Special Issue

Recent Advances in Functional Metal Oxide/Metal Nanocomposites

Message from the Guest Editor

Functional oxides, including perovskite-type and transition metal compounds, possess a wide range of physical properties, including peizoelectricity, spin–orbit coupling, colossal magnetoresistance, and superconducting properties, that are of signficance to the development of next-generation microelectronics, optoelectronics, memrister and sensing devices. Using advanced fabrication techniques, functional oxides can be integrated with metals, forming nanocale composites such as superlattices, nanoparticles-in-matrix, and nanowire/nanopillar-in-matrix; this enables the generation of exotic multifunctionalities that are tunable, including localized surface plasmon resonance and magneto-optical coupling, and multiferroic properties that can be controlled by changing the density or aspect ratio of the nanopillars. This Special Issue welcomes papers that present recent advances in functional metal oxide/metal nanocomposites, including fabrication, the characterization of structure and properties, and the practical application of devices.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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