Special Issue

Advanced Materials for Heterojunction

Message from the Guest Editor

The use of conventional semiconductors for heterojunction-based electronic devices is facing a bottleneck after the urgent requirement of the market to reduce the dimensions below the quantum limit. Since the first synthesis of graphene, research developed towards the possible use of new materials that are able to substitute Si in most devices. At the same time, new phenomena, such as Majorana Fermions, superconductivity and low dimensional related effects, emerged at the interface between different materials opening new and exciting perspectives for fast electronics. Very recently, new materials have demonstrated their feasibility to substitute or integrate Si for heterojunction-based electronic devices. Their distinguished characteristics are a simple mechanism of growth down to few atomic layers, integration with traditional semiconductors, optical properties which overcome the limit of the Si absorption band, high carrier mobiltity at room temperature, easy doping, possibility to be deposited on different substrates, possible flexibility, etc.

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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