysis and Conceptual Development of a New Packaging Material – Air Pack (MDA18_1) <u>J Silva</u> (University of Porto, Portugal), FJ Alves	Electric and Magnetic Behavior of NiZnFeO Ceramic (MDA18_17) VD Oliveira, CSP Mendonça, <u>MR da Silva</u> (UNIFEI, Brazil), VA R.Santos, AF Oliveira, AM França, IJQ Araújo
11:20	TEPs-modified Adhesives (MDA18_37) <u>MD Banea</u> (CEFET/RJ, Brazil), LFM da Silva, RJC Carbas, S de Barros	Development of a Shoe Sole with a Cushioning System (MDA18_2) <u>H Cardoso</u> (University of Porto, Portugal), M Guimaraes, JL Alves, L Lopes	Design of the Ternary Gypsum-based Building Material with the Help of Simplex Optimization (MDA18_33) M Doleželová, <u>A Virmrová</u> (Czech Technical University in Prague, Czech Republic)

11:40	Development of a Cohesive Zone Element for Adhesive Joints Subjected to Fatigue and Humidity Degradation (MDA18_42) <u>M Costa</u> (INEGI, Portugal), G Viana, LFM da Silva, RDSG Campilho	The Toy as a Factor of Better Children's Integration in Hospitalization Context (MDA18_3) <u>T Freitas</u> (University of Porto, Portugal), BR Carvalho, JL Alves	Study of the Sintering Temperature Influence on Water Absorption in the Manufacture of Porcelain Cups (MDA18_56) <u>TP Duarte</u> (University of Porto, Portugal), JL Alves, P Pereira
12:00	The Friction Weldability of AA6063 Tube to AA6082 Tube Plates Using an External Tool (MDA18_117) E Korkmaz, A Gülsöz, <u>C Meran</u> (Pamukkale University, Turkey)	Evaluation of Sustainability in the Development of Food Packaging (MDA18_10) <u>VL Suárez</u> (Metropolitan Technological Institute, Colombia), MA Prada	Fabrication of Nanostructured Ceramics for Demanding Applications (MDA18_79) <u>B Vaidyanathan</u> (Loughborough University, UK), K Annappoorani, S Sina Saremi, Y Chen
12:20	A Fatigue Damage Model for Welded Steel Catenary Risers (MDA18_89) RJ Devaney, H Oesterlin, PE O'Donoghue, <u>SB Leen</u> (NUI Galway, Ireland)	Optimal Mechanical Design of Tetrahedral Truss Cores for Sandwich Constructions (MDA18_14) <u>E Dragoni</u> (University of Modena and Reggio Emilia, Italy)	
12:40	Parametric Study of Adhesive Joints under Tensile Impact Loads by Cohesive Zone Modelling (MDA18_107) JPA Valente, RDSG Campilho (ISEP, Portugal), EAS Marques, JJM Machado, LFM da Silva	Visual Analysis of Ceramic Combinations with Educational Purposes for the Development of Artisan Products (MDA18_129) <u>HDC Castrillón</u> (Metropolitan Technological Institute, Colombia), VL Suárez	
13:00-14:00 LUNCH BREAK (Room under the Auditorium)			
Session 3A – Composites (Chair: R Campilho, V Tita)			Session 3B – Machining (Chair: JF Chatelain, A Jesus)
Room A101 (Auditorium)			Room B032
Session 3C – Metals (Chair: SB Leen, AD Santos)			Room B035
