

AIAM'2023 Conference Program

Thursday May 18, 2023 - PM

12H30 to 13H30	Registration
13H30 to 14H00	Conference Opening
Session 1: Microstructure and Properties of Built-AM High-Performance Metals Moderators: Prof. M. Soula & Prof. A. Hamdi	
14H00 to 14H40 (40 mn)	Plenary 1: Prof. Anis Hor, ISAE-Supaero, Toulouse, France Effect of process parameters and heat treatments on microstructure and fatigue behavior of AM parts
14H40 to 14H55 (15 mn)	461462: Control of the microstructure and mechanical properties of a super duplex SAF 2507 steel produced by additive manufacturing; M. Piras, A. Hor, E. Charkaluk.
14H55 to 15H10 (15 mn)	461415: Microstructure and mechanical properties of hybrid LPBF-DED Inconel 625; N. Martin, A. Hor, E. Copin, Ph. Lours, L. Ratsifandrihana.
15H10 to 15H25 (15 mn)	461576: Printability of CoCrFeNiMnZrAlxCu High Entropy Alloy by Laser Powder Bed Fusion; Eric Barth, Anis Hor
15H25 to 15H40 (15 mn)	460080: Mechanical properties additively manufactured 17-4PH stainless steel: heat treatment; Thabet A.M. Sghaier, H. Sahlaoui, J. Rech, T. Mabrouki.
15H40 to 16H25	Coffee Break / Exhibition/Poster/Demonstration
Session 2: AM for Biomedical Applications Moderators: Prof. S. Ben Salem & Prof. M.A. Terres	
16H25 to 17H00 (35 mn)	Plenary 2: Dr Adnen Sakly, Michellin, France Metallic Additive Manufacturing in industry: materials and process industrialization advances
17H00 to 17H15 (15 mn)	461889: Effect of process parameters and surface coating on the corrosion behavior of SLM 316L in normal and simulated febrile states; H.Yahyaoui, M.Sahraoui, N. BenMoussa, M. Habibi, F. Ghanem.
17H15 to 17H30 (15 mn)	464687: The impact of simulated inflammation on the corrosion behavior of Ti-6Al-4V implants produced via selective laser melting; M. Sahraoui, H. Yahyaoui, N. Ben Moussa, M. Habibi.
17H30 to 17H45 (15 mn)	465761: Nitinol stents printed by selective laser melting; L. Jerjen, B. Schnyder, O. Banakh, T. Journot, H. Sallem, J. Pralong, S. Rey-Mermet.
17H45 to 18H00 (15 mn)	465694: Preliminary study of geometric defects and topography of bio-carriers fabricated by the FDM printing process, N. Ben Hariz, A. Boulila, M. Ayadi.

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Session 3: Mechanical Behavior of of 3D-Printed Materials Moderators: Prof. Prof. F. Ghanem & Prof. A. Boulila	
09H00 to 09H40 (40 mn)	Plenary 3: Eng. Abdelkader Belhi, PLM Ressources, Tunisia Innovation in Digital Manufacturing with Siemens Software Solutions
09H40 to 09H55 (15 mn)	459968: Determination of mechanical parameters of 3D-printed parts: Experimental and numerical analyses; S. Chatti
09H55 to 10H10 (15 mn)	466131: Comparison of the effect of surface texture on the shear strength of 3D-printed SS and polycarbonate bonded joints, N. Naat, Y. Boutar, S. Naimi, S. Mezlini, L. F. Martins Da Silva.
10H10 to 10H25	459870: Thermal investigation on graded ZrO ₂ / Ti-6Al-4V plates; S. Zghal, M. Chrigui, F. Dammak.
10H25 to 10H40 (15 mn)	463520: 3D-Printed Flax/PLA Material Re-entrant Honeycombs: Damping behavior; A. Hamrouni, J.L. Rebiere, A. El-Mahi, M. Beyaoui, M. Haddar, A. Hamza, N. Ben Yahia.
10H40 to 11H25	Coffee Break/ Exhibition/Poster/Demonstration
Session 4: Design and Optimization of Additively Manufactured Biomedical Engineering Structures Moderators: Prof. S. Chatti (ISSATSo) & Prof. B. Ben Fathallah	
11H25 to 11H40 (15 mn)	467082: Topological Optimization of Ti-6Al-4V Knee Prostheses through Lattice Structures for Enhanced Mechanical Performance; M. Frija, A. Toumi, M. Khodja.
11H40 to 11H55 (15 mn)	463516: 3D-Printed Auxetic and Non-Auxetic Bio-Material: Tensile Properties; A. Hamrouni, J.L. Rebiere, A. El-Mahi, M. Beyaoui, M. Haddar, A. Hamza, N. Ben Yahia.
11H55 to 12H10 (15 mn)	463919: Manufacturing of cranial implant using SPIF and 3D printing; S. Marzougui, S. Bouzidi, A. Boulila.
Lunch	

