

AVVISO DI SEMINARIO

Mercoledì 4 Maggio 2016 ore 12:00

*nell'Aula Seminari del Dipartimento di
Scienze e Tecnologie Chimiche, il*

Prof. Leonard Prins

*Dipartimento di Scienze Chimiche
Università di Padova*

terrà un seminario dal titolo:

Self-Assembly of Complex Chemical Systems

Proponente: Prof. Francesco Ricci

Abstract

Molecular recognition processes and catalysis in Nature involve large and complex structures such as antibodies and enzymes. The multipoint interactions that develop between host and guest permit binding to occur with high affinity and selectivity. Large also structures facilitate the installment of regulatory mechanisms for instance through the formation of multicomponent complexes or the contemporary binding of co-factors. Synthetic systems that match up to the size and complexity of proteins could enable such properties in a nonbiological context or, alternatively, could be integrated in biological networks. Here we present an approach towards such systems based on the self-assembly of small molecules on the surface of monolayer protected gold nanoparticles. The application of these systems in the fields of sensing and catalysis will be discussed. It will be shown that metal ions present in the monolayer play a crucial role as catalytic centers, but also as regulatory elements for supramolecular chemistry processes that take place on the monolayer surface.