14:00	Disastrous Technical Condition of the Material of New Cement Floors in Public Utility Building - Analysis of Causes (MDA18_6) J Hóla, <u>Ł Sadowski</u> (Wrocław University of Science and Technology, Poland), A Hóla	Effect of Additives on the Machinability of Glass Fiber Reinforced Polymer (MDA18_4) B Lasseur, C Ouellet-Plamondon, <u>J-F Chatelain</u> (École de Technologie Supérieure, Canada)	Inverse Methodology for Heat Transfer Coefficient Estimation in Cast Super Duplex Stainless Steel Parts of Complex Shape (MDA18_84) <u>RO Sousa</u> (INEGI, Portugal), LMM Ribeiro, PJ Ferreira, AM Deus, I Felde
14:20	Free Vibration and Torsional Buckling Analysis of Composite Drive Shaft Interleaved by Polyamide-6,6 (PA66) Nanofibers (MDA18_8) <u>B Beylergil</u> (Sabanci University, Turkey)	Surface Integrity of Gamma Titanium Aluminides Milled with WC Tools (MDA18_15) <u>SD Castellanos</u> (INEGI, Portugal), J Lino Alves, R Neto	Crystal Plasticity Modelling of Ferrite Phases Effect on the Cyclic Response of IC-HAZ in a Welded 9Cr Martensitic Steel at High Temperature (MDA18_87) M Li, PE O'Donoghue, <u>SB Leen</u> (National University of Ireland Galway, Ireland)
14:40	Development of a Hybrid Aluminum Metal Matrix Composite Through Squeeze Casting Process (MDA18_26) <u>R Arunachalam</u> (Sultan Qaboos University, Sultanate of Oman), I Al-Fori, R Muraliraja, M Al-Maharbi, S Piya	Evaluation of Machining Defects in a Composite Laminate by Combining Non-Destructive and Tensile Testing (MDA18_5) L-A Généreux, G Lebrun, M Viens, <u>J-F Chatelain</u> (École de Technologie Supérieure, Canada)	Effect of Ultrasonic Treatment on the Deformation Behaviour of AZ91D Magnesium Alloy at Room Temperature (MDA18_90) IV Gomes, <u>VE Lopes</u> (CMEMS, Portugal), VH Carneiro, H Puga
15:00	Effects of Fiber Treatment on the Properties of Epoxy Curaua-Reinforced Composites (MDA18_31) FC Amorim, JFB Souza, <u>JML Reis</u> (Universidade Federal Fluminense, Brazil)	Machinability of Titanium Aluminides: A Review (MDA18_16) <u>SD Castellanos</u> (INEGI, Portugal), J Lino Alves, R Neto	A Numerical Model for the Design of Shape Memory Alloy Parts Under Torsion (MDA18_93) <u>F Bucchi</u> (Università di Pisa, Italy), F Frendo
15:20	Analytical and Numerical Study for Selecting Polymeric Matrix Composites Intended to Demanding Nuclear Applications (MDA18_50) D Merayo, Á Rodríguez-Prieto, <u>AM Camacho</u> (UNED, Spain)	Machinability Analysis of Leaded and Minimally-Leaded Brass Alloys (MDA18_112) L Amaral, <u>TE Silva</u> (FEUP, Portugal), R Quinta, RMB Soares, SDC Villa, AMP de Jesus	
15:40	Mechanical, Fire and Smoke Behaviour of Novel Hybrid Composites Based on Polyamide 6 with Carbon/Basalt Fibres (MDA18_97) <u>S Kuciel</u> (Cracow University of Technology, Poland), K Mazur, K Sałasinska	Fracture Characterization of a Cast Aluminium Alloy Aiming Machining Simulation (MDA18_138) <u>TEF Silva</u> (University of Porto, Portugal), S Gain, D Pinto, AMP de Jesus, J Xavier, PAR Rosa	
16:00-16:20 COFFEE BREAK (Room under the Auditorium)			

