Special Issue

Advances in Solar Cells Technology: Materials and Device Architectures

Message from the Guest Editor

Solar cell technologies can be classified according to different generations of solar cells. Among other things, the first two-generation solar cell covers the relationship between generation and the current market. Moderate market yields are achieved by medium- and low-cost technologies for first-generation cells (mono or polycrystalline silicon cells). Thin-film technologies, or second-generation, cells are based on more effective but less expensive manufacturing techniques. Third-generation cells showcase numerous innovative designs and new materials that all utilize the priciest yet most effective solar cells. Fourth-generation cells include hybrid materials that are currently being investigated. These materials include more stable, novel inorganic nano-structures like metal oxides and nanomaterials, as well as flexible, economical polymer films. It is indispensable to explore the different aspects of solar cell technology regarding materials, efficiency, and fabrication costs. Prof. Dr. Amjad Islam

Guest Editor

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