



IWAM - International Workshop on Additive Manufacturing and Sustainability

October 4th, 2024

Hybrid Symposium: Bragança

PROGRAMME OF IWAM2024

Friday October 4th, 2024	
9:00	IWAM 2022 Opening
	Session A (Chair: João Ribeiro; João Rocha)
9:05	Opening session (Nuno Ribeiro, school director)
9:20	Invited speaker – <i>Oscar Carvalho</i> , Universidade do Minho Development of Multifunctional Components through Hybrid Technologies for Biomedical, Automotive, and Aerospace Applications
9:45	Process Optimization of a Green Composite Containing a 3D Structure Produced via Additive Manufacturing - IWAM24_1 <i>S.M. da Costa, P. Capela, M. P. André, A. S. Monteiro, M. Pereira, J.E. Ribeiro, D. Soares</i>
10:00	Artificial Intelligence for Additive Manufacturing: preliminary analysis of trends and challenges - IWAM24_2 <i>M. Rodríguez Martín, J E P C Ribeiro, R Domingo</i>
10:15	Experimental Study of Green Nanofluids: Evaluation of Wettability, Viscosity, and Thermal Conductivity Properties – IWAM24_3 <i>G Nobrega,, B Cardoso, D Pinho, J. Ribeiro, R A Lima</i>
10:30	Increasing motivation and learning in digital manufacturing: Blended Intensive Programs for STUDENTS - IWAM24_4 <i>João Rocha, Leonel Deusdado, Jorge Santos, Catarina Rocha, Isabel Lopes, João Ribeiro, Cláudia Martins</i>
10:45	3D Print Technologies Applied in Robotics Prototyping - IWAM24_5 <i>Mariano Alvarez, Laiany Brancalhão, João Coelho, Jorge Carneiro, Paulo Costa, Miguel Conde and José Gonçalves</i>
11:00-11:30 COFFEE BREAK (Coffee Lounge)	
	Session B1 (Chair: Oscar Carvalho, UM, Manuel Rodríguez Martín US)
11:30	Study of Electro Discharge Machining (EDM) to manufacture holes in Selective Laser Melted (SLM) parts. - - IWAM24_6 <i>I Rodríguez-Fernández, J Álvarez-Martínez, M A Castro-Sastre, A I Fernández-Abia</i>
11:45	Utilisation of feedstock material in additive manufacturing technology of ceramics by UV laser vat-photopolymerisation (VPP-UVL/C)- IWAM24_7 <i>S. Peláez-Peláez, A. Martínez-Sánchez, S. Giganto, P. Rodríguez-González, S. Martínez-Pellitero</i>
12:00	Design of a novel bi-phasic biomimicking auxetic 3d printed structure with fluids that biomimic the hysteretic behaviour of articular cartilage for medical phantoms- IWAM24_8 <i>N A T C Fernandes, F Silva, A Leal, O Carvalho</i>
12:15	Developing optical mimicking phantoms of the head tissues – a new approach for transcranial photobiomodulation research - IWAM24_9 <i>Filipa Fernandes, Filipe S. Silva, Nuno Sousa, Susana O. Catarino, Óscar Carvalho</i>
12:30	Otimização da Cura do PDMS em Moldes de Resinas SLA: Técnicas e Abordagens- IWAM24_10 <i>Andrews Souza, Conrado Ferrera, Rui Lima, João Ribeiro</i>
11:00-11:30 COFFEE BREAK (Coffee Lounge)	
	Session B2 (Chair: Jorge Santos)
11:30	Development of a hydrophone for measuring the propagation of acoustic waves in biological tissues- IWAM24_11 <i>Anabela Pereira, Vanessa Cardoso, Marcos Martins, Óscar Carvalho</i>
11:45	Desenvolvimento de painéis de derivados de madeira e cortiça para a construção sustentável - IWAM24_12 <i>G S Welinski, L. Mesquita</i>
12:00	Valorisation of Olive Mill Wastewaters for Industrial Applications - IWAM24_13 <i>I. S. Afonso, A. Ribeiro, J. Amaral, P. Sousa, R. A. Lima, J. E. Ribeiro</i>
12:15	Progress on fire safety of sustainable timber construction - IWAM24_14 <i>M. Alves, L. Mesquita, P. Piloto, N. Lopes</i>
12:30	
11:00-11:30 COFFEE BREAK (Coffee Lounge)	

bioengineering special session (Chair – Diana Pinho, José Gonçalves)

