

**Einladung**

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Seminarvortrag**Mittwoch, 30.05.2018, 13:15 Uhr****Seminarraum PHY 9.2.01****Prof. Debansu Chaudhuri**
WIISER Kolkata*“Escaping excimers in multichromophoric aggregates”**Abstract:*

Long-lived excitons in H-aggregated dye assemblies hold great promise for efficient transport of excitation energy, provided they are not scavenged by structurally relaxed excimers. Excimers can act as efficient traps for mobile excitons and charges, and are notoriously unavoidable in such strongly interacting systems. I will discuss two cases of molecular self-assembly, where it was possible to escape the excimeric state. In the first part, I will present a perylene bisimide (PBI) folda-dimer that follows two distinct self-assembly pathways in solution: a fast isodesmic assembly that leads to metastable aggregates with large excimer contribution. This is followed by a slower cooperative growth of extended H-aggregates, in which excimer formation is efficiently suppressed. The role of conformational flexibility of the molecular building block will be discussed. The second part of the talk will present some recent results on a pleochroic PBI molecular crystal, that also exhibits a bright PL from the long-lived Frenkel exciton state. At relatively low pressures, these crystals undergo an interesting phase transition leading to a dramatic change in the PL spectrum.

1. Samanta et. al. J. Phys. Chem. Lett. 2017, 8, 3427.
2. Samanta et. al., Unpublished results.

Gastgeber: Prof. Dr. John Lupton