Special Issue

Influence of Mechanical Treatment on Casting Alloys and Components

Message from the Guest Editor

Wrought materials have dominated the arena for applications subjected to fatigue and for applications where ductility is a critical feature. New requirements arising from new demands will ask more of components in terms of both design freedom and part performance, particularly improved strength, ductility and fatigue performance combined with significant weight reduction and component function integration. The only process capable of enough design freedom and costeffectiveness is casting but its fatigue performance is limited. The combination of hybrid processing including a casting process with subsequent deformation of the part either on the surface alone or a heavier deformation targeting pore closure and deformation. The current Special Issue targets the relationship between processmicrostructure and workability as well as the end result with an understanding of how the material final properties depend on the post-casting deformation process. This includes full forging of castings, local upsetting with cross-section deformation as well as more gentle deformation not resulting in deformation of a cross section. This latter also includes deep tolling and peening processes.

Guest Editor

Prof. Dr. Anders E. W. Jarfors

Department of Materials and Manufacturing, School of Engineering, Jönköping University, 55111 Jönköping, Sweden

Deadline for manuscript submissions

closed (30 December 2019)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/20773

Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/ metals





Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



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

Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

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).

