



Assignment internship background student in Industrial Microbiology, Chemical, Biochemical and Bioprocess 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 Federal University of São João del-Rei (UFSJ) is one of the best public universities in the state of Minas Gerais, Brazil, with 47 undergraduate and 27 Graduate programs in almost all fields of expertise. Founded in 1986, UFSJ's highly accredited programs are distributed among 6 campuses, attending a number of 15,000 students. Among our strongest areas of expertise, we highlight our Engineering Programs; Physics and Chemistry of Materials; Sustainable Development Technologies; and our Humanities and Arts Programs. In its Institutional Development Plan, UFSJ assumes the international integration of its graduate and undergraduate programs among its strategic objectives, aiming at developing initiatives to promote cooperation with international institutions, programs, groups and researchers.

<http://www.ufsj.edu.br/>

Research Project:

Chemical and enzymatic treatment of lignocellulosic residues for the production of bio-products of industrial by interest by fermentation processes.

General background:

Our research group, supervised by Prof. Dr. Boutros Sarrouh /UFSJ, is composed of undergraduate and post-graduate students dedicated in developing projects involving production of hydrolytic enzymes from isolated microorganisms as well as the fractionation of lignocellulosic residues for production of bio-products of industrial interest by fermentative processes. The acid hydrolysis will be used to remove the hemicellulose from the biomass residues, followed by alkaline delignification to remove the lignin present in the solid residue obtained (cellulignin). The enzymatic hydrolysis of the cellulosic fraction will have the objective of obtaining a hydrolyzate rich in glucose that will be used as a fermentation medium for the production of different biobased products. The main objective of our project is to establish innovative applied technologies that aim to increase the national and international competitiveness in

the area of biobased products. It will also allow the formation of competences and strategic alliances among the participating institutions for training and exchange of scientific knowledge.

Goal of internship:

During an internship in the University of São João del-Rei, Alto Paraopeba Campus/Brazil, the student will be challenged to adapt both personally and professionally, and the payoff of this adaptation will be enormous. Intercultural communication is a vitally important part of the modern professional world, so students will drool over the fact that you have already undertaken an internship abroad, and therefore have experience in a multicultural environment. Participating in the present internship opportunity will also offers an incredible experience for students to gain research experience in bio-products from biomass and biobased economy. Internship will combine elements that favor learning, valuable innovative research skills, personal, academic and professional growth of the participating student.

Activities:

The Project involves:

- Chemical and biological treatment of lignocellulosic residues;
- Evaluation of enzymatic kinetics and activity;
- Enzymatic treatment of biomass residues;
- Fermentation technologies for the production of bio-products from hemicellulosic and cellulosic hydrolyzates.

Starting date:

February/2019

The intern will be part of a research team lead by the adviser and supervised by Prof. Dr. Boutros Sarrouh/ University of São João del-Rei, Department of Chemistry, Biotechnology and Bioprocess Engineering. Post-graduate Program in Technologies for Sustainable Development (PPGTDS)/ Alto Paraopeba Campus, Ouro Branco, Minas Gerais, Brazil.

CV lattes: <http://buscatextual.cnpq.br/buscatextual/visualizacv.do?id=K4269948P9>

Linkedin: <https://br.linkedin.com/in/boutrossarrouh>

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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| Contact person concerning this assignment | : Erik Lammers |
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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!