

## Post-doc position

### Functional copolymers synthesis in view of elaborating new thermoplastic elastomers

#### Project Overview

We are seeking a talented and highly motivated postdoctoral researcher with a strong background in polymer synthesis and chemistry to join the UMET Laboratory (Unité Matériaux et Transformations University of Lille) in the, Polymer Systems Engineering team. The successful candidate will contribute to the ANR-funded TECPRO project which aims at developing a new generation of **Thermoplastic Elastomers with Controlled Thermomechanical PRO**PERTIES with locally tunable and reversible crosslinking capabilities, enabling precise control over their thermomechanical behavior. These materials will be based on functional triblock copolymers that can be independently crosslinked through thermal or light stimuli, offering both versatility and recyclability. Moreover, the self-assembly of these block copolymers will be guided by metallosupramolecular interactions *via* the formation of metal–ligand complexes in order to increase the versatility of the final macromolecular architectures. This collaborative project brings together the UMET Laboratory (University of Lille) and the group of Prof. Stephen Schrettl at the Technical University of Munich, offering a dynamic, interdisciplinary, and international research environment.

#### Mission

The postdoctoral researcher will focus on the **synthesis of functionalized block copolymers** capable of reversible crosslinking. Specifically:

- One block will consist of side-chain functionalized polymethacrylate copolymers enabling thermally reversible crosslinking.
- The second block will be a side-chain functionalized polycaprolactone allowing photoinduced reversible crosslinking under UV light.

The synthesis will rely on controlled radical polymerization techniques and Ring-Opening Polymerization.

Characterization of the resulting copolymers and their reversible crosslinking behavior will be an integral part of the work. To this end, the candidate will have access to the cutting-edge technical platforms and research facilities available on the *Cité Scientifique* campus.

## Candidate Profile

- **PhD in Polymer Chemistry, Materials Science or a related field**
- Solid experience in **polymer synthesis and functionalization**, ideally involving **Controlled Radical Polymerizations** and **Ring-Opening Polymerization** techniques
- Experience in physico-chemical characterization of polymers (SEC, NMR, DSC,...)
- Strong interest in **experimental research** and **structure–property relationships** in polymer materials
- Demonstrated **autonomy**, **scientific curiosity**, and **motivation** for interdisciplinary work
- Excellent communication skills and ability to work collaboratively in an international team

## Practical Information

- Host laboratory: UMET (Unité Matériaux Et Transformations), University of Lille, Villeneuve d'Ascq, France
- Contract type: Fixed-term (CDD), 18 months
- Starting date: As soon as possible
- Salary: Based on University of Lille regulations, depending on qualifications and experience

## Contact

For any information please contact:

- Grégory STOCLET (UMET): [gregory.stoclet@univ-lille.fr](mailto:gregory.stoclet@univ-lille.fr)
- David FOURNIER (UMET): [david.fournier@univ-lille.fr](mailto:david.fournier@univ-lille.fr)

## Application Procedure

Applicants should send the following documents to both contacts listed below:

- A curriculum vitae (CV)
- A brief statement of research interests and relevant experience
- Two recommendation letters
- Full transcript of Master II degree