Supramolecular self-assembly of interfacial nanostructures

Fact Sheet

Project Information

SUSANA
Grant agreement ID: HPRN-CT-2002-00185
Funded under
FP5-HUMAN POTENTIAL
Overall budget
€ 2 500 148
EU contribution
€ 2 300 148
Coordinated by
DUBLIN CITY UNIVERSITY
Ireland

Start date
1 September 2002
End date
28 February 2006

Objective

The development of nanosized structures for the creation of smart components is widely regarded as the next step in the further miniaturisation of devices. The aim is to assemble and integrate molecular components exhibiting specific functions into molecular devices that are orders of magnitude smaller than can be produced by conventional lithographic techniques. However, for this approach to be successful it is necessary to contra electron transfer between substrates and immobilized nanosize components. This requires a detailed understanding of how the nature of immobilized nanosize components; linkers and the underlying metallic substrates dictate the overall rate of electron transfer. This project aim to address these issues by a systematic investigation of the interaction between nanoparticles and solid metal electrodes via organic and inorganic linkers. These have been chosen so that their electronic properties can be modulated by changes in their redox state, their state of protonation or by photonic excitation. They will serve as support for nanoparticles to the solid substrate by a self-assembly process controlled by the presence of specific functional groups.
Programme(s)

Funding Scheme

NET - Research network contracts

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