

## Nanostructural Materials for Photon Management and their Application in Energy Conversion Devices

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To achieve high efficiency from the 3rd generation solar cells including organic solar cells and dye-sensitized solar cells, the fundamental tradeoff between light absorption and collection of photogenerated electrons and holes ranks as one of the most important. In this presentation, to allow for the use of thinner active layers that are optimized for charge collection, lower material cost of solar cells, and increase their solar-to-electricity conversion efficiency, several unique nanostructural materials and their applications in energy conversion devices will be introduced.