

Special Issue

Advanced Nanomaterials for Sensing

Message from the Guest Editors

Advanced nanomaterials (organic or inorganic), such as graphene, 2D carbides and nitrides (MXenes), metal–organic framework (MOF), nano-heterostructures (core–shell, 3D branch-like, etc.) and so on, represent an ultrasensitive platform for developing next-generation sensing devices. In particular, their unique functional properties, such as high surface-to-volume ratio, porosity and exceptional physical/chemical properties, allow the selective detection of various chemical analytes, such as VOCs, environmental pollutants, biomolecules, etc. This Special Issue focuses on the synthesis, characterization and exploration of the functional properties of these advanced nanostructured materials for sensing applications. Moreover, the reports on novel strategies (surface functionalization, metal particle decorations, doping, etc.) that are used to enhance the performance of traditional sensing materials, such as nanostructured metal oxides, are also welcome. Keywords: gas sensors; biosensors; optical sensors; metal oxides; nanostructures; graphene; metal–organic framework (MOF); MXenes; heterostructures; core–shell structures; self-assembly

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