

EUROMAT 2021

EUROPEAN CONGRESS AND EXHIBITION
ON ADVANCED MATERIALS AND PROCESSES

WWW.EUROMAT2021.FEMS.EU

12. - 16. SEPTEMBER 2021

GRAZ, AUSTRIA

ASMET
THE AUSTRIAN SOCIETY FOR
METALLURGY AND MATERIALS

FEMS
FEDERATION OF EUROPEAN
MATERIALS SOCIETIES
1987 - 2017
www.FEMS.org

Area F

Symposium F5

Title		
<i>Synthetic polymer for medical applications</i>		
Organizer	Institution	Contact email
Olivier Guillaume	TU Wien-3D Printing and Biofabrication	olivier.guillaume@tuwien.ac.at
Anna Finne Wistrand	KTH Royal Institute of Technology	annaf@kth.se
Abstract		
<p>Synthetic polymers have now been used for a long time in medical applications, both for external and internal uses. There are today examples of successful bench-to-bed stories, of products based on synthetic polymers, which help the clinicians on their daily work. Nevertheless, in relation to the huge amount of research in this area, the number of products is still relatively scarce. The scope of this symposium is to emphasize on the new approaches available to tailor the body response to biomaterials. We have today technical opportunities in order to optimize the body reaction to the foreign materials, both by designing the polymers and the final product. We can influence how the polymer affects the biological environment and also to some extent influence how the biological environment affects the polymer. Learning from existing FDA and CE approved medical devices and combine it with the recent developments in polymer synthesis, functionalization, formulation and design, new products have possibility to find the way to the market.</p> <p>The aim of this symposium is to discuss the possibilities offered by synthetic polymers in various medical applications in order to control their interaction with the body. We aim to bring together pluri-disciplinary audience in order to collect input in how to succeed in getting materials biocompatible, from the synthesis, functionalization, formulation, design of the polymers. Talks will tackle also key questions: Is it (even) possible to get new polymers today that can get through the regulatory system? Where do we see the biggest challenge? Can the synthetic polymers solve the future clinical challenges?</p>		

EUROMAT 2021

EUROPEAN CONGRESS AND EXHIBITION
ON ADVANCED MATERIALS AND PROCESSES

WWW.EUROMAT2021.FEMS.EU

12. - 16. SEPTEMBER 2021

GRAZ, AUSTRIA

ASMET

THE AUSTRIAN SOCIETY FOR
METALLURGY AND MATERIALS

FEMS

FEDERATION OF EUROPEAN
MATERIALS SOCIETIES

30

1987 - 2017
www.FEMS.org

Targeted topics of the symposium

- Synthesis and functionalization of polymers and their use in medical devices, implants, drug delivery systems, scaffolds for tissue engineering and regenerative medicine, bioactive structures
- Biodegradable polymers
- Design of medical devices using synthetic polymers; surface functionalization, mechanical properties, controlling 3D architecture
- Synthetic polymers at the interface in vitro/in vivo; focusing on the cell-material interactions
- Study of the foreign body reaction (FBR) of biomaterials, polarization of immune response by new biomaterials