TW-003

# Molecular Thin Films and Small-molecule Organic Photovoltaics

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In this tutorial session, the field of organic photovoltaic (OPV) cells based on small molecular weight materials will be presented. The previously reported studies on the fabrication, structure, and property of the cells as well as the molecular materials are included. Especially, the factors hampering further enhancement in the power conversion efficiency of the cells such as exciton recombination, light absorption and interfacial morphology between electron donor and acceptor layer will be discussed in detail. The recent progress in our group will also be presented. It includes typical materials and cell fabrication techniques we used as well as the studies on improving the light absorption in the electron donor layer and reducing the extinction of excitons formed by introducing the nanostructured interface between organic layers.

**Keywords:** Small molecule organic photovoltaic cells, OPV, Molecular thin films