

PhD Studentship

Start Date: 1st October, 2017. Loughborough University (UK)

Project Detail:

The overall aim of the project is to determine and predict the conditions providing the absorption of the desired amount of liquid from foam in a contact with a porous substrate to the porous material. For this purpose, a theory and corresponding computer simulations will be developed of the interaction of foams with porous substrates. The theoretical predictions will be validated against a range of experimental investigation of the process. Understanding of interaction of foams made of both Newtonian and non-Newtonian (polymer-surfactant mixtures) liquids with porous substrates: application of foams onto porous substrates, drainage, capillary suction of the foaming liquid into the porous substrate will allow developing a completely new theory of interaction of foams with porous materials. The developed theory will be applied to both model (filter paper, porous support built up by glass beads) and real (house hold care sponges) porous substrates. This will give a possibility to predict the influence of wetting properties, porosity and pore size distribution inside the porous substrates on the rate of delivery of liquid from foam to the porous substrates. The developed theory will allow determining and predicting the conditions providing the absorption of desired amounts of liquid from foam in a contact with a porous substrate to the porous material and to remove greasy soil from the porous material without foam collapse.

Find out more:

<http://www.lboro.ac.uk/departments/chemical/>

Entry requirements:

Applicants should have, or expect to achieve, at least a 2:1 Honours degree (or equivalent) in Chemistry/Chemical Engineering/Physics. A relevant Master's degree and/or experience in Colloid and Interface Science will be an advantage.

Funding information:

The studentship is for 3 years and is intended to start in October 2017. The studentship provides a tax free stipend of £14,553 per annum for the duration of the studentship plus tuition fees at the UK/EU rate. International (non EU) students may apply however the total value of the studentship will be used towards the cost of the International tuition fee in the first instance.

Contact details:

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How to apply:

All applications should be made online at <http://www.lboro.ac.uk/study/apply/research/>

Under programme name, select: Chemical Engineering

Please quote reference number: CG-AT-1720