Special Issue

Experimental and Numerical Investigation of Compression Behavior in Steel Structures

Message from the Guest Editors

Steel is one of the most widely used materials in the product manufacturing and construction industries. Such applications range from low-carbon sheet steels for automotive applications, through structural steels for bridges, buildings, etc., to stainless steels, high-alloy specialty steels, and tool steels. Furthermore, in many products the compressive behavior must be taken into consideration as a design loading requisite. This Special Issue aims to cover recent progress and new developments in experimental and numerical studies of compressive behavior of steel structures and structural parts. Topics of interest include, but are not limited to:

- mechanical behavior
- experimental characterization
- constitutive modelling
- numerical simulation
- industrial applications
- construction and infrastructure applications
- life-cycle cost assessment and optimization
- crashworthiness
- topology optimization
- innovative design solutions
- fatigue and fracture

Guest Editors

Dr. Nuno Ricardo Maia Peixinho

Department of Mechanical Engineering, School of Engineering, University of Minho, 4800-058 Guimarães, Portugal

Dr. Maria Isabel Brito Valente

Department of Civil Engineering, School of Engineering, University of Minho, 4800-058 Guimarães, Portugal

Deadline for manuscript submissions

closed (20 February 2025)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/160444

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 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.

Editors-in-Chief

Prof. Dr. Hugo F. Lopez

Department of Materials Science and Engineering, College of Engineering & Applied Science, University of Wisconsin-Milwaukee, 3200 N. Cramer Street, Milwaukee, WI 53211, USA

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).