

EUROMAT 2017/ Symposia Structure/Area C

Title: Laser-based processing and manufacturing		
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Summary		
C.2	<p>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):</p> <ul style="list-style-type: none"> • 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, microcutting & drilling, surface patterning/texturing, (ultra) short pulsed laser processing, • Laser-based Additive Manufacturing processing, 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). • Optical Tweezing and trapping for biomedical applications. 	
	<p>Invited Speakers Alberto Pique, Naval Research Laboratories, USA Yves Bellouard, Professor, EPFL, CH Antonio Ancona, Professor, University of Bari and CNR, IT Philippe Delaporte, LP3 laboratory, Aix-Marseille University – CNRS, FR Michael Zenou, I-O-TECH, IL</p>	