Special Issue

Application of Emerging Materials for Advanced Imaging and Sensing

Message from the Guest Editors

The introduction of novel materials towards specific imaging and sensing applications is inescapable. The benefits obtained by many new materials are simply unparalleled to silicon and co. Optoelectronic devices and sensors have seen a drastic potential increase with the introduction of compound semiconductors (e.g., GaAs, InP, and GaN), while continued materials innovation with two-dimensional (2D) materials such as graphene, transition-metal dichalcogenides (TMDs), phosphorene, and perovskites are paving the way for the future. With the introduction of new and emerging materials, we no longer benefit from decades of experimental data collected on silicon. Engineers will have to make decisions at several scales and stages, including the choice of material, the device structure and design, and interconnection and packaging. Emerging materials which can be efficiently applied in high-performance sensing and imaging technologies are highly sought after. Materials will need to be investigated for their applicability for use in many types of sensor designs, including those based on field effect transistors (FETs), chemiresistors, or optical properties.

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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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