Special Issue

Metal Additive Manufacturing: Processes, Materials, Properties, and Challenges

Message from the Guest Editor

Metal additive manufacturing (AM) is revolutionising the manufacturing landscape by offering unparalleled design flexibility, reduced material waste, and the ability to produce complex geometries. The application of metal AM spans a wide range of industries, including aerospace, automotive, and biomedical, where the technology enables the creation of high-performance, customised parts that meet rigorous standards. This Special Issue aims to showcase pioneering research and comprehensive reviews on the latest advancements. We seek to explore innovations in process optimisation, material development, and post-processing techniques. Additionally, we invite contributions that address key challenges such as residual stresses, defect mitigation, and quality control. By bringing together insights from leading researchers and practitioners, this Special Issue aspires to advance knowledge and foster innovation in metal additive manufacturing.

- additive manufacturing
- process optimisation
- materials characterisation
- mechanical properties
- residual stresses
- defects and quality control
- post-processing techniques
- industrial applications

Guest Editor

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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.

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