# Special Issue

# Modeling and Simulation of Welding Process

## Message from the Guest Editor

Dear colleagues,

The modeling and simulation of welding processes is an important area of research and engineering that involves the development of mathematical models and computer simulations to predict and analyze the behavior of materials during welding. It can provide valuable insights into the behavior of materials during welding, and improve the understanding and performance of welding processes. This can lead to the development of more efficient and effective welding processes, which can reduce costs and improve the quality and durability of welded structures. Nonetheless, the complexity of welding processes, with high non-linearities, multi-physics phenomena makes it challenging to develop accurate finite element models. Furthermore, the lack of comprehensive and reliable experimental data presents a significant challenge.

In this Special Issue, we welcome articles that focus on numerical modeling and simulation of the welding process for dissimilar materials or high-strength steel materials, as well as the investigation of welding process signals. We encourage the use of numerical model simulation results to optimize process parameters and attain high-quality welded joints.

## Guest Editor

Dr. Kang Zhou

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## Deadline for manuscript submissions

closed (31 December 2023)

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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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