Session 4A – Joining (Chair: A Pirondi, DL Chen)		Session 4B – Tribology (Chair: J Seabra)		Session 4C – Additive Manufacturing (Chair: R Neto)	
Room B032		Room B035		Room A101 (Auditorium)	
16:20	Ablation Induced Surface Topology on the Mechanical Behavior of Aluminum Bonded Joints (MDA18_80) F Moroni, E Musiari (Università degli Studi di Parma, Italy), A Pirondi	Correlation Between Roughness Anisotropy and Tribological Behavior of AA5083: Experimental and Numerical Analysis (MDA18_70) F Elwasli (University of Monastir, Tunisia), S Mzali, F Zemzemi, A Mkaddem, S Mezlini	Lightweight Volume Filling with Trabecular Periodic Structures Evolved from Regular Tessellation of 3D Space (MDA18_32) E Dragoni (University of Modena and Reggio Emilia, Italy), VA Ciace Influence of Laser		
16:40	Ultrasonic Spot Welding of Dissimilar 2024Al Alloy and SiCp/2009Al Composite (MDA18_23) VK Patel, SD Bhole, DL Chen (Ryerson University, Canada), DR Ni, BL Xiao, ZY Ma	Effect of Slide Burnishing Process on Surface Topography, Friction and Wear (MDA18_83) A Dzierwa (Rzeszow University of Technology, Poland)	Quantitative Evaluation of Mechanical and Thermal Properties of Candidate Thermoplastics for Additive Manufacturing Intended to Mild Environment Nuclear Applications (MDA18_101) A Rodríguez-Prieto (UNED, Spain), AM Aragón, AM Camacho, MA Sebastián, A Yanguas-Gil		
17:00	European Harmonised Training for Adhesive Bonding Technology AdTech Project (MDA18_92) A Almeida, T Rosado (EWF, Portugal), A Casero, E Meiß, H Balaska, A Loureiro, LFM da Silva, M Uran, R Almeida	Study of the Texture Parameters Effect on the Anti-Fingerprint Function (MDA18_95) M Belhadjamor (University of Monastir, Tunisia), S Belguith, S Mezlini	Influence of Fused Deposition Modeling (FDM) Parameters on Dielectric Properties of Materials for Electromagnetic Applications (MDA18_102) AM Aragón (Argonne National Laboratory, USA), A Rodríguez-Prieto, J Claver, AM Camacho, A Rodríguez-Panes, K Gao, A Yanguas-Gil		
17:20	Friction Stir Weld-Bonding for Fuselage Butt Joints at MCA Level (MDA18_86) DFO Braga (INEGI, Portugal), L Bergmann, V Infante, LFM da Silva, JF dos Santos, PMGP Moreira	Zinc-Layer Coating Optimization in an Electrolytic Galvanization Process (MDA18_127) R Villafuerte, D Vizcaíno, DL Matovelle, L Segura (Universidad de las Fuerzas Armadas, Ecuador)	Metal Additive Manufacturing Joining with Dissimilar Materials: Quo Vadis? (MDA18_122) JMM Costa (University of Porto, Portugal), AA Ferreira, MN Júnior, MAL Reis, MF Vieira		
17:40	Adhesive Selection for Application in Tubular Adhesive Joints by Cohesive Models (MDA18_108) DR Barbosa, RDSG Campilho (ISEP, Portugal), RJB Rocha, LRF Ferreira	White Cast Iron Reinforced with Structural Ceramics for Wear Resistance Applications (MDA18_123) A Moreira (University of Porto, Portugal), L Ribeiro, P de Lacerda, M Vieira	Mechanical Properties Optimization in Specimens Obtained by 3D Printing Technologies: Fused Deposition Modeling and Digital Light Processing (MDA18_126) LJ Segura (Universidad de las Fuerzas Armadas, Ecuador), A Guerra, S Saltos		
18:00	CFRP Joints with Hybrid Laminates Metal-Carbon Fibre (MDA18_49) RJC Carbas (INEGI, Portugal), JCH Martins, LFM da Silva	Abrasive Wear of Surface Modified Stainless Steel Blades Applied in a Horizontal Mixer Prototype (MDA18_120) AA Ferreira, I Carneiro, R Santos (University of Porto, Portugal), T Jorge, E Pereira, LFM Ferreira, FJ Monteiro, MF Vieira			
19:00	Poster session and RECEPTION (Room under the Auditorium)				
Metals					
Poster 1	Influence of Surface Topography of HSS Edges Produced by Different Methods on their Technological and Functional Properties (MDA18_66)	Ml Kupczyk (Poznan University of Technology, Poland), J Komolka			
Poster 2	Corrosion Study of Ti5Al4V and Ti6Al4V in Different Simulated Body Fluids (MDA18_116)	MP Nikolova (University of Ruse, Bulgaria), EH Yankov			
Ceramics					
Poster 3	Electric and Magnetic Behavior of MgZnFeO Ceramic (MDA18_18)	VD Oliveira, CSP Mendonça, MR da Silva (UNIFEI, Brazil), AM França, VAR Santos, AF Oliveira, FH Souza			
Poster 4	Environmentally Friendly Lightweight Gypsum-based Material with the Waste Stone Dust (MDA18_34)	J Krejsová, R Schneiderová Heralová, A Vimmrová (Czech Technical University in Prague, Czech Republic)			
Poster 5	Comparative Investigations of Durability of Cutting Edges made of Nanocrystalline Cemented Carbides with Different Growth Inhibitors (MDA18_65)	Ml Kupczyk (Poznan University of Technology, Poland)			
Poster 6	The Effect of Ceramic Application in Design of Ceramic-Based Plasters (MDA18_43)	M Čáchová (Czech Technical University in Prague, Czech Republic), L Scheinherrová, E Vejmelková			

