

Einladung zum Kolloquium

Am Donnerstag, den 09. März 2017, 13:00 Uhr, spricht

Herr Prof. Dr. Santiago Gómez-Ruiz

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zum Thema:

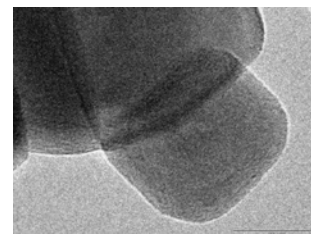
From Metal Complexes to Heterogeneous or Supported Systems: Applications of Hybrid Materials in Different Catalytic and Photocatalytic Reactions

Catalytic and photocatalytic reactions are crucial in various transformations for different applications in Organic or Inorganic Chemistry, Environmental Science and Energy. However, most of the catalysts used for these reactions, based on homogeneous systems, are expensive, not sufficiently efficient or need very high quantity of solvents being, therefore, not sustainable.

In this context, our group is focused on the synthesis, characterization and study of the catalytic properties of novel systems based on immobilized metal complexes and/or metal nanoparticles. These hybrid systems are usually stabilized by protective agents preventing aggregation and enhancing their effectiveness and applicability for a wide number of catalytic applications.

Thus, our group has prepared, using different synthetic methods, hybrid nanostructured systems which have been tested, among others, in the catalytic oxidation of benzyl alcohol,¹ polymerization of polar monomers,² C-C formation *via* Suzuki-Miyaura coupling reactions,³ photocatalytic degradation of contaminants in water under visible light⁴ and photocatalytic formation of hydrogen *via* methanol photoreforming.⁵

In this lecture, the most recent results of our group will be thoroughly described, giving importance to factors such as the use of environmentally friendly reagents, recyclability of the catalytic systems and increase of their sustainability.



“Quasi” squared titanium oxide nanoparticles for photocatalytic reactions

References: 1. See for example: P. Cruz et al. *Microp. Mesop. Mater.* **2016**, *220*, 136; 2. See for example: Y. Pérez et al. *Dalton Trans.*, **2015**, *44*, 4088; 3. See for example: a) A. Balbín et al. *RSC Adv.*, **2014**, *4*, 54775; b) A. M. S. Hossein et al. *Inorg. Chim. Acta* **2017**, *455*, 645; 4. See for example: S. Lázaro-Navas, et al. *J. Nanopart. Res.*, **2015**, *17*, 94; 5. See for example: B. Rico-Oller, et al. *Sci. Total Environm.* **2016**, *563-564*, 921.

Ort: Fakultät für Chemie und Mineralogie, Johannisallee 29, SR 101

Alle Interessenten sind zu diesem Vortrag herzlich eingeladen.

Die Professoren des Institutes
für Anorganische Chemie

Nähere Informationen bei Frau Prof. Dr. Dr. h.c. mult. Evamarie Hey-Hawkins, Tel.: 36151