

## Special Issue

# Quantum Dot Materials and Their Optoelectronic Applications

### Message from the Guest Editors

Quantum dots (QDs) have been attracting immense attention recently owing to their quantum-size effect bandgap tunability from the visible to infrared range, strong absorption with a high molar extinction coefficient, and new phenomena, such as multiple exciton generation (MEG) and low-cost solution processability. This makes QDs promising in various applications, for instance, light-emitting diodes (LEDs), photodetectors, and solar cells. The present Special Issue is the continuation of the previous one and aims to collect further studies and results about the novel synthesis and passivation methods of QD materials, the new progress of QD-based optoelectronic applications, and the charge dynamics in those devices. Prof. Dr. Yaohong Zhang

---

### Guest Editors

Prof. Dr. Yaohong Zhang

School of Physics, Northwest University, Xi'an 710127, China

Dr. Guohua Wu

College of Materials Science and Chemical Engineering, Qingdao Innovation and Development Base of Harbin Engineering University, Harbin Engineering University, Harbin 150001, China

---

### Deadline for manuscript submissions

15 September 2025



## Nanomaterials

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.3  
CiteScore 9.2  
Indexed in PubMed



[mdpi.com/si/229199](https://mdpi.com/si/229199)

*Nanomaterials*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[nanomaterials@mdpi.com](mailto:nanomaterials@mdpi.com)

[mdpi.com/journal/  
nanomaterials](https://mdpi.com/journal/nanomaterials)





# Nanomaterials

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.3  
CiteScore 9.2  
Indexed in PubMed



[mdpi.com/journal/  
nanomaterials](https://mdpi.com/journal/nanomaterials)



## About the Journal

### 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

---

### 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, CAPIus / SciFinder, Inspec, and other databases.

#### Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General  
Chemical Engineering)