Journée Annuelle de la Chimie 2008-2009

organisée par l'UFR de Chimie de l'UPMC

Jeudi 29 janvier 2009

AMPHITHEÂTRE F2

Conférences invitées

14h30 **D.F. OGLETREE** (Lawrence Berkeley National Laboratory-Berkeley-CA-USA)
Water at interfaces studied by ambient-pressure photoemission spectroscopy
Modérateur : F. ROCHET (PR-LCPMR)

Photoemission is a powerful technique for studying interface chemistry, but is normally restricted to high-vacuum environments. We have developed a synchrotron-based ambient pressure photoemission system capable studying surfaces exposed to water vapor at up to 100% relative humidity. After describing the APPES method, I will discuss its application to several problems of water at interfaces in equilibrium with water vapor, including the pre-melting of the ice surface, surface segregation of ions in saline solutions, and the role of hydroxyl groups in water absorption at metal and metal oxide surfaces.

15h30 **S. CAMPAGNA** (Universita de Messina-Italie)
Towards photochemical solar energy conversion: multichromophoric systems as artificial antennae, charge separation devices and multielectron collectors
Modérateur : C. ADAMO (PR-ENSCP)

The world demand on energy is always increasing, and the quest for new renewable energy technologies is more and more urgent. In fact, our civilization is based on fossil fuels, which are limited and will not be able to support us for long time. Moreover, the use of fossil fuels is causing fatal problems for the environment. An obvious energy source to be implemented, and probably the only energy source capable to sustain our civilization in the long term, is solar energy.
Among the various solar energy conversion approaches, the design of artificial systems capable to perform photochemical energy conversion, that is conversion of solar energy into fuel, mimicking natural photosynthesis, represents the more desired process. In principle, an efficient artificial photosynthesis system would be a structurally- organized hierarchical supramolecular species, where several components (in their turn, supramolecular species) are integrated in a functionally-oriented fashion: basic components should be: (i) light- harvesting antennae; (ii) charge-separation devices; (iii) charge pool systems; (iv) multielectron transfer catalysts. Here some examples of these supramolecular components studied in our laboratories are presented.