

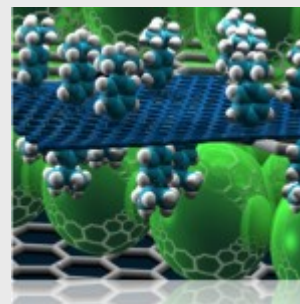
Exfoliation, Hybridization and Chemical Functionalization of 2D Materials

Title: Exfoliation, Hybridization and Chemical Functionalization of 2D Materials

When: Friday, 18 December (2015), 15:00h

Place: Departamento de Física Teórica de la Materia Condensada, Facultad Ciencias, Module 5, Seminar Room (5th Floor).

Speaker: Gonzalo Abellán, Institute of Advanced Materials and Processes (ZMP), University Erlangen-Nuremberg, Fürth, & Department of Chemistry and Pharmacy, University Erlangen-Nuremberg, Erlangen, Germany.



Recently, graphene (G) and related 2D materials have attracted a considerable attention due to their appealing electronic properties and the possibility to be tailored by chemical modification. In this sense, the efficient exfoliation of these building blocks is of utmost importance for its subsequent derivatization. Moreover, the formation of hybrid materials based on 2D building blocks have found many applications because they allow combining the properties of inorganic solids such as robustness, durability or mechanical strength with those introduced by the organic component such as functionality, tunability and convenient functionalization by synthesis.

Herein we will discuss several routes developed in our labs towards the exfoliation, hybridization into complex systems and chemical functionalization of three 2D materials, namely layered double hydroxides (LDH), graphene and black phosphorus -the newest member of the 2D family. Finally, some interesting applications will be presented.

G. A. thanks the EU for a Marie Curie Fellowship (FP7/2013-IEF-627386).

References

- G. Abellán et al., *Acc. Chem. Res.*, 2015, 48, 1601.
- G. Abellán et al., *Adv. Mater.* 2014, 26, 4156.
- G. Abellán et al., *Chem. Sci.* 2015, 6, 1949.
- G. Abellán et al., *Chem. Commun.* 2015, 51, 14207.
- G. Abellán et al., *J. Mater. Chem. C*, 2014, 2, 3723.
- G. Abellán et al., *ES Patent WO2013124503 A1*.
- D. Hanlon et al., *Nature Commun.* 2015, 6, 8563.

[More information on IFIMAC Website](#)