

Chez Pierre

Presents ...

Monday, May 13, 2024
12:00 pm - 1:00 pm
Duboc Room - 4-331



Chez Pierre Seminar

Iván Brihuega, Universidad Autónoma de Madrid

“Shaping graphene properties at the atomic scale”

At present, we have a very high level of understanding of the inherent properties of graphene. This means that we are now in a position to go one-step further and try to add and take advantage of some of the few properties not naturally found in graphene, such as the existence of magnetic moments, gaps in the band structure or superconducting properties. In this talk I will show how we incorporate those properties to graphene, and how we control them at the nanoscale by using STM as main experimental tool. More specifically, we use quantum confinement to selectively introduce gaps in graphene's electronic band structure, atomic H as building blocks to incorporate magnetic moments and Pb islands to induce superconductivity by the proximity effect]. In addition, I will show how we use quasiparticle interference patterns to probe graphene topological properties.