



Applications of Nanomaterials in Plasmonic Sensors

Guest Editor:

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Message from the Guest Editor

Plasmonic sensors (PS) have been actively used for biochemical analysis, medical diagnostics, and environmental monitoring for more than three decades. The operation principle of plasmonic sensitive elements (SE) rests on the resonant nature of excitation of surface plasma oscillations, with the resonance conditions depending strongly on the refractive index of the ambient medium. However, graphene-based composites in recent years are increasingly considered not only from the point of view of enhancing classical plasmon refractometer schemes, but also as an independent basis for building ultra-sensitive measuring devices. This is due to the unique properties of this 2D material: high mobility of charge carriers, the ability to guide SPP in a wide spectral range with very low absorption losses, the ability to control optical properties, large surface area, remarkable mechanical strength, chemical inertness, and intrinsic biocompatibility.

This Special Issue is devoted to the current trends in the use of nanomaterials in plasmonic sensors, including but not limited to the range of topics.





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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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