

4th European Congress on Graphene & 2D Materials

Day 1- November 07, 2022

Meeting Hall: Johnson & Sikorsky

09:00 - 9:40 Registrations

9:40 - 10:00 Introduction

Keynote Presentations

10:00 - 10:45
3D Printing of Optics
Andreas Heinrich, Aalen University, Germany

10:45 - 11:30
Multimaterial 3D Printing Stereolithography for Multicolour and Electronic Applications
Jose Marques-Hueso, Heriot-Watt University, United Kingdom

Group Photo (11:30 - 11:45)

Networks & Refreshments (11:45 - 12:00) @ Foyer

12:00 - 12:45
Digital Twins in Manufacturing
Javaid Butt, Anglia Ruskin University, United Kingdom

Oral Presentations

Sessions: 3D Printing in Healthcare, Life Sciences & Medicines | 3D Bio Printing | Graphene modification and functionalization | Synthesis of Graphene and 2D Materials

Session Chair **Alex Greenberg**, Columbia University College of Dental Medicine, USA

Session Co-chair **Alexander Katz-Demyanetz**, Technion - Israel Institute of Technology, Israel
Hossein Najad Zadeh, University of Canterbury, New Zealand

12:45 - 13:15
Custom 3D-Printed Cutting Guides for Femoral Osteotomy in Rotational Malalignment Due to Diaphyseal Fractures: Surgical Technique and Case Series
Jaime Oraa Apraiz, Arthroscopic Surgery Unit, Hospital Vithas Vitoria, Spain

Lunch (13:15-14:00) @ Restaurant

14:00 - 14:30
Training Occupational Therapy Students to use a 3D-Printer to Develop Assistive Technology Tools
Alexandra Danial-Saad, University of Haifa and The Academic Arab College for education in Israel - Haifa

14:30 - 15:00
Personalized 3D-Printed Implant for Thoracic Vertebra Body Replacement after En Bloc Resection of a Tumor with Two-Year Follow up Period
Zhandos Tuigynov & Yergen Kenzhegulov, National Center for Neurosurgery, Kazakhstan

15:00 - 15:30
Next Generation Design Software for 3D Printed Aerospace Components
Alejandro Carcel Lopez, nTopology Inc., France

15:30 - 16:00
Ring Structure of Graphene
Pavel Osmera, NCT, Czech Republic

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Networks & Refreshments (16:00 - 16:30) @ Foyer

16:30 - 17:00

An Approach to Grow 2D Materials Heterostructures Directly Based on Pulsed Laser
Deposition of Solid Oxide Precursors

Denys I. Miakota, Technical University of Denmark, Denmark

Day 1 Concludes

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Day 2 - November 08, 2022

Meeting Hall: Johnson & Sikorsky

Keynote Presentations

10:00 - 10:45 3D Printed Patient Specific Surgical Templates and Implants for Maxillofacial Surgery and Dental Implants

Alex Greenberg, Columbia University College of Dental Medicine, USA

10:45 - 11:30 Influence of Power, Scanning Speed and Layer Thickness on Solidification and the Strength of SLM AlSi10Mg Alloys

Hamid Ahmad Mehrabi, University Of Sunderland, United Kingdom

Refreshments Break (11:30- 11:45) @ Foyer

11:45 - 12:45 New Keys for Highly Improved and Reproducible Carbon Nanotechnology Application Basing on Different Recently Revised Solid-State Fundamentals

Stephane Neuville, Independent Consultant, France

Oral Presentations

Sessions: Metal 3D Printing | Nano 3D Printing | Polymers in 3D Printing | 3D Printing Materials | Advances in Graphene Physics

Session Chair **Andreas Heinrich**, Aalen University, Germany

Session co-Chair **Alexandra Danial-Saad**, University of Haifa and The Academic Arab College for education in Israel – Haifa

12:45 - 13:15 Screen Additive Manufacturing Cellulose Hydrogel

Hossein Najad Zadeh, University of Canterbury, New Zealand

Lunch (13:15-14:00) @ Restaurant

14:00 - 14:30 Microstructural Characterization of Additively Manufactured (SLM and LMD) and Then Heat-Treated High Entropy Alloy AlCrFe₂Ni₂

Alexander Katz-Demyanetz, Technion - Israel Institute of Technology, Israel

14:30 - 15:00 3D Printing Ocean Plastic – Experiments, Experience and Engagement

Samantha Vettese & Xingyu Tao, Edinburgh Napier University, United Kingdom

15:00 - 15:30 A Human-Centred Design Approach to 3D Printing for Wearable Cooling Products

Emma Grain, Huddersfield University, United Kingdom

Refreshments (15:30 - 16:00) @ Foyer

Poster Presentations

16:00 - 16:15 Graphene Model as a Lattice of Atoms with Screened Ions

Boris G. Freinkman, Keldysh Institute of Applied Mathematics, Russia

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16:15 - 16:30 Growth of Graphene by Microwave Plasma-Enhanced CVD Technique on Ultra-Thin Metal Ni Film as Catalyst

Marjan Monshi, Kaunas University Of Technology, Lithuania

Day 2 Concludes

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

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Virtual Presentations

November 08, 2022 GMT

13:00 - 13:15 Introduction

Keynote Presentations

13:15 - 13:45 3D Modeling for the Categorization of the Venous Anatomy of Craniopagus Twins
Andrew Kobets, Montefiore Medical Center, USA

Oral Presentations

13:45 - 14:10 3D Printing – The Future of Pharmaceutical Manufacturing
Korinde van den Heuvel, DFE Pharma, Germany

14:10 - 14:35 Filament Quality Monitor for Fused Filament Fabrication
Jakub Aniulis, Wroclaw University of Science and Technology, Poland

14:35 - 15:00 Sp³-Hybridized Moiré Films Based on Twisted Bilayers of Graphenes and H-Bn: Dft Studies of Structures and Properties
Leonid A. Chernozatonskii, Russian Academy of Sciences, Russia

15:00 - 15:25 Removal of Two Endocrine Disruptors (Ametryn and Prometryn from Surface Water Using Fe₃O₄/Reduced Graphene Oxide (Rgo) Nanocomposite
Delia Teresa Sponza, Dokuz Eylül University, Turkey

15:25 - 15:50 Heritage Building Information Modelling as the Way Forward for Cultural Heritage
Yusuf Arayici, Northumbria University, United Kingdom

15:50 - 16:15 Transition Metal Doped Graphene as Hydrogen Gas Sensor: A Theoretical Perspective
Deepa Sharma, Government of Haryana, India

16:15 - 16:40 Generative Topological Design for an Additive Manufactured Architecture: Integrating Structural, Material and Aesthetic Analysis
Robert Stuart-Smith, University of Pennsylvania, USA

16:40 - 17:05 Additive Manufacturing and the Environment
Harm-Jan Steenhuis, Hawaii Pacific University, USA

Day Concludes followed by Vote of Thanks