Special Issue

Colloidal Quantum Dots for Nanophotonic Devices

Message from the Guest Editors

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.

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

Deadline for manuscript submissions

closed (20 April 2024)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/115702

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)