# Special Issue

# Recent Advances in Halide Perovskite Nanomaterials

### Message from the Guest Editors

Halide perovskites have been widely studied for their excellent electrical and optical properties, including tunable band gap, high charge carrier mobility and low-cost fabrication using low-temperature solution process. Specifically, halide perovskite nanomaterials, including 0D quantum dots, 1D nanowires, 2D nanoplatelets and their combinations with mixed dimensions, have the advantages of both halide perovskites and nanomaterials and are emerging materials for optoelectronic devices. During the past few years, significant progress has been made toward the controlled synthesis of halide perovskite nanomaterials and the fabrication of high-performance optoelectronic devices. However, several major issues remain to be solved for the practical application of halide perovskites, for example, the synthesis of phase pure nanomaterials, the defect passivation of perovskite nanomaterials and the design of lead-free perovskite materials and the large-scale synthesis for industrial applications. This Special Issue aims to cover the recent progress on the design, synthesis and applications of halide perovskite nanomaterials.

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### Deadline for manuscript submissions

23 January 2026

**Nanomaterials**

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/199258

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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

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