Special Issue

Advanced Composite Materials for Multifunctional Applications: Design, Fabrication, and Performance Optimization

Message from the Guest Editor

This Special Issue will bring together cutting-edge research on the development, processing, and application of advanced composite materials. We welcome original research and review articles that explore novel composite designs, innovative fabrication methods, performance characterization, and computational modeling approaches. Topics of interest include, but are not limited to, the following:

- Innovative Composite Design and Architectures;
- Advanced Manufacturing Techniques for Composites (e.g., 3D printing, additive manufacturing, nanostructured composites);
- Multifunctional and Smart Composites (e.g., self-healing, shape memory, sensing, and actuation);
- Lightweight and High-Strength Structural Composites;
- Nano- and Micro-Scale Reinforcements for Enhanced Properties;
- Computational Modeling and AI-Driven Design of Composite Materials;
- Sustainable and Green Composite Materials;
- Performance Optimization in Extreme Environments (e.g., high temperature, radiation, corrosive conditions).

Guest Editor

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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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