- 11:30 Strategies for Modifying PDMS Wettability and Potential Applications - **IWAM24_15**
Lucas B. Neves, Inês S. Afonso, Glauco Nobrega, Luiz G. Barbosa, Rui A. Lima and João E. Ribeiro
- 11:45 Microfabrication of a capillary-driven microfluidic device: Surface wettability - **IWAM24_16**
Inês Ramos, Margarida Gonçalves, Rui Lima, Diana Pinho
- 12:00 Microfabrication of a capillary flow-driven microfluidic plasma separator - **IWAM24_17**
Margarida Gonçalves, and Diana Pinho
- 12:15 Development and fabrication of a microfluidic device for mechanical characterization of malaria-infected red blood cells - **IWAM24_18**
Margarida Ferreira, Bruno Freitas, Vitória Baptista, Diana Pinho, Graça Minas, Maria Isabel Veiga, Vera Faustino, Susana O. Catarino
- 12:30 3D Hollow microneedles fabrication for microfluidic applications - **IWAM24_19**
V. Faustino, R. Maia, D. Pinho, R. Lima and G. Minas

12:45-14:30 Lunch

Session C1 (Chair: João Ribeiro, João Rocha)

- 14:30 Invited speaker – Research in additive manufacturing: evolution and trends
Manuel Rodríguez Martín, Universidade Salamanca
- 15:00 Acoustic stimulation based on piezoelectric materials enhanced anti-proliferative activity of triple-negative breast cancer cells - **IWAM24_20**
A. Z. Santos, S. Oliveira, H. Dinis, S. Rocha, M. M. Fernandes, M. Costa, F. S. Silva, O. Carvalho, V. F. Cardoso
- 15:15 Study of the effect of the physical characteristics of bacterial nanocellulose on the proliferation of triple negative breast cancer cells - **IWAM24_21**
S. Rocha, C. Alves, L. Melro, A. Pereira, A. Z. Santos, S. Oliveira, V. Cardoso, O. Carvalho, O. Padrão
- 15:30 MEX and VPP-UVL Technologies for Printing Complex Alumina Parts- **IWAM24_22**
Martínez-Sánchez, S. Peláez-Peláez, D. Álvarez-Rubio, J. Barreiro
- 15:45 *Extração de fibras naturais para fabrico de filamentos 3D por extrusão em FDM* - **IWAM24_23**
Felipe Stein, João Rocha, Jorge Santos, João Ribeiro, Leonel Deusdado, Catarina Rocha
- 16:00 Closing Session

16:30-Closing Session

(Chair – João Ribeiro, João Rocha)

12:45-14:30 Lunch

Session C2 (Chair - Paula Barros; Flora Silva)

- 15:00 Linear transformations in an engineering course – Matrices and dynamic representations- **IWAM24_24**
Paula Barros e Edite Cordeiro
- 15:15 Awareness of sustainability practices in construction: Learning in a real context - **IWAM24_25**
F. Silva, A. Santos, Y. Rios, P. M. Barros
- 15:30 Effects of extensive green roofs on rainwater drainage from a metalworking industry building - **IWAM24_26**
J. Rodrigues, H. Mazzer, A. Gerales, F. Silva
- 15:45 Collaborative work between Polytechnic Higher Education students: Manufacturing processes, Safety and Sustainability - **IWAM24_27**
F. Silva, J. E. Ribeiro, P. M. Barros
- 16:00 Learning linear algebra with the MathE platform: an experience in a Mechanical Engineering course - **IWAM24_28**
P. M. Barros, E. Cordeiro, F. Silva
- 16:15 Closing session

12:45-14:30 Lunch

Session C3 (Chair –Luís Mesquita, Leonel Deusdado)

- 15:00 Enhancing Realism in 3D Mapping Through Drone-Based Photogrammetry and Animated Elements - **IWAM24_29**
L. D. Deusdado, A. F. A. Martins, J. Rocha
- 15:15 A Review of Best Methods for 3D Scanning and Modeling of Terrain and Buildings Using Drones and Photogrammetry - **IWAM24_30**
L. D. Deusdado, J. Rocha, J. Santos
- 15:30 Análise mecânica de provetes gerados por otimização topológica em 3D - **IWAM24_31**
Felipe Stein
- 15:45 Development of a helmet device for transcranial optomechanical stimulation to treat Alzheimer’s disease - **IWAM24_32**
Francisca Monteiro, Ioannis Sotiropoulos, Óscar Carvalho, Filipe S. Silva
- 16:00
- 16:15 Closing session

Caso tenha dificuldade contacte por WhatsApp: 919 960 851 – João Rocha

Sessão A <https://videoconf-colibri.zoom.us/j/98725730328>

Sessão B1 <https://videoconf-colibri.zoom.us/j/99571767433?pwd=acHD525M40dqvfQB7Oapaesl9KXbil.1>

Sessão B2 <https://videoconf-colibri.zoom.us/j/92125454350>

Sessão B3 (bioengineering special session) <https://videoconf-colibri.zoom.us/j/91888456229>

Sessão C1 <https://videoconf-colibri.zoom.us/j/95605482742?pwd=9oZUCIC6QxwMPXYmBQEmrIEea0DcQg.1>

Sessão C2 <https://videoconf-colibri.zoom.us/j/98691523714>

Sessão C3 <https://videoconf-colibri.zoom.us/j/92327412691>