

## Programme of MS 2024

Author underlined → presenting author

<b>Wednesday 30 October 2024</b>	
8:40	<b>MS 2024 Opening (Room B032)</b>
	<b>Room B032</b>
9:00*	Higher-order strong and weak formulations for arbitrarily-shaped shell structures of advanced anisotropic materials in multifield analysis ( <b>MS24_47</b> ) <u>F Tornabene</u> (University of Salento, Italy)
	<b>Session 1 – Elasticity, viscoelasticity and plasticity (Chair: AM Ferreira and PNB Reis)</b>
	<b>Room B032</b>
9:40	A study on linear viscoelastic periodic problems through computational homogenization ( <b>MS24_12</b> ) <u>SC Calvimontes</u> , <u>R Rodríguez-Ramos</u> (UFF, Rio de Janeiro, Brazil), <u>P Rodríguez-Bermúdez</u> , <u>JA Rodríguez-Durán</u> , <u>Y Espinosa-Almeyda</u> , <u>JA Otero</u> , <u>FJ Sabina</u>
10:00	Geometric nonlinear analysis of frames using exact nonprismatic Timoshenko's finite element having noncentroidal axis ( <b>MS24_20</b> ) <u>FC de Araújo</u> (Federal University of Ouro Preto, Brazil), <u>P Mageveske</u>
10:20	Micromechanical analysis and homogenization of heterogeneous materials ( <b>MS24_28</b> ) <u>LM Nogueira</u> (Universidade Federal do Rio de Janeiro, Brazil), <u>LMSA Borges</u> , <u>DA Castello</u>
<b>10:40-11:00</b>	<b>COFFEE BREAK (Room under the Auditorium)</b>
	<b>Session 2 – Mechanical behaviour of materials (Chair: LFM da Silva and RJC Carbas)</b>
	<b>Room B002</b>
11:00	Density functional theory calculations for mechanical properties and phase transition of ZnS ( <b>MS24_1</b> ) <u>A Yu</u> (Northeast Normal University, China)
11:20	Complete solutions in the linear theory of materials with voids ( <b>MS24_51</b> ) <u>S De Cicco</u> (University of Naples “Federico II”, Italy)
11:40	Development of a unified specimen for direct generation of cohesive zone law data of adhesives ( <b>MS24_6</b> ) <u>DS Correia</u> (INEGI, Portugal), <u>EAS Marques</u> , <u>RJC Carbas</u> , <u>LFM da Silva</u>
12:00	J-integral vs. CBBM in fracture analysis of highly deformable adhesives ( <b>MS24_9</b> ) <u>M Ribas</u> (University of Porto, Portugal), <u>A Akhavan-Safar</u> , <u>RJC Carbas</u> , <u>EAS Marques</u> , <u>LFM da Silva</u>
12:20	Experiments and comprehensive comparison of polycarbonate material models for impact and drop test simulations ( <b>MS24_15</b> ) <u>O Panina</u> (Corning SAS Finland Branch, Finland), <u>S Beaman</u> , <u>M Seagar</u>
12:40	Physical and numerical investigation of hot plastic flow in medium-Mn steel for automotive forgings ( <b>MS24_52</b> ) <u>A Kozłowska</u> , <u>S Slawski</u> , <u>W Borek</u> , <u>A Grajcar</u> (Silesian University of Technology, Poland)
<b>13:00-14:00</b>	<b>LUNCH BREAK (Room under the Auditorium)</b>

