Special Issue

Advances in Additive Manufacturing: Microstructure, Toughness and Mechanical Properties

Message from the Guest Editors

Additive Manufacturing (AM) has emerged as a transformative technology enabling unprecedented design freedom, material efficiency, and customization across diverse engineering sectors. This Special Issue seeks original, high-quality research contributions that deepen the understanding of the complex interrelations between process parameters, microstructural evolution, and resultant mechanical behavior in AM-fabricated materials and components. We invite comprehensive studies exploring advanced characterization techniques, microstructural control, toughening mechanisms, and mechanical property optimization in metallic, polymeric, ceramic, and composite systems produced via additive methods. Contributions addressing modeling and simulation of microstructure–property relationships, novel post-processing strategies, in situ monitoring, and validation through experimental mechanical testing are particularly encouraged. Researchers engaged in fundamental and applied aspects of additive manufacturing, materials science, and mechanical engineering are warmly invited to submit manuscripts that push the frontiers of AM technology.

Guest Editors

Dr. Diego Vergara
Dr. Edwan Anderson Ariza Echeverri
Dr. Antonio Del Bosque

Deadline for manuscript submissions

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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.

Editor-in-Chief

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