# **Special Issue**

# Microstructure and Mechanical Properties of Aluminum Alloy and Its Composites by Additive Manufacturing

## Message from the Guest Editor

Aluminum alloys include many kinds of series, which have important application prospects. Metal additive manufacturing has great advantages in forming aluminum alloy parts, because it can realize the integration of material preparation and parts forming. At present, there are many studies on aluminum alloy prepared by metal additive manufacturing, but most of them focus on Al-Si casting aluminum alloy. This kind of alloy is easy to form under the action of lasers, but its mechanical properties and corrosion resistance are not high. Traditional 2XXX series, 3XXX series, 7XXX series, etc. aluminum alloys face many difficulties in laser additive manufacturing because of low-laser absorptivity or stress cracking caused by various factors after laser irradiation. This Special Issue is focused on the design of aluminum alloy for laser additive manufacturing process, process optimization, and the control of microstructure and performance. Through the publication of this Issue, we hope to form a series of professional aluminum alloy design and preparation for metal additive manufacturing.

## **Guest Editor**

Prof. Dr. Bo Song

School of Materials Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

## Deadline for manuscript submissions

closed (31 May 2022)



## Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/77243

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).

