

Special Issue

Trends and Innovations in Laser Welding Techniques

Message from the Guest Editor

Laser welding has been extensively used in various industrial fields such as automobile, aerospace, electronics, and shipbuilding due to its advantages of large welding depth, small heat-affected zone, high productivity, good flexibility, low deformation, etc. Because the energy density of laser beams is very high, the interaction between the laser beam and the welding material is rather strong, especially in the deep penetration welding of a thick plate. The strong interaction may result in process instability, and, thus, the formation of various defects such as porosity, spatter, cracking, and collapse. To increase process stability and suppress defects, understanding the underlying mechanisms and optimizing the welding process are essential. On the other hand, online monitoring and quality inspection of laser welding are essential for high-quality production. This Special Issue focuses on gathering the latest advances in laser welding techniques. The topics include, but are not limited to high-power laser welding, micro-laser welding, laser hybrid welding, and laser welding intelligent monitoring. Both experimental and theoretical papers are welcome.

Guest Editor

Prof. Dr. Ping Jiang

School of Mechanical Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

Deadline for manuscript submissions

closed (15 November 2021)



Applied Sciences

an Open Access Journal
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Impact Factor 2.5
CiteScore 5.5



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

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[applsci](https://doi.org/10.3390/applsci)





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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,
20133 Milano, Italy

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