



## **Assignment internship background student Applied Physics, Food Technology or Water Technology**

### **Living Lab Biobased Brazil**

The Living Lab Biobased Brazil is a transnational Living Lab in the field of Biobased Economy, created in 2014 by a consortium of Dutch Universities of Applied Sciences in collaboration with several Brazilian universities. The Living Lab helps students with internships and graduation projects in the Netherlands with the focus on Biobased Economy. We also help students finding accommodation, and offer buddy support and some events.

For more information please see [www.biobasedbrazil.org](http://www.biobasedbrazil.org) and [www.biobasedbrazil.org/student/the-netherlands/](http://www.biobasedbrazil.org/student/the-netherlands/) or ask the International Office of your university.

### **University of Applied Sciences information:**

The universities of applied sciences (in Dutch: 'hogescholen') offer programs that focus on the practical application of arts and sciences.

Getting practical work experience through internships is an important part of the professional study programs offered at these institutions. The largest universities of applied sciences enroll 20,000 to 40,000 students. Altogether some 446,000 students are enrolled on professional programs. University of Applied Sciences have also research groups. These groups do applied research and they are so called professorships. This internship assignment is within one of the associate professorships.

### **NHL/Stenden University of Applied Sciences:**

<https://www.nhlstenden.com/en/why-nhl-stenden>

The NHL Water Technology Research group is an applied research group based in Leeuwarden, Friesland. The group works with company driven scientific questions, e.g. Magneto, Paques, Hapss, High Voltage Water, Gas Unie, SABESP, etc, as well as with other research institutes like calTech, Universidade Federal de Viçosa, Wetsus, Centre of Expertise Water Technology (CEW). Primarily, the group focus on conducting short/medium term private initiative driven applied research projects to support the development, improvement and implementation of existing and new water related technologies.

### **Main research topic:**

Electrohydrodynamic Atomization

### **General background:**

Applied Physics, physics, electrohydrodynamics, imaging treatment, interfaces, emulsification processes, food technology, water technology

### **Goal of internship:**

To support and conduct experiments in the laboratory, write reports, perform literature review, work with data analysis and data treatment. The research topic is the application of electrohydrodynamic atomization (EHDA) as an emulsification tool. The process has many application both in food technology

and water technology. The experiments will be conducted in the EHDA laboratory inside the Water Application Centre in the city of Leeuwarden, The Netherlands.

#### **Activities:**

The Project involves:

- Performing experiments with EHDA process
- Literature review and background build up
- Performing experiments with high speed imaging and laser techniques (DLS)
- Conduct imaging treatment and apply statistical analysis to structure and treat the data
- Work in a lab environment

#### **Final product**

The student will write a report that contains an overview of all activities and findings.

#### **Starting date**

September 2019. The length of the assignment is approximately 5 months (20 weeks). The student who will execute the assignment get a fee of €300,- per month.

The intern will be part of a research team lead by the adviser and supervised by Prof. Luewton Agostinho Lemos.

#### **Desirable skills/qualities of the student**

The student should be able to carry out independent laboratory research. The preferred background is physics, e.g. hydrodynamics, electrostatic, high voltage systems, optics, imaging treatment, emulsification processes, interfaces. The interest in applied physics is a pre.

Good knowledge of the English language is required. We have set minimum language requirements for foreign students. The minimum English language prerequisite is: an academic IELTS test (or equivalent\*) with an overall band score of at least 6.0. As a foreign student you must provide evidence of your language competences in the form of an official certificate: IELTS, TOEFL, TOEIC or Cambridge ESOL. It is your responsibility to ensure that you meet these requirements. **Please see the requirements on the webpage.**

#### **Information of the company:**

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#### **Interested?**

Please see the procedure at <https://www.biobasedbrazil.org/student/the-netherlands/>. Please be aware that the process stated at the above mentioned link applies.



Living Lab Biobased Brazil  
Education Research Innovation

**PLEASE CONTACT FOR ADDITIONAL INFORMATION THE INTERNATIONAL OFFICE OF UFMG, UFV, UFSJ,  
UFOP OR PUC MINAS**