

Developing a data analysis workflow for flow cytometry data in R

Type of project: Internship Starting date: 1 October 2021 Duration: at least 5 months Location: Wetsus, Leeuwarden	Wetsus, European Centre of Excellence for Sustainable Water Technology creates a unique environment and strategic cooperation for development of profitable and sustainable water treatment technology. The multidisciplinary collaboration between companies and research institutes from all over Europe in Wetsus results in innovations that contribute significantly to the solution of the global water problems. www.wetsus.nl
---	---

Introduction

Flow cytometry (FCM) is a cell biology technique that utilizes laser-based technology to count and profile cells in a heterogeneous fluidic mixture based on cell characteristics. Detection of fluorescent labels and morphological characteristics can be exploited to distinguish for example live and dead cells. At Wetsus, we use the FCM to get more insight into the microbial communities in aquatic environments, artificial water systems and bioreactors. Traditional FCM data analysis of bacterial cells requires time-intensive manual selection ('gating') of cell populations. The rise of open source software offers the possibility to develop automated data analysis workflows that can do this fast and without observer bias. In order to batch process FCM data 'all at once' we are looking for a student who is enthusiastic to investigate (new) possibilities for FCM data analysis, and develop an automated workflow in R that imports, combines and analyses FCM data.

Goal internship project

- Develop a (semi-automated) data analysis workflow for microbial FCM data in R.

Your profile

- You are a bachelor (HBO or BSc) or MSc student with a background in data science or bioinformatics
- You have experience with data analysis or programming in R(studio)
- You have an affinity with statistics
- You have good communication skills in English
- You are an independent and enthusiastic person that likes a challenge

What we offer you

- A multidisciplinary environment.
- A salary of €175,-/month (except for Erasmus program participants).

Who can apply?

- EU-citizens.
- Non-EU citizens that are enrolled in a Dutch University (of Applied Sciences).

How to apply

- If you are interested, send your CV and cover letter to: pieter.vanveelen@wetsus.nl