

Post-PhD position

Placement: laboratoire Matière & Systèmes Complexes-Université de Paris

Duration: 12 months

Starting time: ideally early 2022

The laboratory ‘**Matière & Systèmes Complexes**’ Joint Research Unit of Université de Paris (<http://www.msc.univ-paris-diderot.fr/>) and the French National Research Council (CNRS) offers a challenging work environment in soft matter research. It also offers interdisciplinary training in complex fluids, non linear physics, biology and statistical physics.

The proposal interdisciplinary research project is focused on the development on the one hand of **composite materials** from an **organic matrix** incorporating **functionalized graphene oxide nanosheets** and on the other hand a robust methodology for an experimental study of their mechanical and structural properties at different scales for their applications for the selective absorption of molecules or pollutants. The strategy consists in combining the properties of platelet nanoparticles introduced into different polymer matrixes in order to modulate their mechanical, structural and swelling properties. After elaboration, the mechanical properties of these new composite materials will be studied from the microscopic scale to the macroscopic scale by combining the shear rotational rheology, photo-acoustic techniques (brillouin spectroscopy and ultrasound laser) as well as advanced electron microscopy and diffraction/diffusion platforms of Université de Paris.

Applicants should possess a PhD degree, experimental skills and high knowledge in physico-chemistry. Knowledge of rheology will also be an asset.

For consideration, submit a resume, a publication list along with the name of 2 referees and a cover letter outlining research interests to this address : **alain.ponton@univ-paris-diderot.fr**