



International Journal of Photoenergy

Special Issue on
Photovoltaic Materials and Devices 2016

CALL FOR PAPERS

The solar photovoltaic (PV) industry has continued its rapid growth in recent years despite shrinking margins, phase-out of government subsidy, and issues such as decline in demand within European countries (except UK). Although the PV installations in Europe, an early market leader, has slowed down, the solar market is being more than compensated by the growth in Asia and the USA. Furthermore, PV has also entered into a significant number of new emerging markets. In 2015, the worldwide installed PV is expected to reach about 52 GW. However, there continues to be excess supply of about 8 GW in 2015. This continued excess production, combined with increased module efficiencies, has created a precipitous drop in the sales prices. Manufacturers will need to reduce processing costs to maintain low prices and improve margins and that cost reduction will come from innovations.

Silicon technology is likely to continue its dominance, but emphasis is changing to higher efficiency technologies based on N-type wafers. At the same time, other technologies based on a-Si, thin-film Si, CIGS, and particularly CdTe are poised for larger share of the PV market. However, there are many challenges both in R&D and in commercialization. The PV R&D community is working on new materials, device designs, and process tools, while there is a rapid growth in commercial equipment for improved processing and higher throughput. One of the major areas expected to receive much attention is characterization and measurements. In particular, PV industry is keen to implement online monitoring.

This special issue will compile papers on all research aspects of measurements and characterization of photovoltaic materials and devices. We invite researchers, academicians, and industry technologists to contribute original research articles as well as reviews related to various PV technologies such as crystalline Si, thin-film technologies (CdTe, CIGS, and amorphous Si:H), and emerging solar cell technologies organic solar, dye-sensitized, multijunction, nanocrystalline, perovskite, and quantum dots.

Potential topics include, but are not limited to:

- ▶ All research aspects related to current materials and solar cells
- ▶ Approaches for commercial production, focusing on precursor and feedstock materials, module design and processing, advances in device fabrication, and innovations for device fabrication
- ▶ New materials for PV applications, such as organics, quantum dots, thin-film Si, polymers, and biohybrids
- ▶ Device and process simulations
- ▶ Advanced module design and fabrication technologies
- ▶ Advanced measurement/characterization methods and instrumentation for in situ measurements, defect monitoring, and process control and performance, reliability testing, and standards
- ▶ Technology and process development in industry

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ijp/pvmd16/>.

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First Round of Reviews

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