	<b>Room B032</b>	
14:00*	Analysis of fracture in joints of bimaterial specimens with strip geometry (MS24_21) F Mujika (University of the Basque Country, Spain)	
	<b>Session 3 – Fracture mechanics and Fatigue (F Mujika and A Akhavan-Safar)</b>	
	<b>Room B002</b>	
14:40	Factors influencing fatigue behavior of similar and dissimilar adhesive joints (MS24_8) FC Sousa, A Akhavan-Safar (INEGI, Portugal), RJC Carbas, EAS Marques, R Goyal, J Jennings, LFM da Silva	
15:00	A new methodology to determine the flexural modulus based on an asymmetric double cantilever bending test (MS24_14) F Mujika (University of the Basque Country, Spain), J de Gracia, U Garitaonandia, N Insausti	
15:20	Analysis of fatigue crack propagation using peridynamics (MS24_31) EB Paulo (University of Lisbon, Portugal), FS Vieira, AL Araujo	
15:40	An interfaced penny-shaped crack in two bonded elastic layers under an axisymmetric torsion (MS24_34) B Kebli (Ecole Nationale Polytechnique, Algeria)	
16:00-16:20	<b>COFFEE BREAK (Room under the Auditorium)</b>	
	<b>Session 4 – Mechanics of composite materials I (XF Yao and LFM da Silva)</b>	
	<b>Room B002</b>	
16:20	Sandwich structures for orbital debris protection – analysis of shielding performance and numerical modelling (MS24_5) A Cherniaev (University of Windsor, Canada)	
16:40	Interfacial feature strengthening of Fiber Metal Laminates parts under in-situ hybridization forming (MS24_7) M Liang (Shanghai Jiao Tong University, China), W Zhang, X Zhuang, Z Zhao	
17:00	Mechanical response of graphene reinforced composites (MS24_10) JM Parente (University of Beira Interior, Portugal), PNB Reis	
17:20	Study on high speed impact behavior of composite scarf patch repair structures (MS24_11) XF Yao (Tsinghua University, China), ZC Feng, HL Yang, SY Xuan	
17:40	Novel CAINAgN coatings for dry machining operations: high temperature tribological behaviour, machining performance and FE simulations (MS24_22) F Fernandes (University of Coimbra, Portugal), SS Rajput, ChS Kumar, S Gangopadhyay, A Cavaleiro	
18:00	Strengthening adhesively bonded composite joints with polymer and metal thin layers for substrate reinforcement (MS24_38) H Malekinejad (INEGI, Portugal), RCJ Carbas, EAS Marques, LFM da Silva	
19:00	<b>Poster session and RECEPTION (Room under the Auditorium)</b>	
	<b>Mechanical behaviour of materials</b>	
Poster 1	Exploring mechanical and fracture properties of an acrylic PSA: An experimental investigation of influential parameters (MS24_36)	BD Simões (INEGI, Portugal), EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
Poster 2	Design and modelling of impact resistant bio-inspired structures (MS24_43)	EAS Marques (University of Porto, Portugal), RJC Carbas, MM Kasaei, LFM da Silva

<b>Mechanics of composite materials</b>		
Poster 3	Simplification of the Carrera unified formulation for isotropic plates (MS24_30)	<u>AJM Ferreira</u> (University of Porto, Portugal)
Poster 4	Strategies to reduce delamination in composite adhesive joints using hybrid-CFRP adherends (MS24_39)	<u>RCJ Carbas</u> (INEGI, Portugal), EAS Marques, LFM da Silva
Poster 5	Enhancing transverse tensile performance: Gradual modification of CFRP laminate with thin-ply (MS24_17)	<u>H Malekinejad</u> (INEGI, Portugal), RCJ Carbas, EAS Marques, LFM da Silva
Poster 6	Alloying effects on segregation and mechanical properties of Ti/TiO <sub>2</sub> interface (MS24_49)	<u>A-Y Yu</u> (East China Jiaotong University, China)
<b>Fracture mechanics and Fatigue</b>		
Poster 7	Fracture energy of a polyurethane adhesive in vehicle body applications: Investigating the interaction of strain rate, loading mode, and temperature (MS24_46)	<u>M Ribas</u> (INEGI, Portugal), A Akhavan-Safar, RJC Carbas, EAS Marques, S Wenig, LFM da Silva
<b>Mechanical behaviour of structures</b>		
Poster 8	Design, simulation and experimental validation of a polyurethane-coated steel wheel for agricultural applications (MS24_26)	<u>L Solazzi</u> (University of Brescia, Italy), M Cima
<b>Thermal and electrical effects in solids</b>		
Poster 9	High-frequency dielectric properties of graphene-doped diatomite flexible ceramic sheets (MS24_4)	<u>PH Chiberio</u> (Federal University of Rio Grande do Norte, Brazil), HPA Alves, MA Correa, JMD Neto, BR Carvalho, EC Silva, W Acchar

