Special Issue

Mechanics Analysis and Predictive Modeling of Engineering Materials Involved in the Manufacturing of Parts and Components

Message from the Guest Editor

This Special Issue delves into the intricate mechanics analysis and predictive modeling of engineering materials, emphasizing the multifaceted processes such as heating, solidification, deformation, addition, removal, and accretion pivotal in the manufacturing of parts and components. This compilation features cutting-edge research employing advanced experimental techniques like high-speed imaging, in situ microscopy, and diffraction methods such as X-ray and neutron diffraction. Alongside these experimental approaches, sophisticated numerical models, including finite element analysis (FEA), computational fluid dynamics (CFD), and methods for investigating microstructures and phases, such as electron backscatter diffraction (EBSD), are extensively covered. Additionally, this Special Issue explores the burgeoning realm of data-driven numerical models, leveraging machine learning algorithms and artificial intelligence to enhance predictive accuracy and inform data-driven decision-making processes. This integration exemplifies the innovative approaches to optimizing material behavior and manufacturing efficiency.

Guest Editor

Dr. Fatih Uzun
Department of Engineering Science, The University of Oxford, Oxford, UK

Deadline for manuscript submissions

closed (31 December 2025)

Journal of Manufacturing and Materials Processing

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 5.2

mdpi.com/si/206078

Journal of Manufacturing and Materials Processing
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
jmmp@mdpi.com

mdpi.com/journal/jmmp

Journal of Manufacturing and Materials Processing

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 5.2

mdpi.com/journal/jmmp

MDPI

About the Journal

Message from the Editor-in-Chief

Journal of Manufacturing and Materials Processing (*JMMP*)(ISSN 2504-4494) is a new MDPI peer-reviewed, open access venue with a focus on the scientific fundamentals and engineering methodologies of manufacturing and materials processing. We offer an online platform facilitating effective exchange of innovative scientific and engineering ideas and the dissemination of recent, original, and significant research and developmental findings. On behalf of the Editorial Board, I extend an invitation to our scientific and engineering colleagues to contribute high-quality, innovative, and ground-breaking research articles to *JMMP.*

Editor-in-Chief

Prof. Dr. Steven Y. Liang
George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0405, USA

Author Benefits

High Visibility:

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

Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q2 (Mechanical Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.9 days after submission; acceptance to publication is undertaken in 3.5 days (median values for papers published in this journal in the second half of 2025).