

## WORKSHOP

### Spreading of antibiotic resistance in Finnish wastewaters.

### What can we do together?

**30/11/2021**

**When:** Tuesday, November 30, 2021  
10:00 – 12:00

**Where:** ZOOM Virtual Workshop  
Aalto University

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Due to the long and increased worldwide usage of antibiotics there is a growing global threat of new antibiotic-resistant microorganism spread. Depending on the substance 30% - 90% of consumed antibiotics gets excreted and ends up in wastewaters. Via wastewaters together with other pollutants, microplastics and gastrointestinal bacteria, antibiotics are entering municipal wastewater treatment plants (WWTPs). Today, almost every WWTP includes biological processes with high bacterial density and suitable conditions for antibiotic resistant bacteria to interact with process bacteria under selective pressure of antibiotics.

Though most of the pollutants are removed from wastewater during treatment processes, some pharmaceuticals and microplastics colonized by different types of bacteria may escape WWTPs. Collaborative work of environmental scientists and wastewater engineers gives a unique perspective and provides a tool kit toward understanding and addressing antibiotic resistance.

This workshop will address the fate of antibiotics, antibiotic resistant bacteria, microplastics and other pollutants in Finnish WWTPs and their protentional impact on development and spread of antibiotic resistance. The results of the two-year project funded by Maj and Tor Nessling Foundation (project № 201800147) will be presented. **The goal of the workshop is to share the up-to-date and locally relevant data in order to start open discussion and work together on practical, meaningful, and actionable strategy for WWTP designers, operators and all other stakeholders.**

## AGENDA

<b>10:00 - 10:10</b>	Opening words
<b>10:10 - 10:30</b>	Antibiotics and antibiotic resistance in Finnish wastewater treatment (Antonina Kruglova)
<b>10:30 - 10:50</b>	Latest updates on the spread and persistence of antibiotic resistance in activated sludge of Finnish WWTPs (Maria Valtari)
<b>10:50 - 11:10</b>	Microplastics may collect and carry antibiotics, pathogens, and antibiotic-resistance from influent to the environment. Case study from Viikinmäki WWTP. (Antonina Kruglova)
<b>11:10 - 11:30</b>	Plenary discussion between presenters and participants (Chair: Prof. of practice Anna Mikola): <ul style="list-style-type: none"><li>- <i>Q&amp;A</i></li><li>- <i>comments from the audience</i></li><li>- <i>discussion of the promising treatment technologies and future study plans</i></li></ul>
<b>11:30 - 11:45</b>	Case study discussions and collaboration opportunities (in breakout rooms)
<b>11:45 - 12:00</b>	Comments from each breakout room, final remarks and closing

Please, fill pre-registration form at <https://link.webpolsurveys.com/S/83C1EB80F2F3D4A6> before 29<sup>th</sup> of November to receive the workshop link, recordings of workshop presentations and plenary discussion summary.

### Organizers:

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