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Hybrid Perovskite Thin Film

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Deadline for manuscript submissions:
closed (30 April 2023)

Message from the Guest Editors

Dear Colleagues,

Organic-inorganic hybrid perovskite materials (OHP, AMX3, where A is organic or inorganic cation, M is metal cation, and X is a halogen anion) show considerable potential for solar cell and light-emitting diode applications. In solar cell applications, the power conversion efficiency is already over 25%, which is highly competitive in comparison with CdTe (22.1%), CIGS (22.6%), and Si (25.4%). To overcome the weakness of OHP materials, such as material instability, many researchers are focusing on studying instability origins, stable compounds, defect structures, and multi-functional hole transport layer (good hole mobility and water protection). This work is proceeding to engineering optimization now. Researchers are still attempting to improve its weakness in actual devices.

This Special Issue of Nanomaterials, "Hybrid Perovskite Thin Film", will be focused on (1) thin film fabrication; (2) basic characterizations with atomic, chemical, and electronic structures; (3) defects and their effects; and (4) suggesting possible new application using OHP materials.

Prof. Min-Cherl Jung
Guest Editor

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Editor-in-Chief

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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