Special Issue

Functional Semiconducting Nanomaterials for Sustainable Development

Message from the Guest Editors

Nowadays, functional semiconducting nanomaterials, have played an important role in achieving a sustainable society. First of all, for clean, renewable energy harvest, storage, and utilization, semiconducting nanomaterials have exhibited substantial importance. Many cutting-edge photocatalysts have been found that can effectively produce hydrogen and other fuels under solar irradiation. Compound semiconductor nanomaterials, such as metal dichalcogenides, phosphides, and oxides, can be used for efficient electrochemical/photophysical energy storage and conversion. In terms of environmental protection, semiconductor nanomaterials can be used to capture and catalytically decompose pollutants in air and water. Moreover, the quick development of nanomedicine has also aroused intense interest in the use of semiconductor nanomaterials for health-related outcomes, such as anti-tumor, anti-bacterial, bioimaging, etc. It is clear that the emerging functional semiconducting nanomaterials will provide powerful tools to study and understand nature at a new level, and will solve the challenges we are facing in the energy, environment, and health fields.

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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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