Special Issue

Nanocomposites in Dye-Sensitized Solar Cells: Materials, Challenges, and Future Prospects

Message from the Guest Editor

Dye-sensitized solar cells (DSSCs) have emerged as a promising alternative to conventional photovoltaic technologies, offering a more cost-effective and flexible approach to solar energy harvesting. The integration of nanocomposite materials into DSSCs has played a crucial role in enhancing their performance. This Special Issue aims to explore the recent advances in nanocomposites used in various components of DSSCs, including photoanodes, counter electrodes, dyes, and electrolytes. This Issue will delve into the relevant materials and the challenges in the field, while also discussing future prospects in the design and commercialization of nanocomposite-based DSSCs. It will highlight cutting-edge research, practical applications, and emerging trends that could shape the next generation of solar cells.

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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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