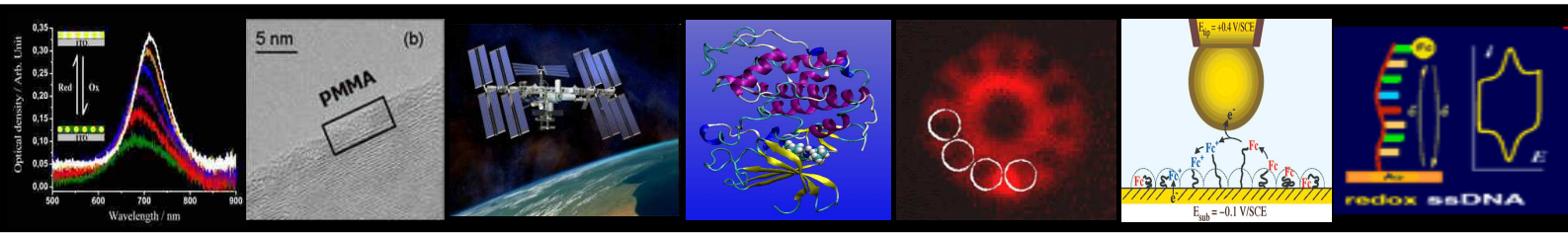
Séminaires de Chimie
Paris Rive Gauche



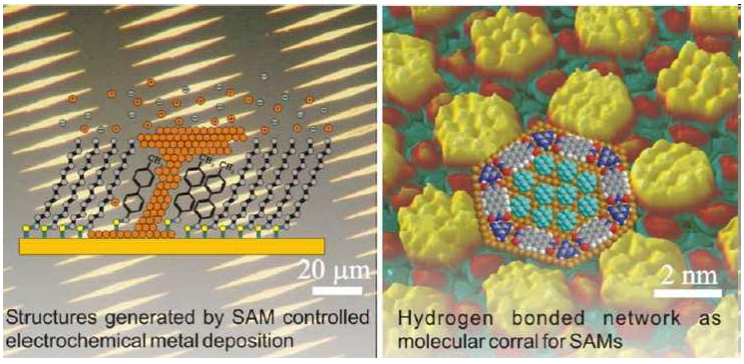
Dr. Manfred Buck

EaStCHEM School of Chemistry, University of St Andrews, North Haugh, St Andrews, KY16 9ST. mb45@st-andrews.ac.uk

Molecular Self-Assemblies at the Liquid-Solid Interface

Self-assembled monolayers (SAMs) and supramolecular networks (SMNs) represent two categories of molecular organisation at interfaces. In the case of SMNs, molecules adopt a flat lying adsorption geometry and structures are determined by non-covalent intermolecular interactions comprising hydrogen bonding, metal-organic coordination and/or van der Waals interactions. In contrast, SAMs are characterised by a dense molecular packing of upright standing molecules where an enthalpically favoured chemisorption of molecules is the major driving force for a maximisation of coverage. As illustrated in the talk, both types of molecular systems offer unique opportunities for nanoscience including their combination where SMNs serve as atomically precise templates for patterned SAM formation.

While, compared to ultrahigh vacuum, a liquid environment adds complexity to an interface, it opens additional possibilities for the kinetic and thermodynamic control of molecular systems. This holds in particular for the electrochemical interface which combines favourably with molecular systems as they can, on the one hand, be conveniently manipulated by the electrochemical potential and, on the other hand, be exploited for the control of electrochemical processes such as electrochemical metal deposition.



Mercredi 18 Mai 2011 à 14h ~ Amphi Buffon ~

15 rue Hélène Brion, 75013 Paris

Contact : Jean-Yves Piquemal
Université Paris Diderot, UFR de Chimie
Tél: 33 0 (0) 1 57 27 68 61 – Fax: 33 0 (1) 57 27 72 63 – SeminairesPRG@gmail.com