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Preface on laser material interactions: From basic science to industrial applications (LaserMaterInter2020)

This special issue covers all the new advances in laser-matter interaction coupled with recent applications of emerging materials, their fabrication and applications. The main objective is to update the basic phenomena involved in the interaction of the wide range of laser systems, where still new and efficient devices including smart optics, high and low repetition rate processing as well as high and low beam fluences come up regularly. The symposium considers recent progress in laser-assisted additive fabrication (SLS, SLM), laser and intense light applications in printed electronics, laser-based nanofabrication, nano-LIPSS formation, laser lift of biological materials and systems and more emerging techniques such as laser synthesis of nanoparticles in liquids. Thus, it offers a unique opportunity for researchers from Europe and around the world to discuss their results in a friendly, interactive and engaging atmosphere.

Laser techniques are already facilitating environmental and eco-friendly designs through to the useful processing of photovoltaic cells, photocatalytic materials, thermoelectric materials and devices, micro- and nano-systems for energy storage and conversion. Special attention is paid to these "hot" topics. Contributions on laser interaction with hard, soft and intelligent materials, targeting future applications from nano-energy to biomedicine as well as recent advances in fundamental mechanisms are a highlight. The "Laser Material Processing: From fundamental interactions to innovative applications (LaserMaterInter2020)" provides a platform to establish interdisciplinary international research collaborations between scientists working in the field of laser-matter interaction.

Guest Editors of the Special Issue "Laser Material Processing: From fundamental interactions to innovative applications (LaserMaterInter2020)"

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