

# DETAILED PROGRAMME

## NOVEMBER 27

09:30 Opening Ceremony

10:00 PLENARY LECTURE 1 WITH JOSÉ GRESES

10:40 Coffee break / Exhibition

### 11:10 HYBRID MOULDS

11:10 An automated approach to conformal cooling design for hybrid injection molds *Eleonora Caneve, Nuno Agostinho, Luis Santos and António R. Silva*

11:30 Mold5G - Using Additive Manufacturing to enhance the production of injection tools *Nuno Agostinho, Eleonora Caneve, Luis Santos and António R. Silva*

11:50 Improving Efficiency in Injection Moulding Tools: The Role of Simulation in Modelling Conventional and Conformal Cooling Channels *Luis Dias and Rui Soares*

12:10 Revolutionizing Injection Moulds: Large-Scale Conformal Cooling Channels via DED-Arc *Tiago Nuncio, Paulo J. Morais, C. Sofia Proença and Eurico Assunção*

12:30 Lunch break / Exhibition

14:00 PLENARY LECTURE 2 WITH PAULO BARTOLO

### 14:40 HYBRID AND ADDITIVE MANUFACTURING SYSTEMS

14:40 A new approach to multi-material metamaterials via fused filament fabrication *João Ferreira, Sérgio Tavares and Victor Neto*

15:00 Robotic extrusion-based additive manufacturing for urban spaces: a study of materials and large-scale production *Afonso Santos, Artur Costa, Álvaro M. Sampaio and António Pontes*

15:20 Electric Field Assisted AM for improved piezoelectric behavior of PLLA *Artur Basta, Paula M. Vilarinho and Paula Ferreira*

15:40 Coffee break / Exhibition

### 16:10 DIGITAL TOOLS FOR ADDITIVE MANUFACTURING

16:10 Industrial Robot Trajectory Generation and Execution for 3D Printing using an ABB IRB 1200 *Marcella Cavalcanti, Hugo Costelha and Carlos Neves*

16:30 Computational Design: an application to geometry and 3D printing *Carlos Costa, Ana Simões, Violeta Clemente and João Dias-de-Oliveira*

16:50 Predictive modeling of morphing behavior in 4D printed PLA-based polymers *Mylene Cadete, Idalina Gonçalves and Victor Neto*

17:10 Digital-Enabled Certification and Qualification in Additive Manufacturing: The DILAPRO Approach *Ana Queiroz Barbosa, Rita Bola, Eurico Assunção*

17:30 Use of waste from the stone industry for decorative ceramic application *Pedro Custódio, Liliana Gouveia and Alexandre Vieira*

17:50 Additive manufacturing by extrusion of thermoplastics polymers applied to the naval industry *P. J. Novo, F. J. P. Simões, Patrício Banda, Sérgio Leirinha, Patrícia Agostinho, Tânia Carvalho, Marco Lagares and P. G. Martinho*

19:30 Conference Dinner  
Cooperativa João Paulo II - Espaço Vita

## NOVEMBER 28

09:30 PLENARY LECTURE 3 WITH IAN GIBSON

### 10:10 MATERIALS FOR ADDITIVE MANUFACTURING

10:10 Road to the "perfect" 3D-printed fruit and vegetable-based structure *Tatiana Pereira and Maria Manuel Gil*

10:30 Metal chips as a sustainable feedstock for AM *Catarina Batista, Patrícia Rodrigues, Daniel Gatões, Fátima Barreiros, Tânia Carvalho and Teresa Vieira*

10:50 Relative Permittivity Extraction using Fast Prototyped Standards with the Waveguide Method *Saúl Carvalho, João Reis, Samuel Heleno, Luís Duarte, Telmo Fernandes and Rafael Caldeirinha*

11:10 Coffee break / Exhibition

11:40 Sustainable faience additive manufacturing by the incorporation of limestone residues *Paulo Novo, Fátima Barreiros, Liliana Gouveia and Alexandre Vieira*

12:00 Study of composite materials obtained by Automated Fibre Placement with thermoplastic matrix and carbon fibre reinforcement *M. L. Silva, P. J. Novo, P. Esfandiari, A. Carreiras, Tânia Carvalho, P. G. Martinho and J. F. Silva*

12:20 Impact of Energy Density and Energy Intensity on Laser Powder Bed Fusion-Based Pure Iron Additive Manufacturing *Pedro Lopes, Luís Oliveira and Jorge L. Alves*

12:40 Lunch break / Exhibition

### 14:00 HYBRID PRODUCTS

14:00 2D metallic metamaterials produced by material extrusion *Daniel Gatões, Luís Cacho, Patrícia Rodrigues, Diogo Neto and Teresa Vieira*

14:20 Design of 3D Printed Horn Antennas for Millimeter-Wave Applications in the 18-26.5 GHz Band *Samuel Heleno, Saúl Carvalho, João Reis, Luís Duarte, Telmo Fernandes and Rafael Caldeirinha*

14:40 Design and Optimization of an Amplitude-Tapered Corporate Feeding Network for Large Array Antennas with Fixed Beam Steering at 50-75 GHz *Samuel Heleno, Saúl Carvalho, João Reis, Luís Duarte, Telmo Fernandes and Rafael Caldeirinha*

15:00 C-Band Laminate And 3D Printed Patch Antennas: A Comparative Study *Samuel Heleno, Saúl Carvalho, João Reis, Luís Duarte, Telmo Fernandes and Rafael Caldeirinha*

15:20 Influence of the macro-interlocking design on the mechanical behaviour of dissimilar joints produced by additive manufacturing *Teresa Abreu, Rui M. Leal, Carlos Leitão and Ivan Galvão*

15:40 Closing Ceremony