

1 PhD student positions in the Chemical Engineering research unit of the University of Liège (Belgium)

Within the Chemical Engineering research unit, Professor Angélique Léonard's team is recruiting a PhD student (research engineer) as part of a project financed by the FRS-FNRS (National Fund for Scientific Research) "Optimization of sludge dewatering and drying through a better understanding of their rheological characteristics and their evolution throughout the treatment chain".

Description

Within the UR Chemical Engineering (<https://www.chemeng.uliege.be>) of the University of Liège, research has been carried out for more than 20 years in relation with the optimization of the drying of sludge produced within wastewater treatment plants. The understanding of the links between the treatment of sludge in wastewater treatment plants and drying remains partial. It has become clear that rheological properties have an impact on this drying behavior. However, at present, there is no known attempt to correlate drying efficiency with the rheological characteristics of sludge, including the entire treatment chain.

In this context, the objectives of this research project are as follows:

- to understand the main role of conditioning and dewatering on sludge rheological characteristics;
- to understand how rheological characteristics and sludge drying rate are related, focusing on convective drying;
- to model drying kinetics by taking rheological properties into account;
- to give industries usable tools and support to manage drying efficiency.

The PhD student will have access to a set of experimental equipment and characterization tools gathered in a chemical engineering hall: belt filter, press filter, centrifuge, dryers, X-ray tomographs, rheometer, penetrometer, ...

Profile

Ideally, you have a master's degree in engineering in chemistry and material sciences, process engineering, chemical engineering or environmental sciences.

Knowledge of English is required (reading, writing reports and publications). Knowledge of French is a plus for integration in the daily life of the team.

Information and practicalities

We offer a 4-year doctoral grant starting with a 1-year fixed-term contract by 1 July 2020 at the latest, with a monthly salary of approximately 2000 EUR net of tax.

If you have any questions, please contact Angélique Léonard (a.leonard@uliege.be).

Submission of applications

The contract must start no later than 1 July 2020.

Applications must be sent by end of May 2020 by email to the secretariat of the department of Chemical Engineering (secretary.chemeng@uliege.be).

The complete file will include

- a motivation letter
- a curriculum vitae