Special Issue

Colloidal Quantum Dot Based Electric and Optoelectronic Devices

Message from the Guest Editor

Colloidal quantum dots (QDs) are considered as a rising candidate for flexible and large-scale electronics, as well as next-generation light-emitting devices, because of their unique properties, such as a narrow emission bandwidth, high mobility, and cost-effective solution processing. These optical/electrical properties of colloidal QDs with a core/shell heterostructure are determined by the quantum confinement effect based on the nanocrystal particle size. Many research groups have investigated enhancing device performances using various colloidal QDs compositions and optimized device structures. While the performance of QD-based devices has been upgraded dramatically, a future task will be the substitution of Cd-based QDs for less toxic materials. The main focus of this Special Issue will be to point out the progress on colloidal quantum dots from both synthetic and device application points of view. Research articles, with special emphasis on the results obtained in the last five years, are welcome, as well as review articles on emerging fields. **Keywords:** colloidal quantum dots; photoluminescence; electroluminescence; thin film transistors; photovoltaics

Guest Editor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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