<b>Thursday 31 October 2024</b>	
	<b>Room B032</b>
8:40*	Dynamic behavior of structures subject to different wind schematizations ( <b>MS24_48</b> ) <u>L Solazzi</u> (Università degli Studi di Brescia, Italy)
	<b>Session 5 – Mechanical behaviour of structures (Chair: L Solazzi and EAS Marques)</b>
	<b>Room B032</b>
9:20	FEM-based numerical experiment for simulation of shear key joint behavior in arch dams ( <b>MS24_24</b> ) <u>A Nanevska</u> (University of Ss. Cyril and Methodious, RN Macedonia), V Mircevska
9:40	A novel numerical approach for modelling complex failure mechanism in friction stir spot welded joints ( <b>MS24_23</b> ) <u>EAS Marques</u> (University of Porto, Portugal), RJC Carbas, FJRC Moreira, LDVSR Peixoto, R Beygi, LFM da Silva
10:00	Static shape control of stiffened piezolaminated plates: An isogeometric FE analysis approach ( <b>MS24_50</b> ) <u>N Devi</u> , <u>A Bhar</u> (MNNIT Allahabad, India), R Pandey
10:20	Characterization and dynamic performance of adhesive bonds in structural applications ( <b>MS24_33</b> ) <u>A Akhavan-Safar</u> (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
<b>10:40-11:00</b>	<b>COFFEE BREAK (Room under the Auditorium)</b>
	<b>Session 6 – Mechanics of composite materials II (BP Patel and AM Ferreira)</b>
	<b>Room B032</b>
11:00	An Efficient isogeometric finite element method for laminated composite plate ( <b>MS24_44</b> ) <u>M Mandal</u> , <u>AA Nezami</u> , <u>SJ Hossain</u> (Indian Institute of Technology, India)
11:20	Influence of temperature on the performance of hybrid composite joints ( <b>MS24_19</b> ) <u>RCJ Carbas</u> (INEGI, Portugal), F Ramezani, EAS Marques, LFM da Silva
11:40	Composite structures response to compression after impact events for aerospace Applications ( <b>MS24_29</b> ) <u>AH Baluch</u> (King Fahd University of Petroleum & Minerals, Saudi Arabia)
12:00	Nonlinear periodic response of sandwich beams using shooting technique ( <b>MS24_27</b> ) <u>D Kumar</u> , <u>BP Patel</u> (Indian Institute of Technology Delhi, India)
12:20	Investigating peel testing behaviour of acrylic pressure-sensitive adhesives: A comparative study ( <b>MS24_37</b> ) <u>BD Simões</u> (INEGI, Portugal), HC Sousa, EAS Marques, RJC Carbas, S Maul, P Stihler, P Weißgraeber, LFM da Silva
12:40	Strength improvements of wooden joints by using tough layer technique ( <b>MS24_42</b> ) <u>Sh Jalali</u> (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
<b>13:00-14:00</b>	<b>LUNCH BREAK (Room under the Auditorium)</b>
	<b>Room B032</b>
14:00*	Recent advances in peridynamics applied to piezoelectricity, multibody dynamics and topology optimization ( <b>MS24_32</b> ) <u>FS Vieira</u> , <u>AL Araujo</u> (University of Lisbon, Portugal)

	<b>Session 7 – Vibration of discrete and continuous systems (Chair: A Suleman and F Tornabene)</b>
	<b>Room B032</b>
14:40	Higher order modelling of anisotropic doubly-curved shells made of smart anisotropic materials ( <b>MS24_2</b> ) F Tornabene, M Viscoti (University of Salento, Italy), R Dimitri
15:00	Seismic qualification of nuclear components ( <b>MS24_3</b> ) CAJ Miranda (Instituto de Pesquisas Energéticas e Nucleares, São Paulo, Brazil)
15:20	Study of the effect of new materials and structural joints in the dynamic behaviour of road vehicles ( <b>MS24_16</b> ) P Millan (University of Lisbon, Portugal), J Ambrósio, EAS Marques, LFM da Silva
15:40	Nonlinear vibration analysis of delaminated composite airfoils in supersonic flow ( <b>MS24_18</b> ) B Hauck (Budapest University of Technology and Economics, Hungary), A Szekrényes
16:00-16:20	<b>COFFEE BREAK (Room under the Auditorium)</b>
	<b>Session 8 – Thermal and electrical effects in solids (Chair: AL Araujo and M Kasaei)</b>
	<b>Room B032</b>
16:20	Exploring fluid-structure interaction in FSI-based energy harvesting: Nature-inspired geometry and regional optimization ( <b>MS24_13</b> ) AR Shahsavari (Pusan National University, Republic of Korea), A Afsharfard, KC Kim
16:40	Exploring an ocean wave energy harvester utilizing combined heave and roll motions of a buoy ( <b>MS24_25</b> ) A Afsharfard (Pusan National University, Republic of Korea), KC Kim
17:00	Thermo-mechanical model of a hybrid rocket combustion chamber using ablative thermal protection systems ( <b>MS24_35</b> ) F Cadavez (University of Lisbon, Portugal), A Souza, A Suleman
17:20	Self-heating effect in 3D printed composites ( <b>MS24_45</b> ) PNB Reis (University of Coimbra, Portugal), A Katunin, J Amraei, T Rogala, D Wachla
17:40	A new busbar-prismatic cell connection for electric vehicles: thermo-electrical analysis ( <b>MS24_40</b> ) VB Gomes, MM Kasaei (University of Porto, Portugal), RJC Carbas, EAS Marques, LFM da Silva
18:00	Thermo-electrical performance of hybrid busbars manufactured by a novel joining process for electric vehicle batteries ( <b>MS24_41</b> ) MM Kasaei (INEGI, Portugal), DPM da Costa, RJC Carbas, EAS Marques, LFM da Silva
20:00	<b>MS 2024 BANQUET (Porto Caves)</b>