



Opening for a Ph.D. position in chemistry at the University of Bordeaux - INP

Photosensitized selective functionalization / deconstruction of commodity polymers

The large volume and intrinsic stability of commodity polymers renders their recycling challenging from a chemical and economic viewpoint. Photoinduced reactions have demonstrated their usefulness in organic transformations thanks to their capability of generating high-energy intermediates under mild conditions. This allows the unusual combination of high reactivity and selectivity to be available. However, it is still difficult to precisely adjust the selectivity to target selected functional groups within a macromolecular substrate. We are therefore applying photocatalysis to the selective functionalization of selected commodity polymers that possess sufficient differences in their chemical structure, for example polystyrene or polyisoprene. Over the course of the project, we will develop organic or hybrid organic-inorganic catalyst capable of promoting their selective functionalization and undertake in-depth mechanistic studies.

The project will involve two groups, one specialized in photochemistry (ISM) and one in polymer chemistry (LCPO). Together, we will provide you with a rich, multi-disciplinary scientific environment in which to work and learn.

You are a chemistry student with a Master's diploma or equivalent who is familiar with organic synthesis and / or photochemical transformations. You are curious, careful in your research work, attentive to details, and willing to learn new techniques. Working and communicating with others is no problem.

To apply, please send your CV, a cover letter, along with the names of any persons that can provide reference letters on your behalf to:

Dr. Dario Bassani (dario.bassani@u-bordeaux.fr)

Prof. Daniel Taton (daniel.taton@enscbp.fr)

The position is financed through the Post-Petroleum Materials Project and will begin Oct. 1st 2022 for a three-year period. Applications are welcomed up to July 15, 2022.