Special Issue

Preparation and Characterization of Thin Films and Its Applications in Renewable Energy

Message from the Guest Editor

Thin film materials have attracted much attention in recent years. These materials have been produced by different methods, such as chemical vapor deposition (CVD), physical vapor deposition (PVD), sol-gel coating, spray pyrolysis, atomic layer deposition (ALD), chemical bath deposition (CBD), and electroplating. Novel coating methods, such as sol-gel coating and CBD methods, lead to the production of nanoscale materials, which have enhanced surface properties that are essential in energy harvesting and storage. Thin film materials have been investigated for the application of many conventional devices, such as solar cells, photo electro-electro-chemical cells, supercapacitors, thin film batteries, electron emission devices, and photo-catalysts. In addition, novel thin film-based devices can be designed and fabricated for energy harvesting and storage applications. We are interested with the designing, synthesis, characterization, and fabrication of various devices using thin film materials. Theoretical studies, such as new theories that can be used to explain existing material/device phenomena and modeling of device functionalities, are also interested.

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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