



## SEMINAIRE ISMO

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### **Chiral amplification induced supramolecular guest-host architectures from barbituric acid derivatives**

Significant scientific as well as applicable interests are focused on the manipulation and utilization from 2D chiral recognition process on its functionalities which have not been intensively studied.

Herein, we report a functionalized supramolecular guest-host system as a preliminary utilization from 2D chirality engineering. We investigate the self-assembly of a barbituric acid (PMS molecules) derivative. The molecule is having two chiral phases when confined on surfaces. Scanning tunneling microscopy images reveal that molecules self-assemble first into a guest-host chiral two-dimensional nanoarchitecture at the solid/liquid interface on a highly oriented pyrolytic graphite (HOPG) substrate. The host structure consists of wavy H-bonded molecular wires. The formation of the molecular building blocks is having an organizational 2D heterochirality. The heterochirality is amplified by the molecular self-assemblies with a long range ordering. This structure is metastable and evolves then into a close-packed hydrogen-bonded nanoarchitecture.

The full procedure of molecular dynamics including molecular phase transition, dispersion and aggregation, molecular self-ordering and molecular pattern modification based on the dynamic equilibrium have been studied by STM observation in real-time.

**Mardi 24 septembre 2013 à 11h**

**Bât. 351 (2<sup>ème</sup> étage)**

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