



Leibniz-Institut
für Polymerforschung
Dresden e. V.

Job Advertisement - Open Experienced Researcher position on

“Theory and Simulations of Polymer Crystallization under Flow Conditions and under Competing Interactions”

EU-Project FLIPT funded under the topic FETOPEN-RIA-2014-2015 at the Leibniz-Institut für Polymerforschung Dresden e.V. (Leibniz Institute of Polymer Research), Institute Theory of Polymers.

The Leibniz-Institut für Polymerforschung Dresden is one of the largest polymer research facilities in Germany. As an institute of the Leibniz Association, the IPF is committed to carrying out application-oriented fundamental research.

Background of the project

Currently there is no truly sustainable pathway for the production of plastics, an industry which in the EU consumes ~778GWh of energy per annum. Nature has evolved numerous strategies for efficient processing of its materials over hundreds of millions of years. One such solution has been recently hypothesized in natural silk spinning: **FLIPT: FLOW INDUCED PHASE TRANSITIONS**, a disruptive process which our consortia believe could hold the key to a new low energy paradigm for polymer processing. To address these challenges the FLIPT consortia will combine the expertise of world-leading groups in natural materials, polymer synthesis and material processing alongside practical input from SME partners and larger European companies. Taking inspiration from the spider and silkworm, novel functionalized polymers ('aquamelts') will be created that utilize FLIPT; enabling controlled solidification with minimal energy input. It is our goal to develop a platform technology to generate novel, bespoke, naturally derived, low embodied-energy materials, which would be competitive with current petroleum-based polymers in terms of performance and economics while well exceeding such materials in terms of sustainability.

Your Job:

The crystallization of polymers under conditions of competitive interactions such as hydrogen bonds in aqueous environments and under flow should be simulated and theoretical models should be developed.

Your Profile:

- University degree in Physics or Chemistry and completed relevant PhD level
- Strong background in theory and computer simulations of soft-condensed matter
- Experience in simulation techniques such as MD and MC.
- Highly motivated to developing new theoretical models and simulation methods

Our Offer:

- Exciting working environment in an attractive research institute close to the centrum of Dresden and in a dynamic team of theoretical polymer physicists.
- Opportunity to work in an international team of scientists and industrial partners in the FLIPT-project
- Employment contract for 3 years
- Salary and social benefits in conformity will be according to the collective labor agreement for public service employees of the federal states of Germany (TV-L E13)

The position is available from 1st September 2016 and will be filled as soon as a suitable candidate has been found. Candidates should send their applications not later than 31st July 2016.

In case of identical qualifications, preference will be given to severely disabled candidates. The Leibniz-Institut für Polymerforschung Dresden e.V. is committed to providing equal career opportunities for men and women.

Further information are available at http://cordis.europa.eu/project/rcn/203546_de.html.

The project webpage will come soon.

Contact

To apply, please e-mail a detailed CV including at least two references along with a letter of application to jobs@ipfdd.de, for more information you can contact Prof. Sommer under ☎ +49 351 4658 747.