



## Trends and Innovations in Laser Welding Techniques

Guest Editor:

**Prof. Dr. Ping Jiang**  
School of Mechanical Science  
and Engineering, Huazhong  
University of Science and  
Technology, Wuhan 430074,  
China

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### Message from the Guest Editor

Dear Colleagues,

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.





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## Editor-in-Chief

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

## Message from the Editor-in-Chief

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Applied Sciences Editorial Office  
MDPI, Grosspeteranlage 5  
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