

### Joint PhD position between ULille and UGhent

**Title: Smart supramolecular hydrogels**

**PhD locations:** Lille University, UMET laboratory, ISP team, 59655 Villeneuve d'Ascq and Ghent University, Supramolecular Chemistry group, Centre of Macromolecular Chemistry (CMAc).

**PhD Directors:** Pr. Patrice Woisel (Lille University) and Pr. Richard Hoogenboom (Ghent University)

**Project description:** Hydrogels are three dimensional polymeric networks which have the capacity to retain a large amount of water within their structures while maintaining their dimensional change ability. One of the most remarkable areas of research on hydrogels in the past few decades has been their stimulus sensitivity. So called "intelligent" hydrogels can undergo reversible and significant changes in structure, shape, and/or property after being exposed to an external physical/chemical/mechanical stimulus. Recently, the intersection of polymer science and supramolecular chemistry has led to the development of smart supramolecular polymeric materials with unusual structural, mechanical and functional properties

The aim of this thesis will be to develop new intelligent hydrogels incorporating multi-stimuli responsive host-guest interactions as sensors with memory functions as well as molecular muscles. The PhD student will be in charge of the synthesis and the study of the physico-chemical properties of supramolecular materials. This joint PhD position is available in the ISP team (Lille University) and the Supramolecular Chemistry Group (Ghent University). Both groups interact closely in the research field and the PhD student will be allowed to work in both laboratories.

**Requirements:** In order to apply for PhD position, candidates must have successfully completed a Research Master (or an equivalent 2-years MSc) degree. Candidates should have a solid scientific background in polymer science, physico-chemistry and a knowledge of common experimental tools (NMR, FTIR, UV-Vis, Fluorescence) will be greatly appreciated. More importantly, good experience in synthetic polymer and/or organic chemistry is required.

The working language is English.

**Duration:** 4 years

**Applications:** If you are interested, please send by email a motivation letter including your interests in the research area and at least a name of a reference, your academic transcripts and a CV including your research experience to Pr. P. Woisel ([patrice.woisel@ensc-lille.fr](mailto:patrice.woisel@ensc-lille.fr)) and Pr. R. Hoogenboom ([richard.hoogenboom@ugent.be](mailto:richard.hoogenboom@ugent.be))

**Salary:** ≈ 1800 Euros/month

This position will remain open until fulfilled.