



Additive Manufacturing of Metallic Materials: Structures, Properties, and Methodologies

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Deadline for manuscript
submissions:

closed (31 August 2022)

Message from the Guest Editors

This Special Issue aims at providing new ideas and presenting latest advances on additive manufacturing (AM) of metallic materials, with a particular emphasis for novel structures, properties, methodologies, and applications.

Representative processes of metal AM include powder bed fusion, directed energy deposition, binder jetting, and sheet lamination and will be further developed toward hybrid additive and subtractive manufacturing, multiple-energy-source-aided manufacturing, and large-scale manufacturing techniques in the future. The development of metallic materials and processes may also enable the achievement of multiscale, multifunctional, and hierarchical structures with unusual and remarkable properties.

Potential topics within this scope include but are not limited to:

- Multiscale and multiphysical field numerical simulation for metal AM;
- Design and modification of metallic materials in AM;
- Design and manufacture of lightweight metallic structures in AM;
- Process in situ monitoring and intelligent learning in metal AM;
- New testing and evaluation methods for component performance from metal AM;
- Recent advances in the application of metal AM.





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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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Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (*Metals and Alloys*)

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