



Kontakt: Milad Eftekhari
Telefon: 0351 260-3873
E-Mail: m.eftekhari@hzdr.de

Kontakt: Sascha Heitkam
Telefon: 0351 463- 43007
E-Mail: s.heitkam@hzdr.de

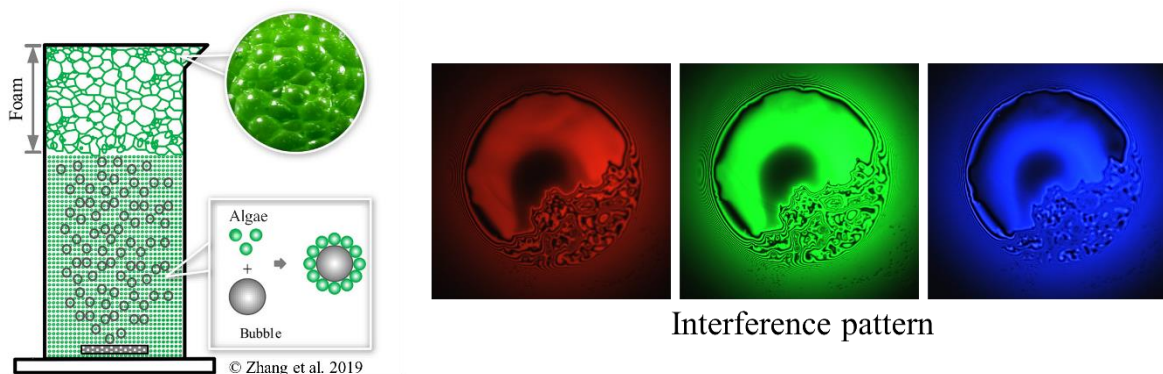
Algae harvesting by froth flotation: studies on froth stability

Master theses / Diploma theses / Compulsory Internship

In algae flotation, for high recovery and quality, the froth phase should be designed to ensure adequate liquid drainage, i.e., the froth should have large bubbles with long residence times. The long residence time can be achieved either by low gas flow rates or by a high froth zone. Both require high foam stability and therefore high additive concentrations. This not only increases costs, but also leaves a significant chemical footprint in the cultivation medium. Our objective is to establish an interferometry setup and image processing program to study the impact of various parameters, including algae concentration, on the stability of algae foams.

Experimental methods/techniques:

- Dynamic foam analysis
- Thin film thickness analysis using inverted microscope and light interference pattern



These experimental methods can prepare you for a variety of jobs after graduation, as these concepts are widely applicable in various fields such as mineral processing, recycling, pharmaceuticals, and so on.

Requirements:

- Degree in process/chemical/electrical/mechanical engineering or related field of study
- Motivation, interest in this research area, experimental experience
- Basic knowledge in programming and image analysis

Conditions:

- duration min. 6 month, start: from Feb/Jan 2024, workplace: HZDR

Postadresse (Briefe)
TU Dresden, 01062 Dresden
Postadresse (Pakete u.ä.)
TU Dresden
Helmholtzstraße 10
01069 Dresden

Besucheradresse
Sekretariat:
Helmholtzstr. 14
Merkel-Bau
EG, Zi. 17

Internet

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