

REVERSIBLY DESIGNED CROSS LINKED POLYMERS -Postdoctoral position 24 months-

Scientific description :

Plastics' consumption in Europe -and consequently plastics' production- has received a lot of attention in the framework of circular economy as well as economic and environmental sustainability. Recycling of plastics has been a topic for research and innovation throughout the last decades, while at the same time a multitude of actions have been taken to increase recycling rates. However, at the moment, less than a third of all plastic waste in Europe is recycled, with Europe setting high targets (50%) for 2050. Cross-linked polyethylene (PEX) is a perfect example of difficult-to-recycle polymer, with a wide variety of applications, as insulation materials for electric wires and cables, for hot and cold water pipes and heating system (accounting for 60% of the plastic pipes) and in the automotive industry as seating foams, where it has been introduced in order to substitute polymers that do not have the required properties.

The REDONDO project aim to improve the difficult-to-recycle PEX by achieving the production of rPEX (Reversibly cross-linked polyethylene). The proposed methodology will address the issue by making use of beyond state-of-the-art processing techniques, aiming to achieve a fully reversible crosslinking process that will allow the generation of sustainable-by-design polymers, ensuring minimal property loss at the recycling process and accomplishment of a fully circular material flow.

Programme : The postdoctoral objectives will consist in the synthesis of reversible PEX in accordance with the requirements of the project partners.

Environment : Work will be carried out in the Polymer Department (C3M) and Molecular Chemistry Department (CMM) of Institut Charles Gerhardt de Montpellier (ICGM), in collaboration with Redondo European Project coordinated by Aristotle University of Thessaloniki.

Profile : Candidate needs to have a PhD in polymer chemistry with strong skills in organic chemistry. Good command of English both written and spoken is required, as well as proven competences of writing scientific articles and technical reports.

Start : February 2023 (24 months)

Contact :

Send your application and cv before end November 2022 to :

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