Special Issue

Laser Powder Bed Fusion Process in Alloy Manufacturing

Message from the Guest Editor

Laser Powder Bed Fusion (LPBF), also generally referred to Selective Laser Melding, is a 3D metal printing method in which 3D components are fabricated by means of a high-energy laser beam to fuse the predeposited metal powder. LPBF has been increasingly used in many sectors of industry due to its ability to produce near-net shape parts directly from a CAD model and hence offering robust design flexibility without the limitations of conventional manufacturing methods that include a series of manufacturing processes, more material consumption, higher cost and energy. LPBF is the subject of intensive scientific research, particularly in the areas of manufacturing strategies and their effect on LPBF produced parts.

The aim of this Special Issue is to highlight recent innovations introduced in the Laser Powder Bed Fusion process and their impact on the mechanical and/or material behavior of metals and alloys by experimental techniques and/or modelling at all length scales down to nanostructures.

Scholars are encouraged to submit research papers and reviews to this Special ilssue.

Guest Editor

Dr. Mehmet E. Kartal University of Aberdeen, Aberdeen, United Kingdom

Deadline for manuscript submissions

closed (31 December 2021)



Metals

an Open Access Journal by MDPI

Impact Factor 2.5 CiteScore 5.3



mdpi.com/si/50347

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).