

Assignment internship background student Environmental Engineering

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 Brazil with the focus on Biobased Economy. We also help students finding accommodation, and offer buddy support, Portuguese classes, a bye-bye meeting and an introduction weekend in Brazil

In return the Living Lab expects you contribute to the Living Lab blog. You have to blog about your personal and internship experiences during your stay in Brazil. We also expect you to participate in the mini symposium at the end of each semester.

These events help you to increase your personal network and is focused on your personal development! For more information please visit <https://www.biobasedbrazil.org/student/brazil/>.

Company/University information:

The Universidade Federal de Minas Gerais (UFMG) offers public education to 35,000 students on the two main campus areas and several off-side units, all found in the city of Belo Horizonte. In total the university offers 76 undergraduate, 72 master and 62 PhD programs. Its programs covers all main education areas: social-, human- and basic sciences, among others.

- UFMG is the **10th** best university in **Latin America** (QS World University Rankings);
- UFMG is the **second** best university in **Brazil** (QS World University Rankings);

or more information please see the promotional YouTube video: <https://www.youtube.com/watch?v=fdOe4Szw>

Research Project:

The aim is at improving municipal composting, learning and teaching the population and local institutions. In 2016, the daily average compost production was 6 tons, while the organic daily production overpasses 1,000 tons. Some studies have been developed recently, either by municipal institutions or academic ones, in terms of administrative aspects, although there is little political support in the city cleansing agency. The Dutch experience, not only in terms of industrial composting, can be helpful orienting improvements and quality control. A comparison between Dutch and Brazilian situations is potentially rich as to teach what/how is needed to be done in Belo Horizonte.

General background:

The organic content of municipal solid wastes is on average more than 50%, most of them are thrown without any use and there are many open dumpings in Brazil. Belo Horizonte, capital (2,5 million inhabitants) of Minas Gerais state, has a certain reputation, in the country, due to the initiatives it had regarding waste management, although in recent times nothing is worth-mentioning. The economic difficulties decrease the amount of money to be spent on waste management and the environmental issue associated to this is unconsidered.

In order to improve waste management, composting is a must because it also helps dealing with agriculture production, in this case in urban areas. Brazilian national waste management law (edited in 2010) states that every component must be valorized before final disposal; concerning organic matters, the technologies themselves are quite feasible and affordable to the country's economic situation. Being an element of reference to its community, the University must lead a process to change bad habits, so collaborating with society in the search of a better environmental situation.

Goal of internship:

Help in performing activities, listed below, to develop composting both at UFMG campus and in some of the city composting yards.

Activities:

The Project involves:

- Bring useful information from the Netherlands (and from Europe) that can be applied to Brazilian (and Belo Horizonte) conditions and that can be compared;
- Discussions on compost quality, as well as on sampling and analyzing;
- Lab activities (simple analysis on a sample basis);
- Conversations with stakeholders, officials and users and neighbors;
- Discussions on the possible substitution of other fertilizers by municipal compost, mainly on public gardens;
- Some feasibility analysis concerning the possibility of selling the compost.

Starting date

September 2018 (better middle August, because of Brazilian school semester)

The intern will be part of a research team lead by the adviser and supervised by Dr. Raphael T Barros, currently associate professor at DESA/UFMG and researcher in solid waste management. Other undergraduate and graduate UFMG students take part in this research. A proposal of a joint work (Dutch-Brazilian) is under analysis and is likely to be implemented during 2018. There are contacts with city and state institutions who work with these subjects and that will be visited during the project existence. Some visits to near towns are likely to take place.

Desirable skills/qualities of the student

Good knowledge of the English (and preferably Portuguese) language is required.

Information of the company:

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Living Lab Biobased Brazil
Education Research Innovation

Interested?

Please send your CV and motivation letter to Erik Lammers (Coordinator Living Lab Biobased Brazil). For further questions you can contact: +316 101 83 092 or ekf.lammers@avans.nl.

PLEASE BE AWARE THAT THE PROCES SUBSCRIBE AT <https://www.biobasedbrazil.org/student/brazil/> APPLIES!