Polymers		
Poster 7	Biodegradable Food Packaging Materials (MDA18_25)	M Latos (Lodz University of Technology, Poland), A Masek, M Zaborski
Poster 8	Polymer Packaging Materials Containing Substances of Plant Origin (MDA18_24)	M Latos (Lodz University of Technology, Poland), A Masek, M Zaborski
Poster 9	Temperature Influence on the Mechanical Behavior of Polyvinyl Chloride (PVC) (MDA18_130)	IFR Santos, BC Caliani, JFS Brandão, FC Amorim, JML Reis (Universidade Federal Fluminense, Brazil)
Cellular Materials		
Poster 10	Design and Characterization of Porous Collagen/Gelatin Matrices Containing Microspheres Based on κ -Carrageenan for Controlled Release (MDA18_104)	J Kozłowska (Nicolaus Copernicus University in Torun, Poland), K Pauter, J Skopinska-Wisniewska, A Sionkowska
Composites		
Poster 11	Post-Repair Performance of Axially Loaded RC Cylinders Wrapped with CFRP Composites (MDA18_28)	A Bouhabila, R Benzaid (University of Mohammed Seddik Benyahia- Jijel, Algeria), HA Mesbah
Poster 12	Experimental Study of RC Columns Partially Wrapped With CFRP Sheets (MDA18_29)	A Bouhabila, R Benzaid (University of Mohammed Seddik Benyahia- Jijel, Algeria), HA Mesbah
Poster 13	The Influence of an Agro-waste Fibre on Flexural Properties of a Pine Resin Composite (MDA18_57)	NS Santos (University of State of Pará, Brazil), MR da Silva, J Lino Alves
Poster 14	A Preliminary Study about an Agro-waste Fiber for Application in the Textile Industry (MDA18_59)	LA Cohen, NS Santos (State University of Pará, Brazil)
Casting		
Poster 15	Study of the Effect of the Critical Variables of the Zamak Micro Injection Process on the Quality of the Final Product (MDA18_27)	TP Duarte (University of Porto, Portugal), RJ Neto, JL Alves, A Pereira, J Ferreira
Design		
Poster 16	Optimum Design of Wooden Roofs for Sustainable Construction (MDA18_76)	K Krzywiński, Ł Sadowski (Wrocław University of Science and Technology, Poland)
Poster 17	Effect of Temperature on the Behaviour of Multi-Material Adhesive Joints for the Automotive Industry (MDA18_36)	MQ dos Reis (CEFET/RJ, Brazil), RJS Carbas, LFM da Silva, MD Banea
Joining		
Poster 18	Fatigue Behaviour of Environmentally Aged Dissimilar Adhesive Joints for the Automotive Industry (MDA18_47)	JJM Machado, EAS Marques (INEGI, Portugal), LFM da Silva
Poster 19	Pulsed Laser Treatment of Engineering Plastics for Improved Adhesive Joint Strength (MDA18_82)	F Moroni (Università degli Studi di Parma, Italy), AHA Lutey, L Romoli
Poster 20	Examination of Various Screw Combination in Plate and Screw Methods Used in the Treatment of Fractures (MDA18_113)	RÇ Kutlubay, T Şekerciöğlu (University of Pamukkale, Denizli, Turkey), AÇ Yörükoğlu
Poster 21	The Examination of Weldability of 2205 Duplex Stainless Steel and S355J2 Structural Steel (MDA18_119)	T Küçükömeroğlu (Karadeniz Technical University, Turkey), D Yıldırım, C Meran
Poster 22	Experimental Investigation of Material Flow with Shoulder End Feature Design in Friction Stir Welding of Commercial Heat Treatable Aluminum Alloy (MDA18_132)	KK Mugada (National Institute of Technology, India), K Adepu
Poster 23	Effect of Probe Design on Temperature Around the Tool in Friction Stir Welding of Al 6082 Alloy (MDA18_133)	KK Mugada (National Institute of Technology, India), K Adepu
Poster 24	Fatigue Behaviour of Adhesive Bonded Joints under Mixed Mode Loading Conditions (MDA18_135)	M Costa (INEGI, Portugal), R Goyal, M El-zein, LFM da Silva
Poster 25	Study on Forming Tool Module with Variable Stiffness Blank-Holder for Applications in High Strength Steel and Laser Welding Parts (MDA18_125)	C Faria (University of Minho, Portugal), J Magalhães, V Blanco, N Peixinho, S Costa
Forming		
Poster 26	3D Printing with Cementitious Materials (MDA18_141)	J Teixeira (University of Porto, Portugal), B Rangel, JL Alves, R Neto, S Nunes
Additive Manufacturing		
Poster 27	Specifics of the Orientation of the Digital Model for SLA 3D Printing and its Influence on the Accuracy of the Manufactured Physical Objects for Micro- and Nano Technologies (MDA18_115)	EH Yankov (University of Ruse, Bulgaria), MP Nikolova

