**Mastering the shaping of polyoxometalates on solid substrates**

These last several decades, the number of synthesized molecules with proper physical properties for applications in molecular electronics, spintronics, quantum computing, sensing… is countless. They can display similar properties as classical materials (conductivity, magnetism, switching, ...), and they bring several added values, as for example their versatility for tailor-made properties, their self-assembly leading to new materials by the bottom-up approach, and their small size to reach the ultimate downscaling. However, to be used in tangible devices, the control of their handling and assembly is crucial to ensure reproducibility and efficiency of the final system. Polyoxometalates are promising functional molecules that have retained attention in the field of molecular electronics and spintronics, thanks to their remarkable redox and magnetic properties. In this presentation, I will present the last results of our group about the organization of polyoxometalates on solid substrates with a thorough control of the thickness as well as the density of the molecules in the layer. I will show how we try to probe the physical properties of the POMs in their new environment and emphasize the design of surface chemistry, with a focus on the competing chemical interactions during deposition.