

Special Issue

Metallic Nanostructured Materials for Environmental and Biosensing Application

Message from the Guest Editor

This Special Issue aims to highlight the highly interdisciplinary character of the selective environmental and bio-sensing of (bio)molecules (e.g., pollutants, biomarkers), heavy metals, and ions using functionalized metallic nanostructured materials. This major research area involves chemistry, biology, engineering, and material science. This Special Issue is focused on noble metal nanomaterials, especially gold and silver, which exhibit unique and tunable plasmonic properties as a function of their size, shape, and dielectric layer. This allows us their utilization as sensors based on colorimetric assays, surface-enhanced vibrational spectroscopies (e.g., SEF, SERS, SERRS), and Rayleigh scattering spectroscopies (e.g., dark-field), among others. Finally, the Special Issue is focused also on the combination of different metallic nanostructures that provide specific properties (e.g., magnetic, electric, plasmonic and mechanicals), which opens the possibility of the enhancement of flexible handling and efficient analytical capabilities of these hybrid nanomaterials.

Guest Editor

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About the Journal

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.

Editor-in-Chief

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