Friday 6 July 2018

Session 5A – Fracture mechanics

(Chair: PT de Castro, AJ Brunner)

Session 5B – Forming

(Chair: P Martins, AD Santos)

Room A101 (Auditorium)**Room B032**

9:00	<p>Four-Point Bending Mixed Mode I-II Tests: Experiments and Simulation (MDA18_109)</p> <p>J Baganha Marques (FEUP, Portugal), S Tavares, PT de Castro</p>	<p>Efficiency of Hot Incremental Forming Process of Ti-6Al-4V Artificial Hip Joint Component (Acetabular Cup) by Finite Element Simulations and Grasshopper Optimization Algorithm (MDA18_118)</p> <p>M Shayti (University of Monastir, Tunisia), R Bahloul, A Ghiotti, H BelhadjSalah, S Bruschi</p>
9:20	<p>Analysis of the Semi-circular Bend (SCB) Specimen: Finite Element Method Determination of T-stress, K_I and K_{II} (MDA18_51)</p> <p>E Shahabi (University of Porto, Portugal), PMST de Castro</p>	<p>Sheet-Bulk Forming of Three-Dimensional Features in Metal Blanks (MDA18_11)</p> <p>JP Magrinho (IDMEC, Portugal), MB Silva, PAF Martins</p>
9:40	<p>Numerical treatment of FRP crushing mechanism in VPS – possibilities and limitations (MDA18_71)</p> <p>S Hennemann, V Hohm, H Honnakkalavar (Volkswagen, Germany)</p>	<p>Formability of AA6061 Alloy in Warm Forming Temperature Range (MDA18_44)</p> <p>D Raja Satish, D Ravi Kumar (Indian Institute of Technology Delhi, India)</p>
10:00	<p>Fiber-Reinforced Polymer Composites Test Specimen Design for Selected Damage Mechanisms (MDA18_81)</p> <p>AJ Brunner (EMPA, Switzerland)</p>	<p>Limit Drawing Ratio and Formability Behaviour of Dual Phase Steels - Experimental Analysis and Finite Element Modelling (MDA18_63)</p> <p>RL Amaral (INEGI, Portugal), AD Santos, SS Miranda</p>
10:20	<p>Development and Fracture Toughness Characterization of a Nylon Nanomat Epoxy Adhesive Pre-preg (MDA18_54)</p> <p>TM Brugo, F Musiari, A Pirondi (Università di Bologna, Italy) A Zucchelli, D Cocchi, D Menozzi</p>	<p>Investigation of Temperature-Dependent Relationships Between Microstructure and Strain Hardening Behavior of Thermomechanically-Processed High-Mn Steels (MDA18_136)</p> <p>A Kozłowska (Silesian University of Technology, Poland), A Grajcar</p>

