ZERNIKE INSTITUTE COLLOQUIUM

Thursday, April 7th, 2011

16:00h, Lecture Hall: 5111.0080 **Coffee and cakes from 15:30h**

Single-Molecule Spectroscopy of Synthetic and Biological Multichromophoric Systems

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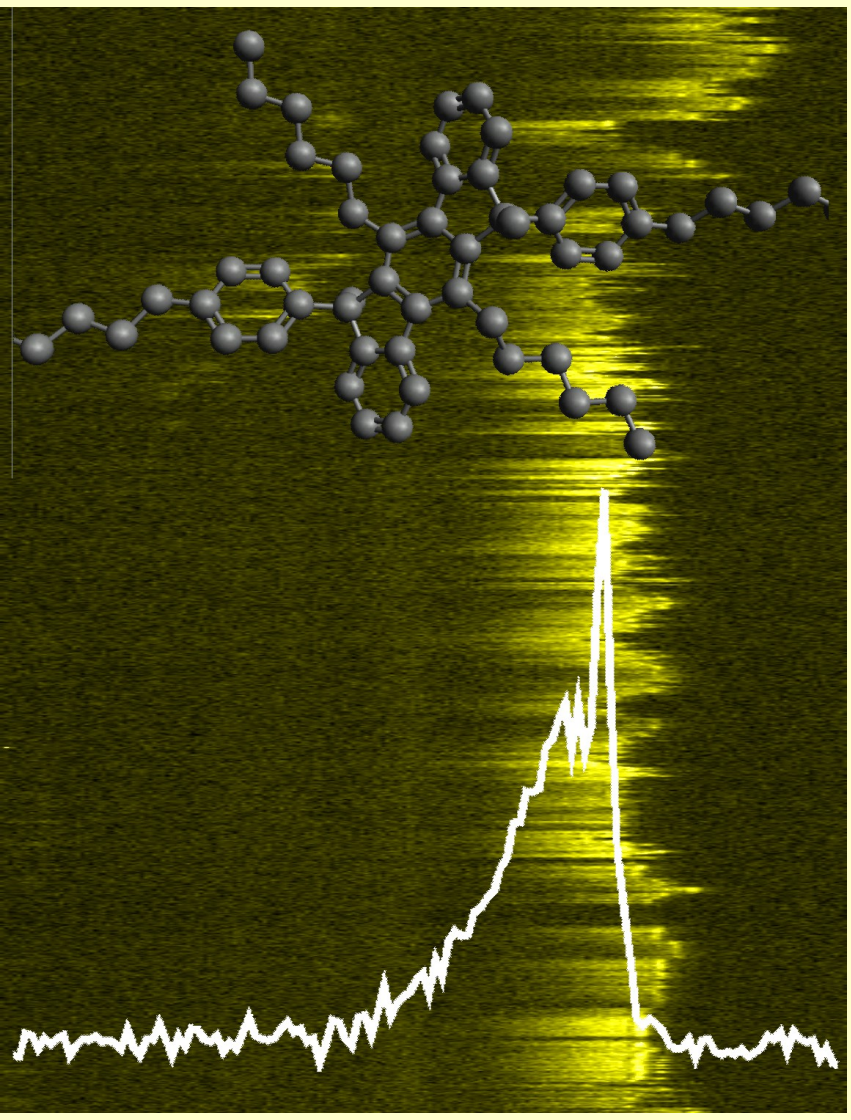
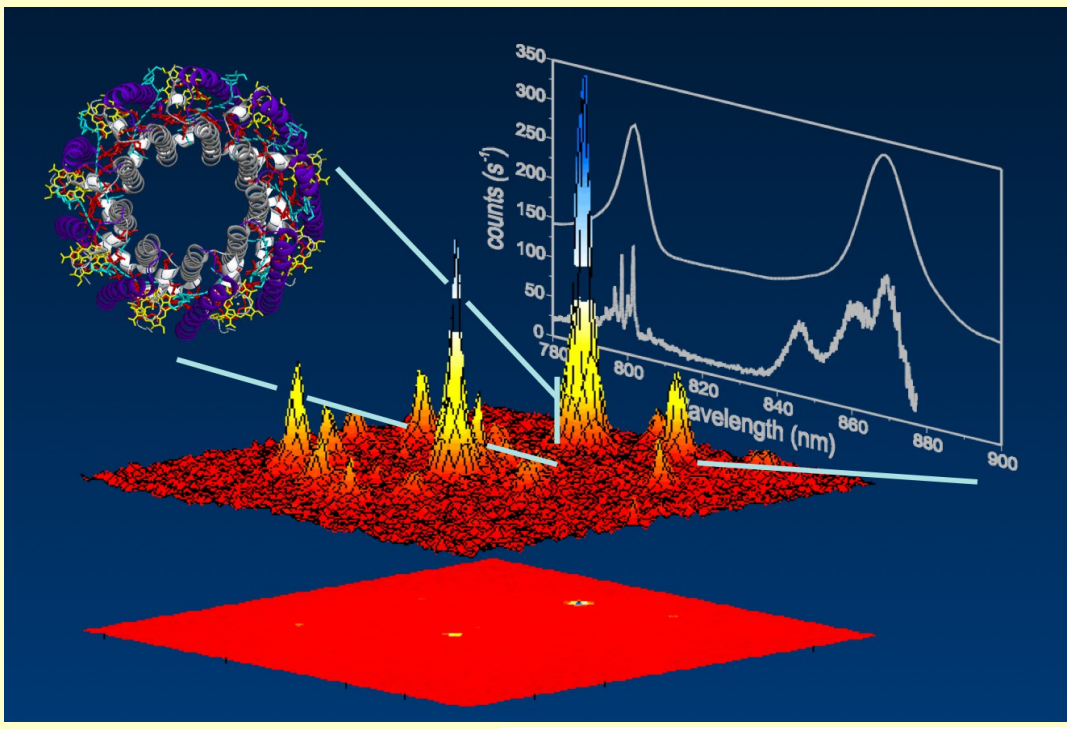


Multichromophoric systems consist of several chromophores, i.e. molecular entities with strong absorption and emission characteristics in the visible spectral range. The interaction between these chromophores gives rise to energy and charge transfer processes and as a consequence of this the photophysical properties of a multichromophoric system can deviate significantly from those of the isolated constituents. Hence these systems are of great fundamental interest because they feature many important concepts from condensed matter physics and chemistry, and because they play a prominent role in processes of considerable practical importance, such as biological light harvesting, technological efforts to build organic solar cells, and molecular electronics in general.



The talk will cover two examples of multichromophoric systems that have been studied by single-molecule spectroscopy in our group: Conjugated polymers and pigment-protein complexes that play a major role in the light reactions of bacterial photosynthesis. The single-molecule approach provides insights that are commonly masked by ensemble averaging which is often a severe problem due to the unavoidable heterogneity of the organic materials.

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