

Special Issue

Property Enhancement of Laser Powder Bed Fused Alloy

Message from the Guest Editors

Laser Powder Bed Fusion (LPBF) is a revolutionary technique for producing intricate metal components. This method offers exceptional design flexibility and efficient material utilization, making it increasingly prevalent in the aerospace, biomedical, and automotive industries. This Special Issue will comprehensively review recent advancements, unresolved challenges, and emerging opportunities associated with LPBF technology. It will explore the fundamental principles and practical applications of LPBF from multidisciplinary perspectives, including materials science, laser-material interactions, in situ monitoring, and process engineering. Particular emphasis will be placed on experimental investigations, data-driven approaches, and numerical simulations aimed at enhancing the mechanical properties, wear resistance, corrosion resistance, microstructure control, and overall forming quality of manufactured parts. Additionally, contributions on the use of post-processing techniques to refine the surface characteristics or improve the part functionality of additively manufactured components are highly encouraged.

Guest Editors

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Deadline for manuscript submissions

20 May 2026



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



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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.

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