Biopolymer recovery and characterization at pilot scale

Field: Chemical engineering, material sciences, environmental technology and biotechnology

Type of project: Internship

Duration: 5-6 months, starting in January 2022 (earlier also possible)

Location: Wetsus, European Centre of Excellence for Sustainable Water Technology, Leeuwarden (The Netherlands)

Allowance: 175 €/month. If you get an Erasmus grand: 0 €/month.

1. Project description

Activated sludge (AS) is normally produced as a waste by-product in biological wastewater treatment plants. Within the circular economy concept, AS can be a raw material and a resource for the production of renewable products. AS can, for instance, produce significant quantities of polyhydroxyalkanoates (PHAs). PHAs are polyesters with attractive properties for the chemical and bioplastic industries as well as being biobased and biodegradable. However, there is a need for fundamental understanding and the development of novel principles in methods that will ensure reliable PHA production in yields, quantity and quality that a regional circular economy can be built on. At Wetsus, in the theme "Biopolymers from water" (www.wetsus.nl/biopolymers-from-water) we develop novel robust bioprocess and polymer recovery engineering principles for the mixed culture PHA production methods in support of ongoing technology scale-up developments.

2. Your tasks

- Operation of the PHA recovery pilot
- Monitoring and evaluation of process performance
- Quality characterization of the produced PHAs
- Interaction and collaboration within a dynamic multidisciplinary and multinational research team

3. Your profile

- Study: chemical engineering, material sciences, environmental technology, biotechnology or similar.
- Actively enrolled in undergraduate (BSc) or graduate (MSc) studies
- Preferably EU citizen or non-EU citizen registered at a Dutch university or technical high school
- An interest for practical laboratory experience and analytical work
- Fluent in English language (speaking, writing and communication skills)
- Highly motivated, enthusiastic and independent thinker and doer who also likes to work in a team

4. How to apply

Interested students are invited to send a motivation letter and CV to Erik de Vries (erik.devries@wetsus.nl). Please indicate in the email your possible starting date and available months for the internship (this can be discussed). We can assist you in arranging the Erasmus internship grant and corona related issues.