

## 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

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](https://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](mailto:jmmp@mdpi.com)

[mdpi.com/journal/](https://mdpi.com/journal/)

[jmmp](https://jmmp)





# Journal of Manufacturing and Materials Processing

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 5.2



[mdpi.com/journal/  
jmmp](https://mdpi.com/journal/jmmp)



## 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, CAPIus / 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 16.2 days after submission; acceptance to publication is undertaken in 3.6 days (median values for papers published in this journal in the first half of 2025).