

## Special Issue

# Numerical Modelling of Metal-Forming Processes

### Message from the Guest Editors

Metal forming is a widespread manufacturing technology used to shape metal workpieces into components with added value through plastic deformation. By simulating metal-forming processes using computational techniques, numerical modelling provides a more efficient, cost-effective, and environmentally friendly approach for process optimization, while also driving innovation in material design, tooling, and process mechanisms, contributing to significant advancements in the field of metalworking and manufacturing. This Special Issue aims to provide novel contributions to the field of metal forming with emphasis on numerical modelling. Research areas may include (but are not limited to) the following:

- Finite element analysis of metal-forming processes;
- New material constitutive models;
- Thermo-mechanical coupling involving heat generation and/or phase transformation;
- Friction and contact modelling;
- Multiscale modelling;
- Formability analysis for predicting defects;
- Simulation of hybrid processes involving additive manufacturing or joining processes;
- Mesh-free or adaptive meshing methods.

### Guest Editors

Dr. João Pedro da Fonseca Matos Pragana

Dr. Carlos Alves da Silva

Dr. Ivo Manuel Ferreira de Bragança

### Deadline for manuscript submissions

closed (30 April 2025)



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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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### Editors-in-Chief

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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).