

FEMS EUROMAT23

03 - 07 Sep 2023 (Frankfurt am Main)

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FEMS EUROMAT is the most important international congress in materials science and technology in Europe. It continues a successful congress series promoting the transfer of knowledge and the exchange of experience between academia and industry. **Extended submission deadline: 15 March 2023**

Area C: Processing

C06: Laser Based Processing and Manufacturing

Laser-based manufacturing is a key technology, able to open significant markets for manufacturers applying laser-material processing, as well as for equipment manufacturers. Industrial sectors with high economic and social relevance, such as automotive, microelectronics, aviation, and (bio)medical sectors, rely on the quality of laser-material processing for the functionality of their products. The aim of this symposium is to bring together scientists and engineers working on laser-based manufacturing processes on macro, micro and/or nanometer scale for advanced applications, addressing the current scientific and technological advances related to laser-based technology. The papers will be oriented to technical or industrial developments as well as basic research studies describing applications in different technological fields. Furthermore, the basic interactions of laser beams with materials and the influence of such interactions in the mechanisms governing the manufacturing processes will be discussed.

Topics of this symposium will cover the following subjects (but not limited to):

- Laser beam cutting and drilling, forming
- Laser beam welding, soldering, and brazing
- Laser surface treatment, including, but not limited to, transformation hardening, annealing, alloying, cladding, cleaning, marking
- Laser micro/nano processing, including, but not limited to, micro-joining, micro-cutting & drilling, surface patterning/texturing, (ultra) short pulsed laser processing
- Laser-based Additive Manufacturing processing, including laser printing and sintering both on the macro- and micro/nano scale, including laser-transfer techniques
- Fundamental aspects of laser-material processing, including dynamics, modeling, and simulation
- Laser sources, optics, components, and systems for laser-based manufacturing
- Laser direct writing (waveguide, crystallization, photopolymerization, etc.)
- 3D Laser Bioprinting, Optical Tweezing, and trapping for biomedical applications

This symposium is cooperating with the [European Journal of Materials \(EJM\)](#).

Symposium Organizer



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