

# Functionalization of 2D materials: a molecular approach

*Introduce:*

prof. Luigi E. SANGALETTI  
Università Cattolica del Sacro Cuore

*Interviene:*

**Prof. Steven DE FEYTER**

KU Leuven, Department of Chemistry, Division of Molecular Imaging and Photonics,  
Celestijnenlaan Leuven (Belgium)

*Abstract:*

In this presentation, I will focus on the functionalization of graphite and graphene using two approaches. A first approach is based on molecular self-assembly at the interface between a liquid or air, and graphite or graphene. I will discuss concepts of nanostructuring emphasizing the effect of solvent, solute concentration and temperature, stimulus-driven self-assembly and self-assembly under nanoconfinement conditions. A second approach is based on grafting molecules on graphite or graphene via covalent chemistry. In addition to a discussion on the functionalization principles, it will be demonstrated how also nanolithography can be used to nanostructure such covalently modified surfaces.

Advanced interface specific methods such as scanning tunnelling microscopy (STM) and atomic force microscopy (AFM) provide structural and other types of information at the nanoscopic level.

Various applications will be presented, including molecule modified graphene field effect transistors.

*Combined nanolithographic,  
covalent and non-covalent functionalization.*



## Seminario

**Giovedì 16 novembre 2017**

**Sala Riunioni, ore 11.00**

Via dei Musei 41 - Brescia

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