The laboratory IMP UMR CNRS 5223 offers a post-doctoral position for 12 months on a research subject requiring skills in rheology and twin screw extrusion processing. The research work aims at optimizing the extrusion of a polymer system including biomass. To reach this objective, preliminary studies by capillary rheology and using an internal mixer will be performed. A rheological model has to be established to simulate and optimize the processing using Ludovic® software. An important part of this work will concern the validation of the conditions of extrusion in situation.

IMP (http://www.imp.cnrs.fr) is an academic research laboratory in polymer science (200 researchers) with a high experience in twin screw extrusion from 1987. The candidat will perform his research in Saint-Etienne (France) in a team composed by a full professor specialist in rheology and an associate professor, specialist in (reactive) extrusion.

Profile:

PhD in material sciences is required, ideally in polymer science. Strong knowledge in rheology including experiments, theory and applications is demanded, especially regarding steady state shear and capillary experiments. The candidate must be familiar with the basic models. An experience in rheology of highly filled systems will be appreciated. The final objective being to extrudate with a modular corotating twin screw extruder, some basic knowledges of the process are expected.

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