Special Issue

Modeling, Simulation and Experimental Studies in Metal Forming

Message from the Guest Editors

Currently, new forming processes are constantly emerging, and modeling/simulation plays an important role in the research into metal forming. In-depth research into the deformation mechanism, microstructure evolution, stress and strain, shape, defects, damage, and fracturing during metal forming is needed through experimental or multi-scale modeling/simulation. The goal of this Special Issue is to publish original, important, and well-developed research papers that focus on modeling/simulation and experiments in metal forming. In this Special Issue, we welcome the latest research on metal forming. Appropriate topics include but are not limited to the following: sheet metal forming, forging, extrusion, drawing, rolling, or special forming processes and numerical simulations (the finite element method, cellular automaton, the phase field method, etc.); microstructure evolution and control; constitutive behavior; the mechanical properties of deformed materials; and the optimization of process conditions.

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Deadline for manuscript submissions

closed (25 March 2025)



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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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