

Design of well-defined, hierarchical and smart catalysts for a sustainable world

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The study of catalytic processes starting from well-defined materials that are tuned in morphology, composition and shape is opening new perspectives for catalyst design. Use of nanocrystals in CO oxidation turned out to be crucially dependent on the interfacial contact of the support (ceria) with the metal nanoparticle active sites [1], while valorization of biomasses were employed as reactants for catalysis by carbon-supported, Pt and PtCo nanocrystals (NCs) with controlled size and composition [2]. A particular type of structure is represented by nanosized core-shell phases, which proved to be superior catalysts in several catalytic reactions, such as methane combustion [3] as well as photocatalytic hydrogen evolution from biomass-derived substrates [4-6] or electrocatalytic water electrolysis [7] when integrated with multi-walled carbon nanotubes. Metal free nanocatalysts [8] and “intelligent” catalysts [9] are today's challenging but every day, nanotechnology applied to heterogeneous catalysts is creating new opportunities for important breakthroughs.



Ce séminaire sera suivi d'une pause café

SEMINAIRE

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.

Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès)

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