

*Sorbonne Université, CNRS UMR 8234, Laboratoire PHysico-chimie des Electrolytes et Nanosystèmes Interfaciaux (PHENIX), Campus Pierre et Marie Curie, 4 place Jussieu - case 51 - 75252 Paris cedex 05 – France*

## **New synthesis opportunities for the elaboration of magnetic nanoparticles with original magnetic and optical properties**

The aim of this thesis is to broaden the panel of magnetic nanoparticles and their existing functionalities by proposing new syntheses of simple or hybrid multifunctional nanoparticles with original magnetic and optical properties for biomedical and environmental applications. Microfluidics and/or microwaves will be used as a methodology to investigate the formation of such nanomaterials (nucleation and growth) while exploiting in the same time their advantages for the rapid development and scaling-up of synthetic processes. These synthesis methods will also be considered for the elaboration of nanohybrids having a magnetic and plasmonic component likely to develop new properties.

### **Candidate profile**

Master degree in physical-chemistry or chemical engineering with strong background in inorganic/colloidal chemistry and materials science.

Required languages: fluent in English or French

### **Salary**

1768 € gross/month, 3-year grant starting in September 2018

### **PHENIX lab at Sorbonne Université**

In 2018, UPMC (Université Pierre et Marie Curie) and Paris-Sorbonne fused and became Sorbonne Université. A direct descendant of the historic Sorbonne, this university represents French excellence in science and medicine and is a major player in the international knowledge and innovation economy. UPMC is the top French university by the Shanghai world rankings, 9th in Europe and 40th in the world. More than 6000 researchers work in its 100 science laboratories.

The PHENIX laboratory gathers more than 80 researchers working on the physical chemistry of colloidal systems and porous media. PhD students and post-docs come from many different countries including France, Germany, Italy, Greece, United Kingdom, India, Mexico, Tunisia, Brazil, Ecuador, USA, China..

### **Contact**

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