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Photoelectron spectroscopy of biochromophores

Much of our detailed understanding of the intrinsic electronic relaxation dynamics of photoexcited molecules has come from gas-phase experiments and calculations involving isolated molecules, free from interactions with solvent or protein environments. However, electronically excited states are sensitive to their microenvironment, particularly in polar solvents such as water, the most important medium in chemistry and biology. Experimentally, photoelectron spectroscopy (PES) is an ideal tool for probing the electronic structure of molecules through the measurement of electron binding energies; however, there are relatively few PES studies of biochromophores in aqueous solution. This seminar will describe recent work from our group employing PES in molecular and anion beams and in a liquid-microjet to compare the electronic structure and relaxation dynamics of biologically important chromophores following photoexcitation in the gas-phase and in aqueous environments.

Hôte : Groupe des Jeunes Chercheurs de l'IBS