Special Issue

Friction Stir Welding and Processing of Dissimilar Materials

Message from the Guest Editor

Metal-based structures are produced using various joining techniques. This includes fusion- and friction-based techniques. The latter are the most preferred since they do not produce fumes during their operation and are categorized as green technology. They are classified into two major classes, i.e., friction welding and friction stir welding. This Special Issue seeks submissions that deal with the joining and processing of dissimilar materials.

This Special Issue will consider original papers covering the following areas:

- Repair of dissimilar joints using friction-based techniques;
- Experimental and numerical modeling of friction-based techniques;
- Effects of processing parameters on different properties of dissimilar joints;
- Correlation between microstructure, tribological, and mechanical properties of dissimilar joints;
- Optimization of fabrication parameters for friction-based techniques;
- Parameters affecting mechanical and tribological properties of structures manufactured using dissimilar materials.

Guest Editor

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Deadline for manuscript submissions

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About the Journal

Message from the Editorial Board

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.

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).

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