

Special Issue

Advances in Functional Metamaterials

Message from the Guest Editor

This Special Issue is devoted to recent developments in the field of artificial materials and their applications, ranging from compositions and structures, such as the orientation, arrangement, geometry, size, and shape, to smart properties, including the manipulation of electromagnetic waves by blocking, absorbing, enhancing, or bending waves. Over the past 20 years, techniques for producing nanostructures have matured, resulting in a wide range of ground-breaking solutions able to control light and heat on very small scales. Some areas of advancement that have contributed to these techniques are photonic crystals, nanolithography, plasmonic phenomena, and nanoparticle manipulation. From these advances, a new branch of novel material science has emerged—metamaterials. Metamaterials have recently been embedding novel quantum materials such as graphene, dielectric nanostructures, and, as metasurfaces, surface geometries and surface waves, while also embracing new functionalities such as nonlinearity, quantum gain, and strong light-matter coupling.

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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