10:40-11:00 **COFFEE BREAK (Room under the Auditorium)****Session 6A – Design**

(Chair: D Castagnetti, A Rodríguez-Prieto)

Session 6B – Cellular materials

(Chair: D Constantinescu, N Carrere)

Room A101 (Auditorium)**Room B032**

11:00	<p>Experimental Investigations of a MR Clutch for a Centrifugal Pump (MDA18_98)</p> <p>AI Bosioc (University Politehnica Timișoara, Romania), T Ardelean, R Szakal, S Muntean, I Borbath, L Vékás</p>	<p>The Effect of Geometry on the Flexural Properties of Cellular Core Structures (MDA18_52)</p> <p>H Araújo, M Leite, AR Ribeiro, AM Deus, L Reis, M Fátima Vaz (IDMEC, Portugal)</p>
11:20	<p>Experimental Investigations in a Magneto-Rheological Brake Embedded in a Swirl Generator Apparatus (MDA18_99)</p> <p>RA Szakal, AI Bosioc (University Politehnica Timișoara, Romania), S Muntean, D Susan-Resiga, L Vékás</p>	<p>A Manufacturing Approach to Functional Biomimetic 3D-Printed Bone Implants (MDA18_58)</p> <p>CG Helguero, JL Amaya, E Ramirez (ESPOL Polytechnic University, Ecuador), V Salazar, DE Komatsu, I Kao, S Pentyala</p>
11:40	<p>Design and Assessment of an Electromagnetic Energy Harvester (MDA18_100)</p> <p>A Munari (University of Modena and Reggio Emilia, Italy), D Castagnetti, M Cocconcelli, R Rubini</p>	<p>Ambient Pressure Hybrid Silica Aerogels for Superinsulating Rendering Systems (MDA18_94)</p> <p>MF Júlio (Instituto Superior Técnico, Portugal), LM Ilharco</p>
12:00	<p>3D Bimetallic Layered Beams with Interface Compliance: Analytical Solution (MDA18_121)</p> <p>I Planinc, S Schnabl (University of Ljubljana, Ljubljana, Slovenia)</p>	<p>The Development of a Trabecular Bone Homogenization Technique Combined with a Bone Material Law (MDA18_61)</p> <p>M Marques (University of Porto, Portugal), J Belinha, RJ Natal</p>
12:20	<p>Electrospun Silver Coated Polyacrylonitrile Nanomembranes For Water Filtration Applications (MDA18_140)</p> <p>SA Parekh (Singapore University of Technology & Design, Singapore), RN David, A Baji</p>	

