



WORKSHOP ON NEW MATERIALS FOR RENEWABLE ENERGY
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RECENT PROGRESS IN DYE SENSITIZED SOLAR CELLS

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ABSTRACT I:

The increasing global need for energy coupled with the depletion of easily accessible, hence cheap, fossil fuel reserves, poses a serious threat to the human global economy in the near future. Considering in addition the harmful ecological impact of conventional energy sources, it becomes obvious that development of clean alternatives is a necessity. Best renewable energy options must rely on a net input of energy onto the earth. Since the sun is our only external energy source, harnessing its energy, which is clean, non-hazardous and infinite, satisfies the main objectives of all alternative energy strategies. Mastering the conversion of sunlight to electricity is without any doubt the most promising solution to the energy challenge. It is remarkable that a mere 10 min of solar irradiation onto the Earth's surface is equal to the total yearly human energy consumption. With attractive features, i.e. good performance, low-cost potential, simple processibility, wide range of application from portable power generation to power-window, the dye-sensitized solar cell (DSC) represents one of the most promising methods for future large-scale power production directly from sunlight.¹⁻⁴ The scope of this talk is to give a broad introduction on DSC.

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