

8th European Congress on 3D Printing & Additive Manufacturing

Day 1 - October 02, 2023

Meeting Hall: Rembrandt 2/3

08.00 - 08.45 Registration

08.45 - 09.00 Introduction

Keynote Presentations

09.00 - 09.40 3D Printing at the Nanoscale – A Perspective
Harald Plank, Graz University of Technology, Austria

09.40 - 10.20 Binder Jetting Powder Bed Additive Manufacturing followed by Reactive Infiltration Assisted Sintering of Metal/Ceramic Composites: Principles of Technology, Physical Background, Materials, Product's Characterization, Challenges
Alexander Katz-Demyanetz, Technion University, Israel

10.20 - 11.00 **Exhibitor Presentation**

Group Photo (11.00 - 11.15)

Networks & Refreshments @ Pre-Function Area (11.15 - 11.30)

Oral Presentations

Chair **Alexander Katz-Demyanetz**, Technion University, Israel

Co-Chair **Andrei C. Popescu**, National Institute for Laser, Plasma and Radiation Physics (INFLPR), Romania

Sessions: Metal 3D Printing | 3D Printing Materials | Polymers in 3D Printing | 3D Printing in Healthcare, Life Sciences & Medicines | 3D Bio Printing

11.30 - 11.55 Laser Energy Assisted Breakdown Spectroscopy for Composition Monitoring During Laser Directed Energy Deposition
Andrey Voevodin, University of North Texas, USA

11.55 - 12.20 Tribology and Corrosion behavior of Gray Cast Iron brake Discs Coated with Inconel 718 by Direct Energy Deposition
Diana Chioibas, National Institute for Laser, Plasma and Radiation Physics (INFLPR), Romania

12.20 - 12.45 An In Situ Approach by Synchrotron X-ray Scattering to Evaluate the Bioink based Hydrogel Anisotropy while Extrusion Printing
Anatole Morcos, VetAgro Sup, UPSP ICE 2021.A104, France

12.45 - 13.10 In situ Monitoring of Additive Manufactured Metal Matrix Composites Materials via Infrared Thermography and High-Speed Imaging
P. V. Toma, National Institute for Laser, Plasma and Radiation Physics (INFLPR), Romania

Lunch @ Open Lobby Restaurant (13:10 - 14.00)

14.00 - 14.25 Metal Matrix Composites Manufactured by Laser Metal Deposition
Sabin Mihai, National Institute for Laser, Plasma and Radiation Physics (INFLPR), Romania

14.25 - 15.50 Optimising Fused Deposition Modelling (FDM) Parameters for Enhanced Mechanical Properties of 3D Printed Parts
Nida Naveed, University of Sunderland, UK

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15.50 - 16.15	3D Printing of Doped Silica Glass Microstructures by Two-Photon Polymerization for Photonics Applications Halima El Aaad & Marc Douay , CNRS, France
16.15 - 16.40	The Improvement of Hemp/PLA Filament to Enhance Sustainability in 3D Printing Cansu Asil Örs , CFN Kimya, Turkey
Networks & Refreshments @ Pre-Function Area (16.40 - 17.00)	
17.00 - 17.25	Reprocessed PLA Filament Extrusion: In-process Degradation Assessment and Mitigation through a Soft Sensor Tiago E.P. Gomes , University of Aveiro, Portugal
17.25 - 17.50	Combining Femtosecond Laser and Beam-Shaping Towards Efficient Bioprinting Linas Jonušauskas , Vital3D Technologies, Lithuania
17.50 - 18.15	Vat Polymerisation 3D Printing of Antimicrobial Materials Alice Shannon , University of Limerick, Ireland
18.15 - 18.40	Cold Resistance and Flame Retardancy by Adding Particles of Thermoplastic Compound for Application to Big Area Additive Manufacturing Jinwoo Lee , Korea Institute of Footwear & Leather Technology, South Korea
18.40 - 19.05	Framework for Adoption of Metal Additive Manufacturing in the Oil and Gas Industry in Africa Al-Amin Barambu Umar , Nigerian National Petroleum Company Limited, Nigeria
19.05 - 19.30	Engineering the Degenerative Cartilage with the use of 3D Biological Scaffolds from Human Umbilical Cord Tissue Tayyaba Bari , IRCBM, COMSATS Institute of Information Technology, Pakistan
Day 1 Concludes followed by Awards Ceremony	

