Special Issue

Semiconductor and Nanophotonic Devices

Message from the Guest Editor

Nanophotonics, which combines the latest advances in nanotechnology, nanofabrication, and nanostructured materials, has become in the past few years a key area of research and applied technology from the physics, material science, and engineering fields. As a result, semiconductor and nanophotonic devices as parts of integrated systems may provide essential components in miniaturized optical systems, such as for communication, computing, storage, sensing, metrology, quantum, and neuromorphic applications. This Special Issue aims at collecting a compilation of articles that demonstrate the continuous effort in developing advanced semiconductor and nanophotonic devices capable of generating, detecting, modulating, processing, and manipulating light at subwavelength scales, at ultrafast speeds, and at ultralow energy levels. Importantly, this Special Issue covers a variety of physical phenomena that are now being discovered in nanophotonic structures, nanomaterials, and devices as the scales of light–matter interaction becomes comparable to the atomic scale.

Guest Editor

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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 nanometer-scale 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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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