Special Issue

Multifunctional Materials in Additive Manufacturing: Challenges and Opportunities

Message from the Guest Editors

Recent advancements in additive manufacturing are enabling the creation of multifunctional materials that incorporate diverse properties within a single component. These developments are unlocking applications previously deemed impossible with traditional manufacturing methods, offering potential for localized tuning of mechanical, thermal, electrical, and chemical properties among other functionalities in complex geometries. In this Special Issue, original research articles and reviews are welcome. Topics of interest include the challenges of integrating dissimilar materials such as metals, ceramics, and polymers, engineered composite systems that combine material families, and meta-structured single-material designs that achieve multifunctionality. Research on process optimization, interfacial compatibility, structural integrity, and computational design for multifunctional materials is also encouraged. Additionally, we welcome studies addressing sustainability concerns and opportunities, such as material efficiency, waste reduction, recycling strategies, and the environmental benefits of multifunctional designs. We look forward to receiving your contributions.

Guest Editors

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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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