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Day 2 - October 03, 2023

Meeting Hall: Rembrandt 2/3

Keynote Presentations

09.00 - 09.40	Analytical Modelling of Directed Energy Deposition Additive Manufacturing Processes Andrei C Popescu , National Institute for Laser, Plasma and Radiation Physics (INFLPR), Romania
09.40 - 10.20	Additive Manufacturing in Underwater Applications Kinga Korniejeko , Cracow University of Technology, Poland
10.20 - 11.00	Enhancing Museum Experiences for the Visually Impaired: Designing Accessible Cultural Heritage through Tangible Technologies Alexandra Danial-Saad , University of Haifa and The Academic Arab College for Education in Israel – Haifa, Israel

Networks & Refreshments 11.00 - 11.25 @ Pre-Function Area

Oral Presentations

Chair **Harald Plank**, Graz University of Technology, Austria

Co-Chair **Alexandra Danial-Saad**, University of Haifa and The Academic Arab College for Education in Israel – Haifa, Israel

Sessions 3D Printing Future Technology | Innovations, Design & Future Technology in 3D Printing | 3D Printing | 3D Printing & Beyond: 4D Printing | Advances in 3D Printing & Additive Manufacturing Technology | 3D Printing in Manufacturing

11.25 - 11.50	Unlocking the Potential of Multi-Material Printing with NovoJet Ramon Borrell , Quantica GmbH, Germany
11.50 - 12.15	Advanced Innovations in 3D Printing in The Field of Medicine Manuel Domínguez , National University of Distance Education, Spain
12.15 - 12.40	Additive Manufacturing For on Earth, on Orbit and on Planet Space Applications Andrew Norman , European Space Agency, Netherlands
12.40 - 13.05	Design & Manufacturing of Dielectric Resonators via 3D Printing Paris , Comillas Pontifical University, Spain

Lunch 13:05 - 14.00 @ Open Lobby Restaurant

14.00 - 14.25	Molten Metal Deposition: The Single-Step Direct Aluminium Additive Manufacturing Technology Chola Elangeswaran , ValCUN, Belgium
14.25 - 14.50	The Influence of 3D Printing Parameters on the Control of Morphing Behavior in 4D Printing Mylene S. Cadete , University of Aveiro, Portugal
14.50 - 15.15	POLTAG® Technology for 3D Printing and Additive Manufacturing: Authentication and Tracking of 3D Printing Solid and Liquid Materials at Molecular Level by Novel Sequence-Defined Macromolecules Maziar Matloubi , Polysecure GmbH, Germany
15.15 - 15.40	Reactive Hybrid Additive Manufacturing of Large-scaled Parts Using a Polyurea System and a 6-axis Industrial Robot Jens Butzke , University of Applied Sciences Darmstadt, Germany

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15.40- 16.05	Utilization of Contemporary Capabilities of 3D Printing Cementitious Mixtures to Produce Bridge Structures Hvízdaľ and Michael Gabriel , Klokner institute - CTU, Czech Republic
Networks & Refreshments 16.05 - 16.25 @ Pre-Function Area	
16.25 - 16.50	A Progressive Thermal Model For Fiber-Reinforced Polymer Composite 3D Printing Ali Sarhadi , Technical University of Denmark, Denmark
Poster Presentations	
3DP - 01	3D Printing as an Educational and Capacity Building Medical Resource for Resource-Limited Settings Sthefon Tran , California University of Science and Medicine, USA
3DP - 02	Using 3D Printing Technology to Develop a Home Collection and Recycling Container Susana Costa , PIEP - Innovation in Polymer Engineering, Portugal
3DP - 03	Semisolid Extrusion 3D Printing of Orodispersible "Printlets": Design and Disintegration Nicola Paccione , TECNALIA, Basque Research and Technology Alliance (BRTA), Spain
3DP - 04	Circular Wax Formwork 3D Printing Nicolas Ramirez Ortiz , University of Southern Denmark, Denmark
3DP - 05	Superhydrophobic Structures Fabricated by 3D Printing based on Digital Light Processing Noa Battat , The Hebrew University of Jerusalem, Israel
3DP - 06	Innovative Chemical Polishing Processes for Complex Geometries and Inner Parts of 3D Printed Metal Components Toni A. Meseguer , Leitat Technological Center, Spain
3DP - 07	Additive Manufacturing of 2D Structures to Achieve a Balance between Weight and Impact Absorption Performance Joana Silva , PIEP - Innovation in Polymer Engineering, Portugal
3DP - 08	Vat Polymerisation 3D Printing of Antimicrobial Materials Alice Shannon , University of Limerick, Ireland
3DP - 09	Robocasting and Mechanical Characterization of Hierarchically Porous Ceramic Structures Savvas Koltsakidis , International Hellenic University, Greece
3DP - 10	3D Printed Electroactive Polyvinylidene Fluoride as Dielectric in Planar Capacitors Loredana Tamaro , ENEA, Portici Research Centre, Italy
e-Poster Presentation	
3DP - 01	Bringing The Artificial Disk Closer to The Invertebral Disc through an Exploration of Alternative 3D Printing Materials Robert Evans , University of Georgia, USA

