Special Issue

Advanced Biomimetic Materials: Manufacturing and Mechanical Properties

Message from the Guest Editors

In recent years, advanced biomimetic materials have emerged as a transformative approach in materials science, integrating nature-inspired hierarchical structures and dynamic mechanical properties to address complex engineering challenges. By emulating the multiscale architecture of biological systems, researchers leverage advanced manufacturing techniques to create materials with exceptional toughness, adaptability, and functionality. The cross-disciplinary integration of mechanics, biology, and materials science drives innovation in load-bearing implants and adaptive systems. Emerging research directions focus on self-healing mechanisms and stimuli-responsive behaviors. We welcome original research articles and reviews on topics related to biomimetic materials. We wish to contribute to the subject of the article, including but not limited to the following topics:

- Synthesis and characterization of biomimetic materials;
- Advanced materials: metals, composites, and polymers;
- Design of biomimetic structures;
- Multiscale manufacturing;
- Advanced surfaces and coatings;
- Additive manufacturing;
- Mechanical

Guest Editors

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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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