Special Issue

Control of Materials' Microstructure in Additive Manufacturing Processes

Message from the Guest Editors

Additive manufacturing (AM) has revolutionized the production of advanced materials, offering unprecedented design freedom and customization. However, the mechanical properties, durability, and overall performance of AM components are intricately linked to their microstructure, which is influenced by a multitude of processing parameters. Simultaneously, the integrity and safety of AM structures in real-world applications require advanced structural health monitoring (SHM) methods to detect, predict, and mitigate potential failures. Optimizing and controlling the microstructure in AM is essential to solving its full potential, ensuring structural integrity, and meeting the demands of critical applications in the aerospace, automotive, biomedical, and energy sectors.

This Special Issue aims to bridge these two pivotal aspects—microstructural optimization and SHM—to promote innovative solutions for improving AM processes and enhancing the lifecycle performance of AM structures.

We are pleased to invite you to contribute your cutting-edge research and reviews to this Special Issue.

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Deadline for manuscript submissions

31 March 2026

Journal of Manufacturing and Materials Processing

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 5.2

mdpi.com/si/228886

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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

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