

37. Title: Photoinduced Interfacial Electron Transfer and Lateral Charge Transport in Molecular Donor-Acceptor Photovoltaic Systems

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Abstract: Nanostructured liquid/solid and solid/solid bulk heterojunctions designed for the conversion of solar energy offer ideal models for the investigation of light-induced ET dynamics at surfaces. Despite significant study of processes leading to charge generation in third-generation solar cells, a conclusive picture of the photophysics of these photovoltaic converters is still missing. More specifically searched is the link between the molecular structure of the interface and the kinetics of surface photoredox reactions. Fundamental scientific issues in this field are addressed by the research project undertaken in the frame of the NCCR MUST endeavor, an outline of which is given here.