

Conférence - CEISAM - UMR CNRS 6230

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10h30 - Salle Marie Curie

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"The modelling of plasmonic effects on photoinduced processes of (supra)molecular systems"

Strong enhancement of electromagnetic fields generated through surface plasmon resonances (SPR) in metal nanoparticles (NP) has recently stimulated a large interest due to their enormous versatility in affecting absorption, fluorescence, and excitation energy transfer (EET) of nearby located molecular systems. In parallel, photosynthetic pigment-protein complexes have been also combined with metal NPs in order to explore bioinspired strategies for the construction of efficient hybrid LH devices. Metal NPs generally enhance the process of electronic absorption of nearby dyes as well as their radiative decay rates but they can also act as quenchers. Here we present a computational study of such a delicate balance of competitive effects by using a multiscale approach which combines quantum chemistry and classical models.