13:00-14:00 **LUNCH BREAK (Room under the Auditorium)**

Session 7A – Joining (Chair: M Costa, R Carbas)		Session 7B – Design (Chair: A Spaggiari, M Parente)	
Room A101 (Auditorium)		Room B032	
14:00	Simulation of Assembly and Disassembly Behavior of Ring-type Snap Fits (MDA18_62) A Frick (Aalen University, Germany), R Boßler, M Brehm, F Lang	Synthesis of Mg-Zn-Ca Alloy by Mechanical Alloying and Spark Plasma Sintering (MDA18_137) S Lesz (Silesian University of Technology, Poland), J Kraczia, R Nowosielski	
14:20	Using Blister Test to Predict the Failure Pressure in Bonded Composite Repaired Pipes (MDA18_73) S de Barros (CEFET/R, Brazil), B Fadhil, P Casari, F Jacquemin	Shape Optimization of the Fillet under a Bolt's Head (MDA18_22) A Sorrentino (University of Modena and Reggio Emilia, Italy), D Castagnetti, E Dragoni, A Spaggiari	
14:40	Comparison Between Mixed Eulerian-Lagrangian Approaches in Finite Element Simulation of Friction Stir Spot Welding (MDA18_77) N Hannachi (University of Monastir, Tunisia), A Khalfallah, C Leitão, DM Rodrigues	A New Small Vertical Axis Wind Turbine Concept with Adjustable Geometry (MDA18_35) F Neto, A Silva, FQ Melo (University of Aveiro, Portugal), A Completo	
15:00	Study of the Dynamic Behaviour of Composite Adhesive Joints for the Automotive Industry (MDA18_46) EAS Marques (INEGI, Portugal), JJM Machado, PDP Nunes, LFM da Silva	Ice Material Properties and Behaviour over Multiple Scales: Design Considerations for Engineered Structures in Ice Environments (MDA18_48) R Taylor (Memorial University, Canada)	
15:20	Laser Transmission Joining of Thermoplastic Fasteners: Application for Thermoset CFRP (MDA18_88) J Brodhun (TU Braunschweig, Germany), D Blass, K Dilger	Grain Size Stability in Nanocrystalline Cu Thin Films (MDA18_124) BMC Oliveira (University of Porto, Portugal), AP Piedade, PJ Ferreira, MF Vieira	
15:40	Fatigue Behaviour of an Epoxy Reinforced with Micro Particles of Cork: Effect of the Amount (MDA18_142) AQ Barbosa (INEGI, Portugal), AA Akhavan-Safar, LFM da Silva, MR Ayatollahi	Synthesis and Optimization of an Eight Bar Linkage Mechanism for Seat Suspension (MDA18_20) A Spaggiari (University of Modena and Reggio Emilia, Italy), D Castagnetti, M Cocconcelli, E Dragoni, R Rubini	
16:00-16:20 COFFEE BREAK (Room under the Auditorium)			
Session 8A – Composites (Chair: S de Barros, MD Banea)		Session 8B – Forming (Chair: P Martins)	
Room A101 (Auditorium)		Room B032	
16:20	Fully Biodegradable Biocomposites Based on Polylactide Reinforced with Basalt and Wood Fibres (MDA18_96) K Mazur (Cracow University of Technology, Poland), S Kuciel	Characterization and Formability Analysis of a Composite Sandwich Metal-Polymer Material (MDA18_64) SS Miranda (INEGI, Portugal), AD Santos, RL Amaral, LT Malheiro	
16:40	Experimental Evaluation of the Response of Sandwich Panels in Low-velocity Impact (MDA18_53) OA Mocian, DM Constantinescu (University Politehnica of Bucharest, Romania), M Sandu, S Sorohan	Forming and Springback Behaviour of an Industrial Aluminium Panel – Issues on Different Finite Element Results and Experimental Validation (MDA18_67) DG Wagne (University of Porto, Portugal), DM Neto, R Amaral, AD Santos, MC Oliveira	
17:00	A Study of Interlaminar Properties for an Unidirectional Glass Fiber Reinforced Epoxy Composite (MDA18_85) G Pincheira, L Torres, N Ferrada, K Saavedra (University of Talca, Chile)	Comparison of Artificial Neural Network and Adaptive Neuro Fuzzy Inference Systems for Predicting the Life of Blanking Punch (MDA18_134) S Salunkhe (Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology, India), D Rajamani, E Balasubramanian	
17:20	Strategies to Reduce Delamination of Adhesive Joints with Composite Substrates (MDA18_139) X Shang (National University of Defense Technology, P.R. China), EAS Marques, JJM Machado, RJC Carbas, M Costa, D Jiang, LFM da Silva		
20:00 MDA2018 BANQUET (Porto Calém Caves)			