Undergraduate student placement: extensional viscosity measurements by hyperbolic contraction flow

Are you looking for a placement to integrate your CV or to complete your M.Sc. studies? Are you interested in polymer physics? We offer a position for an experimental project validating a novel technique to test extensional viscosity at high temperature within the frame of the larger project, Smart Foam, founded by FORMAS. The project will be hosted by CHALMERS University of Technology in collaboration with the Swedish Institute for Food and Biotechnology (SIK) and is a part of CHALMERS' Area of Advance - Materials Science.

Position summary
Full-time temporary employment, unpaid.

We offer a student position in the area of processing and properties of foamed biopolymers. The aim is to find useful routes to effectively foam such materials. Furthermore, the aim is to establish ways to produce stiff as well as soft foams. The manufacturing aspects are thus in focus as well as the physical properties of the final component. An understanding of the rheological properties of molten material is essential in this context. For this we built an instrument to test extensional viscosity, using the principle of hyperbolic contraction flow. The student will learn the HCF theory and the instrument operation, testing samples and reporting the results to validate the technique. This will be initially applied to polyethylene samples, then some biopolymers trials will be carried out with the help of a Ph.D. student.

Qualifications
The candidate should be interested in experimental work. The candidate should be working towards a B.Sc. or M.Sc. in Materials Science, Physics, Mechanical Engineering, Chemical Engineering or similar education. Good knowledge in polymer science, flow behaviour and rheology is a distinct advantage although initial training will be provided along with relevant literature regarding hyperbolic contraction flow. Good oral and written English required.

How to apply
Send your CV by email to marco.berta@sik.se before 30/11/2014

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