Special Issue

Photoelectrochemical Applications of Quantum Dots and Photofunctional Nanomaterials

Message from the Guest Editors

Quantum dots, a nanometer-level material, not only include semiconductors but also carbon materials, silicon materials, or other non-metallic materials. The quantum confinement effect has driven the development and exploration of quantum dots over the past several decades. The excellent photoelectrochemical properties of quantum dots and photofunctional nanomaterials have attracted widespread attention in the fields of optics, photoelectrochemistry, electronics, catalysis, and biology, which stimulate the related research development and promote many novel directions. With the perspective of quantum dots for our global energy and sustainability challenges in mind, this Special Issue focuses on quantum dots and photofunctional nanomaterials for photoelectrochemical applications, including:

- synthesis and photoelectrochemical properties of functional materials;
- photoelectrochemical catalysis;
- photoelectrochemical energy conversion;
- photofunctional nanomaterials for bioapplications;
- photoelectrochemical devices;
- in situ investigation and analysis of the photoelectrochemical process.

Guest Editors

Prof. Dr. Yang Liu

Prof. Dr. Hui Huang

Prof. Dr. Haitao Li

Deadline for manuscript submissions

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Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

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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
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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