

Special Issue

Advances in Laser Welding and Laser Additive Manufacturing

Message from the Guest Editors

With the progress in laser technology in recent decades, manufacturing in the aerospace, biomedical, electronics, and other industries has come to increasingly depend on laser welding and laser additive manufacturing. More and more new materials, manufacturing processes, and post-treatments are being applied to change the microstructure of joints and additive manufacturing constructions, thereby improving mechanical properties and enabling formed components to be applied in harsher working environments. This can be seen in a number of instances: the use of laser shock peening to eliminate residual tensile stress on the surface of additive manufacturing turbine blades; and laser additive manufacturing and welding of shape memory alloys, to take a few examples. With this, studies focusing on these areas are of great significance for the development of laser processing technology. Therefore, this Special Issue will include (but is not limited to) research on the additive manufacturing of metals, ceramics, and composite materials, as well as the welding and post-treatment of related parts. Attention should be paid to the relationship between materials, structure, and properties.

Guest Editors

Dr. Danyang Lin

Dr. Hong Bian

Prof. Dr. Xiaoguo Song

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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