Special Issue

Nanomaterials in Hydrogen Sustainable Energy

Message from the Guest Editors

Renewable hydrogen has emerged as a key vector in the transition to low-carbon energy systems, and nano-engineering has the potential to address the technological and scientific challenges associated with its adoption. From nanoscale catalysts and new physics-based processes that enhance the efficiency of hydrogen generation to nanomaterials that improve hydrogen storage and fuel cell performance, contributions in this field are pushing the boundaries of what is technologically and economically feasible. Renewable hydrogen's role in greenhouse gas conversion, green synthetic fuels, nanomaterial synthesis, and waste treatment and its incorporation into energy-intensive industrial processes constitute additional subjects of interest. Submissions are welcome on a broad range of topics, including, but not limited to:Energy-efficient improvement technologies for renewable hydrogen; Nanocatalysts for hydrogen evolution and oxygen evolution reactions; Nanomaterials for high-density and safe hydrogen storage; Newly engineered electrodes for advanced fuel cells; Theoretical modelling and simulation of hydrogen systems.

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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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