Synthesis and Characterization of Polyethylene Vitrimers

Postdoctoral Position

Soft Matter and Chemistry Laboratory, ESPCI Paris

The Soft Matter and Chemistry laboratory is pleased to announce a postdoctoral position in polymer science. The project will focus on synthesizing crosslinked, yet processable, high-density polyethylene by reactive processing. The grafting chemistry and the transformation process will be optimized in order to meet specific requirements related to the targeted applications. As an example, the flow properties, the thermo-mechanical properties and the chemical resistance of the resulting vitrimers will be assessed in details. The project will be conducted in very close collaboration with the industrial partner in order to assess the applicability of the solution developed, as well as to perform numerous application oriented characterizations and tests.

Laboratory Description:

ESPCI Paris is a major institution of higher education (a French "Grande École d'ingénieurs"), an internationally renowned research center (17 laboratories), and a fertile ground of innovation for industry. Teaching and research are done in the fields of physics, chemistry and biology.

The Soft Matter and Chemistry laboratory mainly focuses on the design, synthesis and study of polymeric and supramolecular materials. The laboratory is known for conducting fundament research inspired by or oriented towards industrial applications.

Knowledge and skills:

Applicants should have a very strong background in polymer science at large, and in particular a solid experience in polymer chemical modification and/or in polymer physicochemical and mechanical characterization. An interest on all these aspects of polymer science as well as in experimental work are required. Good skills for collaborative work are also sought.

Key words:

Vitrimers, reactive processing, polymer chemical and thermos-mechanical characterization, flow properties, experimental work.

Recruitment terms:

Principal Investigator: Pr. Renaud Nicolaÿ

Starting date: September-October 2018

Duration: 18 Months

Salary: The salary will be adjusted to candidates' background and expertise

Potential candidates are asked to submit their CV and provide contact information for two to three references.

Contact:

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