Joint LLC Seminar

Thursday April 27, 15:15
The Rydberg Lecture Hall, Dep. of Physics

Arkady Yartsev

Chemical Physics, Lund University

Time-resolved studies of photovoltaic materials

At Chemical Physics, we have studied light-induced processes in a number of different photovoltaic materials by methods of time-resolved spectroscopy. I will present our understanding of the dynamics of charge generation, separation and recombination in dye-sensitized, all-organic and inorganic solar cell materials. In the talk, I will discuss dye-to-semiconductor electron injection from non-thermalized and thermalized donor states and the role of electron-cation interaction; I will question the definition of bulk heterojunctions in relation to polymer-based solar cells; I will rise the issue of charge trapping and non-radiative recombination in semiconductor nanowires; I will present an alternative way of defining an ultimate charge mobility in bulk materials. Additionally, I will discuss possible limitations of the individual time-resolved techniques and stress the importance of the relevant combination of time-resolved and steady state methods for resolving light-induced processes in the materials of interest.

The seminar is suited for a broad audience and open for everybody

The Rydberg Lecture Hall is located at the Department of Physics, Professorsgatan 1

Coffee and refreshments will be served before the seminar, from 15:00

Lund Laser Centre