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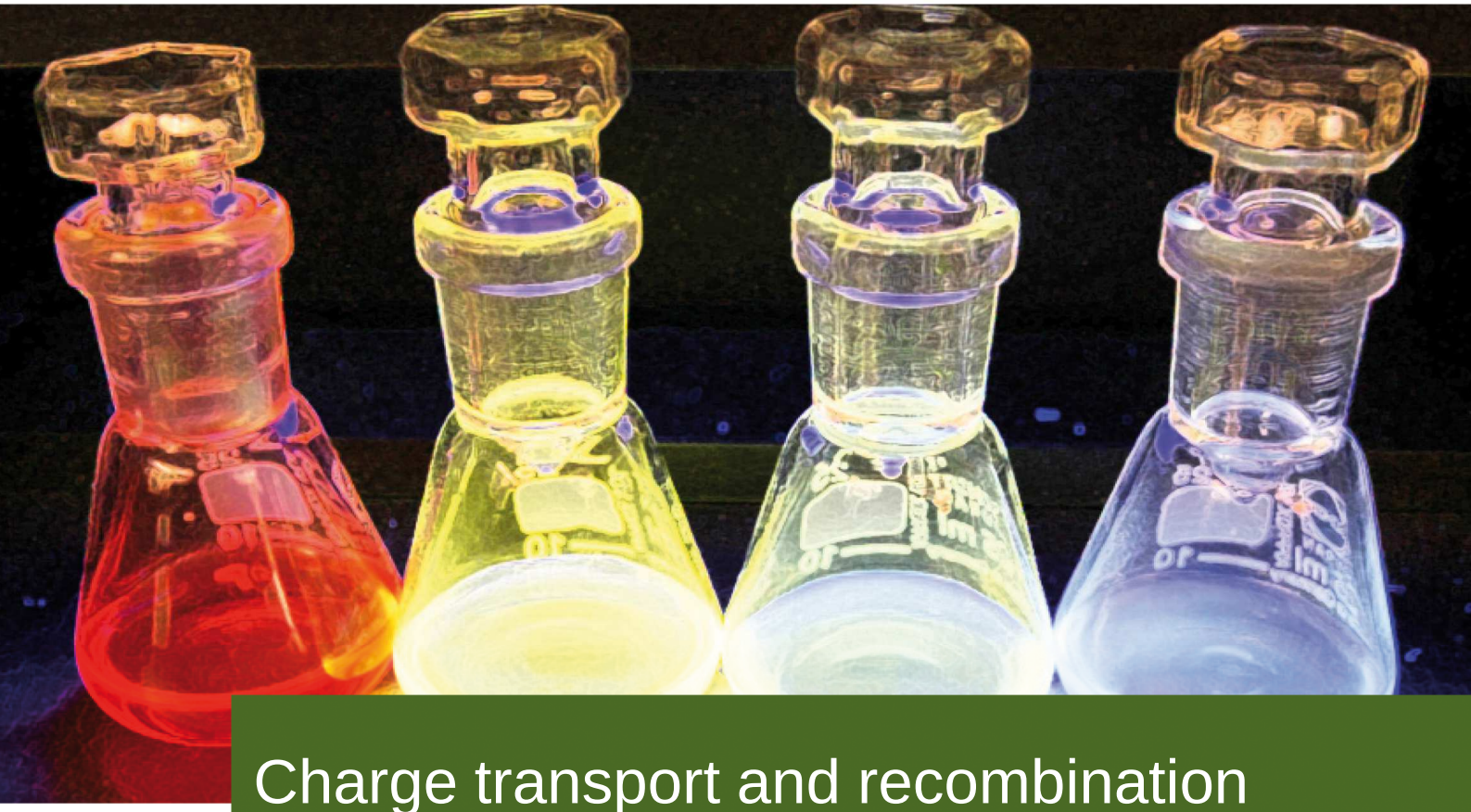

Charge transport and recombination in organic solar cells

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Efficiency optimization in organic solar cells requires tuning the energy levels of donor and acceptor molecules in order to maximize absorption and charge carrier generation while at the same time minimizing the losses required for exciton separation. In addition, reducing recombination and improving charge carrier collection is beneficial for increasing organic solar cell efficiencies. When looking at the development of efficiency records in the past 12 years, progress was essentially made by optimizing the energy levels but rarely by optimizing mobilities and lifetimes to improve charge carrier collection.
This talk aims at discussing these different loss mechanisms, methods to characterize and quantify them and to highlight open questions that need to be addressed in future research.