

Special Issue

Nanomaterials for Solid Oxide Fuel Cells

Message from the Guest Editor

Solid oxide fuel cells (SOFCs) are all-solid state devices converting the chemical energy. Although many materials for SOFCs have been developed over past years, challenges of cost and limited durability remain, which are linked to surface properties such as bad interface between the different materials or between materials and gaseous atmosphere, but also to bulk properties of the materials, such as ion diffusivity, electronic conduction and electrocatalytic activity, which are governed at the nano-scale level. The purpose of the present issue is to collect state-of-the art work resulting in an increase electrode materials properties (ionic and electronic conductivity, electro-catalysis, chemically compatibility towards gases, thermal stability or porosity, etc.) or electrolyte and interconnects properties (ionic conductivity, chemical and mechanical compatibility with the other components of the cell, sintering ability, etc.). Review articles or research papers dealing with improvements of these compounds at the nano-structured levels are solicited and welcomed.

Guest Editor

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

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