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Colloidal Quantum Dots for Nanophotonic Devices

Guest Editors:

Prof. Dr. Menglu Chen

School of Optics and Photonics,
Beijing Institute of Technology,
Beijing 100081, China

Prof. Dr. Qun Hao

School of Optics and Photonics,
Beijing Institute of Technology,
Beijing 100081, China

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Message from the Guest Editors

Dear Colleagues,

Colloidal quantum dots (CQD) have become an important class of materials with great potential for applications, due to their unique advances of wide tunability of visible-to-infrared emission wavelength and low-cost solution-processibility. The performance of CQD-based photovoltaic and light-emitting devices has become competitive to other state-of-the-art materials. Narrow band semiconductor CQD also hold unique promise for near- and mid-infrared technologies, where very few semiconductor materials are available. Thus, new and in-depth insights in CQD growth, chemical transformations and physical properties would not only benefit the purely fundamental side but also commercialization.

This Special Issue will focus on not only the synthesis of CQD, core/shell heterostructure, halide perovskite, surface functionalization, photophysical investigation, but also on their versatile applications such as photodetector, up/down-conversion devices, light-emitting diodes, solar cells, and biological labels.



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Special issue



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Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

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Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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