International Journal of Photoenergy

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Special Issue on

High Performance Organic Solar Cells

CALL FOR PAPERS

Solar energy is the largest, almost untapped, renewable source of energy available to our planet. The utilization of solar energy requires the conversion of light energy into forms that can be more easily stored. Photovoltaic technologies, which directly absorb photons from sunlight and convert them into electricity, have been emerging as sustainable and environmentally friendly energy sources.

In the last few decades, organic solar cells have emerged as promising low-cost alternatives for electricity generation that relies on sunlight. Solar cells based on conjugated polymers and small molecules have seen increasing interest due to their favorable electronic properties and component versatility. Recently, encouraging device performances with power conversion efficiency up to 12% have been realized through tremendous research effort. The discovery of new organic semiconductor materials, the understanding of the photo conversion mechanism, and the finest control of devices have enabled numerous industrial and academic applications of solar cells.

Therefore, the purpose of this special issue is to publish high-quality, original research papers as well as comprehensive review articles addressing recent advances on high performance organic solar cells. Original, high-quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include but are not limited to the following:

- Development of electron donor/acceptor materials for organic solar cell, including small molecules and polymers
- Development of cathode/anode interfacial layer materials, including inorganic materials, as well as organic small molecules and polymers
- The active layer optimization by using the methods of additives, new film-forming techniques, and posttreatment
- Engineering of organic solar cell device structures, including conventional/inverted configuration, ternary, and tandem solar cell
- Mechanistic study, stability evaluation, and scalability of organic solar cell
- Study of thermal effects in organic solar cell devices

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