

## **Assignment internship Environmental Science, Chemical Engineering or Process 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. Universities 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.

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

Avans University of Applied Sciences was founded on 1 January 2004 following a merger of Hogeschool Brabant and Hogeschool 's-Hertogenbosch. At Avans University of Applied Sciences, around 29,000 students study 54 different courses. 2,400 employees work at 20 schools, 4 support units and 1 Learning and Innovation Centre.

Students, lecturers, professors and education professionals together form a lively network within our educational institution. Knowledge and competency development is the driving force and the connecting factor behind this.

Our varied and modern learning environment enables each student to develop his or her skills and ambitions to their maximum potential.

Our inspiring lecturers are experts in their fields and have a thorough knowledge of learning processes, enabling them to challenge students to push their boundaries and excel. The schools have structured their curricula, teaching and examinations based on our educational vision. We collaborate with a wide range of companies, professions and organizations as part of its teaching and research activities.

For more information please see the promotional YouTube video:  
<https://www.youtube.com/watch?v=5nsPBIE04Q4>

**Main research topic:**

Performing Life Cycle Analysis for the process of pyrolysis.

**General background:**

A project has been adopted within the Centre of Expertise Biobased Economy at the Biobased Energy Research Group within the Avans University of Applied Sciences. This project has the goal to demonstrate and compare pyrolysis processes on available types of feedstock. Pyrolysis is a chemo-thermic process that can convert different types of feedstock into valuable products, including a bio-oil intermediate (35-45%) suitable for upgrading to motor fuel, a solid product biochar (30-40%), and gaseous products (20-30%).

**Goal of internship:**

The goal of this assignment is to perform an LCA on pyrolysis processes of converting different kind of feedstocks into valuable end-products by taking into account the whole value chain.

**Activities:**

The Project involves:

- Literature research (mainly about pyrolysis and its biomass input, LCA, the to be compared conventional technique and the product of the processes)
- Interaction with the clients of the project, gathering data, validate data
- Modelling the pyrolysis process (and reference processes) in GaBi software
- Writing a report about all findings including the GaBi models
- Present about your research to the client and to the Research Group Biobased Energy

**Final product**

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

**Starting date**

February 2019. The length of the assignment is approximately 5 months (20 weeks).

The intern will be part of a research team lead by the adviser and supervised by Alexander Compeer and/or Maurits Dorlandt. The student who will execute the assignment get a fee of €550,- per month.

**Desirable skills/qualities of the student**

The student should be able to carry out independent research. The preferred background is something in the field of environmental science, chemical engineering or process technology. The student **have** experience with LCA.

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.



Living Lab Biobased Brazil  
Education Research Innovation

**Information of the company:**

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**Interested?**

To apply for a project or multiple projects, you need to complete the survey. The Living Lab Biobased Brazil strives to give you within 5 days. Applications outside this survey will be not processed. Keep in mind the application deadlines. We need to receive your application before 01/11. If you do not meet the given deadlines we cannot offer you any guarantees.

<https://fd7.formdesk.com/omnismart/projectsnl>

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