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Plasmonic Nanoresonators

Guest Editor:

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Message from the Guest Editor

Design and application of plasmonic nanoresonators is an inspiring, beautiful, and rapidly developing research area. All phenomena of photonic resonators have been rediscovered, and analogous theoretical approaches have been developed, thus initializing novel classes of applications. The uniqueness of nanoresonators is that the large local electromagnetic-field enhancement is accompanied by a small mode volume, which allows improving fluorescence due to the Purcell effect and realizing permanent modification of materials in nanolithography. Non-classical light–matter interaction phenomena including strong coupling and collective emission as well as lasing have unique characteristics originating from the involved plasmonic modes. Thus, it becomes possible to realize all-optical signal processing, to catch and monitor individual as well as interacting molecules in intracavity sensing, and to localize them by overcoming the diffraction limit in imaging. Moreover, light–matter interaction phenomena can be completely controlled in space and time simultaneously in predesigned nanoresonators.

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Editor-in-Chief

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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.

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