

Session Program

13-17 Sept 2021

**EUROPEAN CONGRESS AND EXHIBITION ON
ADVANCED MATERIALS AND PROCESSES -
EUROMAT 2021**

F3_Additive manufacturing of biomaterials

Virtual

Tuesday 14 September

11:50

F3_Additive manufacturing of biomaterials: F3_1_Multimaterial approaches for 3D printed biomaterials

Session | Location: Room 15

11:50-12:10

Extending the potential of medical applications by using additive manufactured PEEK and its composites

Speaker

Mr Uwe Popp

12:10-12:30

Multi-material Toughening of Composites in Polymer 3D-Printing

Speaker

Mr Johannes Stögerer

12:30-12:50

Multi-material implant structures with medical-grade polyurethanes via additive manufacturing

Speaker

Dr Joamin Gonzalez-Gutierrez

12:50-13:10

Direct Laser Writing of Graphene on Temperature-sensitive Substrates

Speaker

Christopher Dreimol

13:10

15:20

F3_Additive manufacturing of biomaterials: F3_2_Tissue regeneration with additive manufacturing

Session | Location: Room 15

15:20-15:40

Physicochemical and mechanical behaviour of 3D printed PEGDA hydrogel structures for engineered contractile tissue studies

Speaker

Mr Mohammad Hakim Khalili

15:40-16:00

Guided cell migration through laser-induced grafting in a gelatin hydrogel

Speaker

Dr Tommaso Zandrini

16:00-16:20

3D bioprinting and characterization of human nasoseptal chondrocytes laden dual cross-linked oxidized alginate-gelatin (ADA-GEL) hydrogels for cartilage repair approaches

Speaker

Ms Sonja Kuth

16:20–16:40

3D-printed drug delivery systems based on polyelectrolyte hydrogels by digital light processing (DLP)**Speaker**

Robert Mau

16:40

17:20

F3_Additive manufacturing of biomaterials: F3_3_Enhancing material properties for biomedical applications**Session | Location:** Room 15

17:20–17:40

Surface engineering solutions for additive manufactured biomedical materials**Speaker**

Dr Ramon Escobar-Galindo

17:40–18:00

Impact factors on mechanical properties of poly(methyl methacrylate) manufactured by ARBURG plastic freeforming and filament-based material extrusion additive manufacturing**Speaker**

Mr Lukas Hentschel

18:00–18:20

Numerical investigation of the effective mechanical properties and local stress concentrations towards topology optimization of TPMS-based lattices for biomedical applications**Speaker**

Ms Chrysoula Chatzigeorgiou

18:20–18:40

Seeing through the invisible: Internal porosity by μ CT analysis and its correlation to mechanical properties in 3D printed thermoplastic implants manufactured by Fused Filament Fabrication and ARBURG Plastic Freeforming**Speaker**

Dr Muammer Üçal

18:40–19:00

Effects of washing and sterilization with formaldehyde on dimensional accuracy, mechanical properties and biocompatibility of PMMA manufactured by Fused Filament Fabrication (FFF) and ARBURG Plastic Freeforming (APF)**Speaker**

Dr Muammer Üçal

19:00

Wednesday 15 September

09:50

F3_Additive manufacturing of biomaterials: F3_4_Innovtive biomaterials for 3D printing

Session | Location: Room 15

09:50–10:10

High Performance Biomaterials as pioneers for 3D printed patient-specific plastic implants

Speaker

Mr Marc Knebel

Location

Room 15

10:10–10:30

AMLOY goes medical: 3D printing of amorphous metals opens new opportunities in design and application for individualized products

Speaker

Dr Jürgen Wachter

Location

Room 15

10:30–10:50

An attempt of 3D printing of metallic glass implants using direct-ink writing followed by liquid sintering

Speaker

Maël Pontoreau

Location

Room 15

10:50–11:10

Lithography-based additive manufacturing of alumina

Speaker

Anna Lea Kutsch

11:10

11:50

F3_Additive manufacturing of biomaterials: F3_5_Bone regeneration with 3D printing

Session | Location: Room 15

11:50–12:10

Investigating the optimum 3D printing approach for patient-specific bone prosthesis: the case of cranioplasty implants

Speaker

Mr Iakovos Gavalas

12:10–12:30

Abstract Title: Biodegradable 3D printed β -TCP scaffold for bone regeneration with a study in rats

Speaker

Mr Uwe Yacine Schwarze

12:30-12:50

Additive manufacturing of hydroxyapatite scaffolds for hard tissue replacements

Speaker

Prof. Marian Janek

12:50-13:10

hHA-based ink development for three-dimensional printing of osteo-inductive scaffolds

Speaker

Ms Margherita Montanari

13:10-13:30

New approaches towards powder bed selective laser processing of calcium phosphate materials.

Speaker

Mr Pedro Navarrete-Segado

13:30