

Special Issue

Application of Novel Plasmonic Nanomaterials on SERS

Message from the Guest Editor

Surface-enhanced Raman scattering (SERS) is a topic of research that was discovered in the mid-1970s.

However, it is in this last decade that a very significant explosion of the fabrication of highly sensitive SERS substrates has occurred using novel designs of plasmonic nanostructures (e.g., nanoparticle self-assembly), and new plasmonic materials, such as bimetallic nanomaterials (e.g., Au/Ag) and hybrid nanomaterials (e.g., Metal/Semiconductor) have been fabricated via different physical or chemical techniques. These novel plasmonic nanomaterials can allow a better confinement of the electric field and thus induce an enhancement of the SERS signal (electromagnetic contribution) by adjusting, for instance, the size, shape, periodicity, nanoparticle self-assembly, and nanomaterials' nature. These nanomaterials can also enhance the charge transfer (electrons; chemical contribution) to increase the SERS signal. Thus, this Special Issue is dedicated to introducing recent advances and insights in these novel plasmonic nanomaterials applied to the fabrication of highly sensitive SERS substrates for chemical and biological sensing.

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.

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