Assessment of biodegradability of bioplastic materials under industrial conditions

Summary

School of Engineering, Department of Civil Engineering and Architecture, Water and Environmental Engineering Research Group offers a 4-year PhD position in environmental engineering.

Research field:	Building and civil engineering and architecture
Supervisors:	Viktoria Voronova Argo Kuusik
Availability:	This position is available.
Offered by:	School of Engineering Department of Civil Engineering and Architecture
Application deadline:	Applications are accepted between June 01, 2020 00:00 and July 03, 2020 23:59 (Europe/Zurich)

Description

Nowadays the share of bioplastic materials in the World is growing. The usage of such plastics help to save fossil resources and provides potential for carbon neutrality. The biodegradability aspect can be viewed as add one property. It offers additional means of recovery at the end of a product's life. The focus will be on bio plastic that potentially can be used for packaging (such as PBS), toys production (PHBV), cutlery and agricultural film production (PLA). For assessment of biodegradability, the method of evolved carbon dioxide based on ISO14855 will be applied. The biodegradability tests will be carried out in Water and Environmental Engineering research group laboratory in Taltech. The work will be conducted in the frame of Horizon 2020 project "Developing and Implementing Sustainability-Based Solutions for Bio-Based Plastic Production and Use to Preserve Land and Sea Environmental Quality in Europe".

As a result of the laboratory testing of different bioplastic materials, several scientific articles will be published.

The PhD student has to:

1. Carry out laboratory tests of different bioplastic materials
2. To be involved in the other activities connected with the work under the project "Developing and Implementing Sustainability-Based Solutions for Bio-Based Plastic Production and Use to Preserve Land and Sea Environmental Quality in Europe".
3. To assist in the teaching activities (group works, practical classes)
4. To write scientific articles in the relevant field

Qualifications

The applicants should fulfill the following requirements:

- Master degree in the field of environmental or chemical engineering
- Previous research work in the field of bioplastics and/or biodegradability assessment will be useful.

To get more information or to apply online, visit https://taltech.glowbase.com/positions/29 or scan the the code on the left with your smartphone.