Special Issue

Novel Ceramic Materials for the Energy Transition

Message from the Guest Editor

The worldwide threat, high energy consumption, has to be tackled in different fields, but “energy transition” is essential. In that sense, new materials are demanded to increase the efficiency of power generation systems, to develop novel environmentally friendly approaches, and to reduce or even eliminate the carbon footprint during processing. Ceramics play a determinant role since they present high chemical stability under aggressive environmental conditions to increase the operating temperature, and consequently the overall efficiency. Furthermore, they have low density, which is critical for transportation and a unique combination of ionic and electronic conductivities. This Special Issue embraces research on the processing, characterization, and properties of advanced ceramics for energy transition, including high-temperature materials (such as ceramic matrix composites, max phases, ultra-high temperature ceramics, and thermal barrier coatings), Li- and Na-batteries, solid oxide fuel cells, gas separation membranes, CO2 capture, electrolysis, hydrogen production and storage, solar energy, photovoltaics, and nuclear fusion among others.

Guest Editor

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Message from the Editor-in-Chief

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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