



Departamento de
Física de la
Materia Condensada
Universidad Zaragoza

SEMINARIOS 2018

Caterina Cocchi

Humboldt-Universität zu Berlin

“Light-matter interaction at the nanoscale from first principles”

Understanding the fundamental physical mechanisms of light-matter interaction at the nanoscale is a crucial task for controlling and predicting the response of materials to the electromagnetic radiation. First-principles methods based on density-functional theory and many-body perturbation theory are particularly suited for this purpose, as they allow to tackle this problem in its full complexity. With significant examples on technologically relevant systems, including organic semiconductors and van der Waals materials, I will demonstrate the predictive power of these approaches, highlighting their physical insight and their complementarity to experiments.

Caterina Cocchi obtained her PhD in Physics in 2012 at the University of Modena and Reggio Emilia, Italy, under the supervision of Prof. Elisa Molinari, with a thesis on graphene nanostructures investigated by first-principles and semi-empirical computational methods. After one year as a post-doc at CNR-Istituto Nanoscienze in Modena, in 2013 she moved to the group of Prof. Claudia Draxl at the Humboldt-Universität zu Berlin, Germany, where she worked as a post-doctoral researcher for four years. Since April 2017 she is Junior Professor at the Humboldt-Universität zu Berlin, holding a chair on “Theory of excitations in low-dimensional systems”. Her research interests cover first-principles modeling of light-matter interaction phenomena in different organic, inorganic, and hybrid materials.

13 de Abril (viernes)

Con la colaboración de:



Facultad de Ciencias
Universidad Zaragoza

**LUGAR: SALA DE GRADOS DE LA
FACULTAD DE CIENCIAS**

HORA: 12:30