

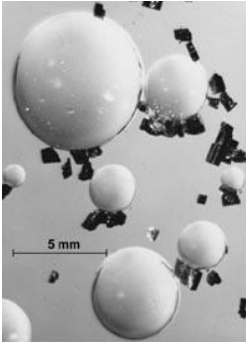
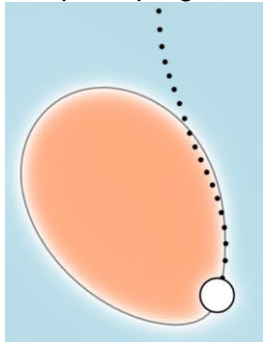
Two internships available at the Institute of Fluid Dynamics, Dresden, Germany.

Topic:

Experimental / Numerical investigation of particle transport in gas-liquid systems

Background:

Froth flotation is a separation process which plays a major role in the mining industry. Bubble-particle interactions are the very heart of this process, largely used for the capture of valuable commodities such as rare earth metals. The Institute of Fluid Dynamics of the research centre Helmholtz-Zentrum Dresden-Rossendorf (Germany) is making a bold move towards investigating the capture of mineral particles by rising bubbles. The Institute offers two internships on the following topics:

<p style="text-align: center;"><u>Topic 1:</u></p> <p>Experimental observation of the collision and attachment of particles falling on a bubble surface</p> 	<p style="text-align: center;"><u>Topic 2:</u></p> <p>Direct numerical simulation of the particle-bubble interactions using an in-house computer program</p> 
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Tasks:

- Literature survey on particle attachment to bubble surface and froth flotation
- Visualisation with a high-speed camera of the attachment of falling solid particles on the surface of bubble (Topic 1)
- Image processing of particle-bubble interactions (Topic 1)
- Implementation of particle-bubble collision model in C++ (Topic 2)

skills:

- Interest in fluid mechanics
- English or German
- High level of autonomy
- Enthusiasm for experimental work (Topic 1)
- Enthusiasm for applied mathematics (Topic 2)

duration:

5-7 Months
 Starting date: November 2016~January 2017.

financial compensation:

~ 600 Euros / month
 The HZDR offers German courses free of charge

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