Day 2 Concludes

Panel Discussion - Awards & Closing Ceremony followed by Vote of Thanks

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Virtual Program

Day 1 - October 02, 2023 BST

Keynote Presentations

11:00 - 11:50 Additive Manufacturing Versus Traditional Manufacturing Processes
Hamid Mehrabi, University of Sunderland, UK

Oral Presentations

11:50 - 12:20 DLP 3D Printed Oxide Ceramics and Alumina-Reinforced Zirconia (ARZ) Composites: Optimization of Slurry and Sintering Strategies
M. Irfan Hussain, University of Science and Technology Beijing, China

12:20 - 12:50 A Comparative Study of Stress Analysis is Conducted Using FEM to Analyze the Machining Process of Ti_6Al_4V and Additively Manufactured Ti_6Al_4V .
Surinder Pal, Atlantic Technological University, Ireland

12:50 - 13:20 Advancements in 3D Printing and Additive Manufacturing Techniques through Integration with Finite Element Analysis.
Manne Bharathi, Chalapathi Institute of Engineering and Technology, India

Lunch 13:20 - 14:00

14:00 - 14:30 Improving the Fatigue Design of Mechanical Systems such as Refrigerator
Seongwoo Woo, Ethiopian Technical University, Ethiopia

14:30 - 15:00 3D Bioprinted Organ-on-Chips
R Thiruchelvi, Aman Aqua Bio Chemical free plant Activator Manufacturer, India

15:00 - 15:30 Experimental and Theoretical Study on the Seismic Performance of Optimized Asymmetric Structures
Zakia Sadat, Gazi University, Turkey

15:30 - 16:00 Machine Learning-Based Prediction of Rheological Properties of 3D-Printed Concrete
Raja Dilawar Riaz, National University of Sciences and Technology (NUST), Pakistan

Day 1 Concludes

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Day 2 - October 03, 2023 BST

Oral Presentations

11:00 - 11:30	A 3D Printed End Term Applicators for Electron Radiation Therapy: A New Frontier in Cancer Treatment Md. Jobairul Islam , Labaid Cancer Hospital and Super Specialty Center, Bangladesh
11:30 - 12:00	Selective Laser Melting Technology in the Manufacture of Biomaterials and Automobile Parts Omid Ashkani , Azad University Science and Research Branch, Iran
11:30 - 12:00	Use of 3D Printing in Complex Bone Tumors Abhay Meena , Lok Nayak hospital, India
11:30 - 12:00	Additive Manufacturing of Microstructured Optical Waveguides using Two-Photon Polymerization Leonnell Mhuka , Zhejiang University of Science and Technology, China
11:30 - 12:00	Analysis of 3D Printing Defects in Polylactic Acid Parts Shaan Mohammad , University Polytechnic, AMU, India

Poster Presentations

12:00 - 12:30	3D Bio Printed Biodegradable Composite Material for Pediatric Craniomaxillofacial Implants İpek Dös , TraBtech – Advanced Implant Technologies, Turkey
12:30 - 13:00	3D Printing Technology Pharmaceutical Delivery: Contemporary Advancement and Application Jeevandeep Mishra , IPS Academy College of Pharmacy, India
13:00 - 13:30	Comparative Evaluation of EBM and SLM Additive Manufacturing Technologies for Fabrication of Lattice Structures in Metal Implants Zeynep Kırımler , TraBtech – Advanced Implant Technologies, Turkey
13:30 - 14:00	Mechanical and Corrosion Responses of Minor and Trace Elements in Cocrmo Alloy Powders on Additively Manufactured Dental Crowns and Bridges Ece Tutsak , TraBtech – Advanced Implant Technologies, Turkey

Day 2 Concludes