Special Issue

Laser Processing Techniques for Metallic Materials

Message from the Guest Editor

Lasers have established themselves as transformative tools in the processing and engineering of metallic materials. Their ability to deliver highly concentrated energy with exceptional precision has enabled a wide range of advanced manufacturing and surface engineering applications. The interaction of lasers with metals allows not only shaping and joining but also the modification of surface properties, thereby creating components with enhanced durability, functionality, and performance. As industries such as aerospace, automotive, biomedical, and energy increasingly demand lightweight, sustainable, and high-performance metallic systems, laser-based technologies continue to play a vital role in addressing these challenges. Topics of interest include, but are not limited to, the following:

- **Laser surface modification and glazing**
- **Laser cutting and drilling**
- **Laser joining and welding**
- **Laser cleaning and marking**
- **Laser-based additive manufacturing**
- **Fundamentals of laser–metallic materials interaction**

This Collection provides a platform for disseminating cutting-edge research and industrial practices in laser-enabled metallic materials.

Guest Editor

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Deadline for manuscript submissions

31 May 2026

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/255457

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About the Journal

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editor-in-Chief

Prof. Dr. Yong Zhang
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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.7 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).

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