Special Issue

Materials, Processing, and Post-treatment for Metal-Based Additive Manufacturing

Message from the Guest Editors

Recently, additive manufacturing (AM) has been widely investigated because of its advantages in the fabrication of components with irregular and complex shapes. Therefore, AM has been applied to fabricate components in the aerospace, medical and automotive fields. However, the rapid fusion and solidification of feeding materials during AM always lead to the formation of metallurgical defects and influence the mechanical properties. In fact, the materials, processing parameters and post-treatments are the main factors of AM fabrication that could affect the microstructure and mechanical properties of as-fabricated components. Therefore, the exploration on the relationship between them is helpful for further improving AM fabrication. The main aim of the Special Issue is to discuss the effects of the materials, processing and post-treatments of AM on the microstructure and mechanical properties of the components. Research on AM powder or wire, novel AM processing, post-treatments, simulation and mechanism analyses, laser cladding and remanufacturing technology, laser joining, and other related topics are welcome.

Guest Editors

Prof. Dr. Liyuan Sheng

Prof. Dr. Hui Zhao

Prof. Dr. Junke Jiao

Deadline for manuscript submissions

closed (20 April 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/154582

Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)