

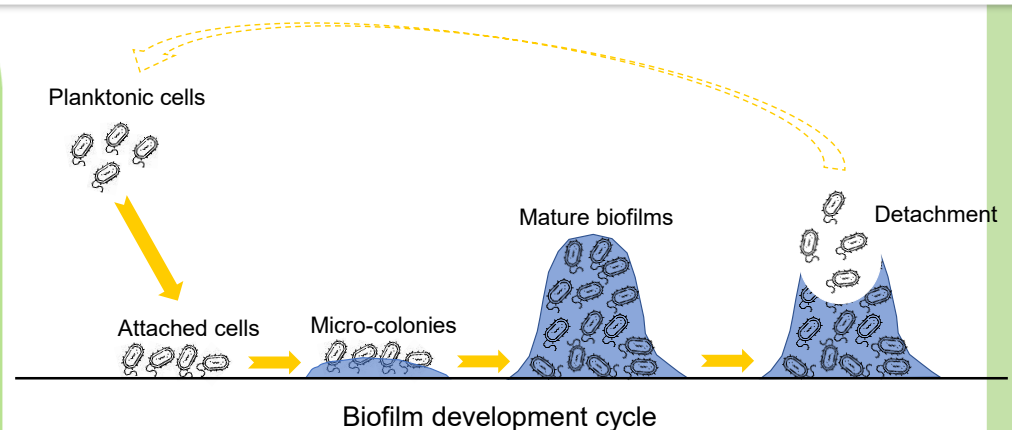


# Determining freshwater biofilms' functional and community shifts caused by extrinsic factors: A meta-omics study on multispecies biofilms sampled from environmental and simulated irrigation water distribution systems

**Date: 16 August 2021**

**Time: 14:30-15:15**

**Venue: 6N-11, KBSB**



## About the speaker:

YAO, Yuan is a PhD candidate supervised by Dr. Olivier Habimana. Her current research focuses on freshwater biofilms and their reactivities toward various extrinsic factors.



## Abstract:

Biofilms are ubiquitous throughout aquatic environments, known for their influence on water quality for drinking and irrigation purposes. These biofilms are thought to play an essential role in pollutants dissemination, such as antibiotic resistance genes (ARGs). However, very little has been done in understanding biofilms in freshwater ecosystems and Irrigation Water Distribution Systems (IWDS), which can negatively impact produce safety.

To address the research gaps, investigations were carried out to study the cross-continental pollution of freshwater biofilms with antibiotic resistance genes, evaluate the impact of different RNA extraction methods on benthic biofilms active microbiome structure and functional activities, and assess the responses of a simulated multispecies biofilm model toward extrinsic variables such as sodium citrate supplementation and erythromycin exposure.

Overall, the findings offer important insights into freshwater and IWDS biofilm studies at the farm-scale and lab-scale, thereby providing a fundamental understanding of selected pollutants' dynamic and mechanistic action on a complex consortium of microorganisms.