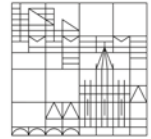
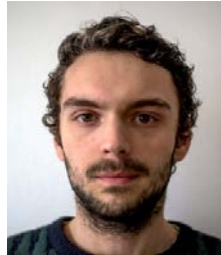


# SFB 767 Seminar

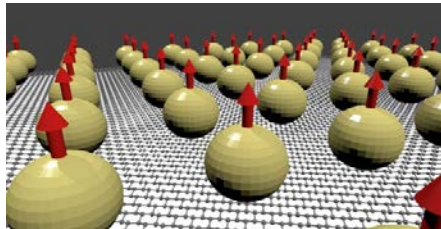
Universität  
Konstanz



Tue 27 March 2018  
9:30  
P 712



**Dr. Pierre Capiod**  
University Claude Bernard Lyon1  
Institut Lumière Matière, Lyon



## Study of 2D materials with their possible applications in electronics and high density data storage

2D materials are of interest because they display interesting and peculiar electronic properties. The discovery of graphene has impeded the synthesis of novel 2D materials (mono-atomically flat sheet of an element, transition metal dichalcogenides, topological insulators...).

In the first part, this talk will describe the synthesis and the physical characterizations of two novel bidimensional materials: silicene and nanocrystal superlattices (atoms are replaced by semiconductor nanocrystals).

In both cases, transport measurements were systematically investigated with the help of a state-of-the-art 4-probes Scanning Tunneling Microscope (STM).

In the second part, we will look at the application of a 2D material (graphene) for the self-organization of magnetic nanoparticles of FePt for ultra-high density storage applications. The nanoparticle morphology and organization have been investigated using Grazing Incidence Small Angle X-ray Scattering (GISAXS), while their magnetic properties have been studied by X-ray Magnetic Circular Dichroism (XMCD).

Contact:  
M. Fonin, 3787



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