Special Issue

Perovskite Photovoltaics: From Materials to Devices

Message from the Guest Editor

At this stage, the continuous expansion of photovoltaic materials and photovoltaic markets has brought opportunities for new photovoltaic technologies. Single-cell perovskite photovoltaics with efficiencies already exceeding 25% are currently considered promising candidates. Efficiency is not the only indicator of PV development. At present, the issues that need to be focused on include: (1) In terms of cost, which means that the photoelectric conversion efficiency and service life need further innovation and improvement; (2) in terms of device size, the efficiency gap between laboratory cells and industrial components must be significantly reduced, and crystalline silicon must be significantly reduced; (3) the pollution toxicity problem and the recovery method must be addressed to solve the lead toxicity problem; (4) in terms of lifetime, modules need to withstand photo-induced degradation, potential-induced degradation, and partial shadow stress and mechanical shock and use standardized test protocols to predict the lifespan of PSCs. The above aspects are all obstacles that need to be overcome in the process of commercial application of PSCs.

Guest Editor

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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.

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