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Colloidal Semiconductor Nanostructures for Light-Harvesting and Beyond

Guest Editor:

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Deadline for manuscript submissions:
closed (20 May 2023)

Message from the Guest Editor

Dear Colleagues,

The scope of this Special Issue is to cover the recent progress and advances in the research on designing colloidal semiconductor nanostructures and their application for light harvesting, e.g., in assemblies for light-driven catalysis or in photovoltaic devices. Reports on synthesis, characterization, device integration, and application will be collected in this issue. Further, insight from spectroscopic investigations on charge-carrier dynamics and computational studies are highly welcome. Potential topics include but are not limited to:

- Synthesis of colloidal nanostructures and functionalization with cocatalysts;
- Generation of nanoparticle/polymer hybrid materials;
- Self-assembly and deposition of layered structures;
- Theoretical studies and modeling;
- Spectroscopic characterization;
- Electrochemical characterization;
- Charge-carrier dynamics;
- Multiple exciton generation;
- Plasmonic effects;
- Device integration.

See more information in https://mdpi.com/si/62282

It is my pleasure to invite you to submit communications, full papers or reviews to this Special Issue.

Dr. Maria Wächtler

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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.

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