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Session 5: Engineering Education and Human-Cyber-Physical Systems for Additive Manufacturing Moderators: Prof. S. Chatti (ENIM) & Prof. N. Ben Moussa	
13H45 to 14H25 (40 mn)	Plenary 4: Eng. Alan Marion, Dassault Systèmes, France Portfolio 3D-EXPERIENCE EDU
14H25 to 14H40 (15 mn)	459982: New Horizons in Engineering Education: From Additive Manufacturing to Immersive Learning; S. Bhar Layeb, A. Jaoua, M. Noomen.
14H40 to 14H55 (15 mn)	463912: 3D Printed Educational Robotic Arm; M. Slim, N. Rokbani and M. Ali Terres
14H55 to 15H10 (15 mn)	459969: Exploring Human-Cyber-Physical Systems in Additive Manufacturing: Insights into Human-Machine Collaboration; A. Hamza, N. Ben Yahia
15H10 to 15H25 (15 mn)	460017: Intégration de l'apprentissage automatique dans la fabrication additive ; R. Nasri, F. Abbassi, N. Ben Yahya.
15H25 to 15H40 (15 mn)	459977: Simplification of an Additive Manufacturing Machine Implementation Using its CAD model and Mixed-Reality; M. Ghobrial, Ph. Seitier, M. Galaup, P. Lagarrigue, P. Gilles.
15H40 to 16H10	Exhibition/Poster/Demonstration
Session 6: Methods, Optimization, and Cost Analysis for AM Moderators: Prof. A. Trabelsi & Prof. M.A. Rezgui	
16H10 to 16H40 (30 mn)	Plenary 5: Prof. Walid Jomaa, University of Montréal, Canada Metal AM for Aerospace: An Insight into Recent Advances, Challenges, and Future Perspectives
16H40 to 16H55 (15 mn)	463997: A CAD-based method for the measurement of AM parts accuracy considering the build orientation; A. Elayeb, A. Korbi, R. Bahloul, F. Zemzemi, M. Tlija, B. Louhichi.
16H55 to 17H10 (15 mn)	472142: Multi-objective parameters optimization of PLA 3D printed parts using the Box Behnken method and Grey Relational Analysis; R. Salem, R. Bahloul.
17H10 to 17H25 (15 mn)	464050: Predicting Laser Energy Absorption History In Selective Laser Melting; M. Abdi, M. Ayadi, H. Eloukabi.
17H25 to 17H40 (15 mn)	459848: Etude thermique pour optimisation du procédé de soudage thermomécanique bout à bout des tubes en PEHD (PE100) ; W. Awadi, M. Zidi
17H40 to 17H55 (15 mn)	459869: Additive Manufacturing and Investment Casting Comparison of Superalloys: Aerospace industry; B. Aouadi, S. Ghannem, B. Ben Fathallah, M. A. Yaltese.
17H55 to 18H10 (15 mn)	463996: The impact of the adaptive slicing integration on the AM cost; A. Elayeb, F. Zemzemi, M. Tlija, B. Louhichi.

Saturday May 20, 2023 - AM

Session 7: Sustainability and Cost Reduction Strategies for AM-built Materials Moderators: Prof. F. Zemzemi & Prof. H. Hamdi	
08H30 to 09H10 (40 mn)	Plenary 6: Prof. Zoubeir Lafhaj, Ecole Centrale de Lille, France 3D printing in construction and the circular economy: challenges and opportunities
09H10 to 09H25 (15 mn)	472197: Non-conformities and scrap cost Reduction in Additive Manufacturing Workshop in Same Tunisia; S. Mathlouthi, A. Gabsi.
09H25 to 09H40 (15 mn)	460069: Contribution à la formulation d'un matériau à base de déchets de marbre en vue de son utilisation dans l'impression 3D en Génie Civil; H. Zargayouna, H. Essaieb, T. Mabrouki.
09H40 to 09H55 (15 mn)	463931: Easy transformation of bottles used in PET into ecological filament for 3D printing and Characterization of the result; C. Ben Aissa, A.Gabsi, S. Mathlouthi, A. Ghanem.
09H55 to 10H25	Exhibition/Poster/Demonstration
Session 8: Modeling, Simulation and Optimization in AM Moderators: Prof. M. Arfaoui & Prof. B. Louhichi	
10H25 to 11H05 (40 mn)	Plenary 7: Prof. Issam Doghri, UCLouvain, Belgium Multiscale modeling of the thermomechanical behavior of semi-crystalline polymers AM with SLS
11H05 to 11H20 (15 mn)	460109: Etude expérimentale et numérique du procédé de fabrication additive Arc-fil (WAAM) ; S. Shiri, M. Rabhi, A. Ben Khalifa, K. Boulahem, F. Aloui, S. Chatti.
11H20 to 11H35 (15 mn)	464465: Parameters Effect On Bead Geometry Deposited by Cold Metal Transfer Based Wire Additive Manufacturing (WAM) Process; O. Trad, A. Ben Khalifa, F. Zemzemi, H. Hamdi.
11H35 to 11H50 (15 mn)	460098: Modeling for powder bed fusion additive manufacturing process; H.E. Kortli, N. Ben Moussa, H. Yahyaoui, F. Ghanem.
11H50 to 12H05 (15 mn)	463341: Use of the RDPP-SF method for robust design of dynamic AM-Fused Deposition Modeling process; M. Amdouni, A. Dhokkar, A. Trabelsi, M.A. Rezgui.
Conference Closing	
Lunch	