Special Issue

Dielectric Nanophotonics and Their Applications

Message from the Guest Editors

In recent years, the photonics and plasmonics communities have aimed to expand their nano-optics toolbox in order to improve light confinement capabilities of nanomaterials and enhance light-matter interactions at the nanoscale. In particular, nanostructured high-refractive index dielectrics have demonstrated the ability to highly confine electric and magnetic fields to subwavelength volumes and tailor light dispersion, while displaying ultralow absorption compared to metals—when excited below their bandgap energies. As such, new and interesting applications are expected to emerge by exploiting this type of technology. This Special Issue of Nanomaterials aims to highlight articles reporting on novel properties and phenomena of dielectric nanophotonics. It focuses on the fabrication, optical characteristics, and prospective nanophotonic applications of nanostructured dielectrics in the forms of reviews, communications, and academic articles.

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometerscale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, Nanomaterials, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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