

Invitation to webinar on the topic:

How to assess unknown chemical hazards in water

When? Thursday 2023-01-26, Finnish time: 14-16, Swedish time: 13-15

Where? Online attendance only, via Teams (link received after registration)

How to sign up? Register [here](#)

Program

Welcome and introduction

Riku Vahala, Prof., Aalto University (Helsinki, Finland)

Effect-based methods for water quality assessment

Johan Lundqvist, Associate Prof., Swedish University of Agricultural Sciences (Uppsala, Sweden)

A practical example on the application of effect-based methods for a Swedish drinking water treatment plant

Helene Ejhed, Environmental engineer, Norrvatten (Stockholm, Sweden)

Toxicity of emerging contaminants - Effect-based assessment of wastewater treatment plants in Finland

Pia Talja, Scientific Officer, European Chemicals Agency

Examples of Swedish projects:

“MiKe – screening for toxic effects in 16 Swedish WTPs”

“Effect-based analyzes to evaluate treatment efficacy and environmental hazards in wastewater”

Elin Lavonen, Water Specialist, BioCell Analytica (Uppsala, Sweden)

Background information

There is an increasing concern regarding the presence of micropollutants in wastewater effluents and recipient waters as well as in source and treated drinking waters. Micropollutants are commonly present in low individual concentrations, however, the complex mixtures can be of environmental or health concern and can further not be assessed by targeted chemical analysis alone. Effect-based methods, using cell-based (*in vitro*) bioassays, is a promising tool for improved monitoring of water quality as the methods allow measuring the total effect from both known and unknown compounds, as well as transformation products, metabolites, and cocktail effects.

In this webinar we want to provide more information about effect-based methods, why the methods are needed, and how they can be used to improve water quality monitoring for drinking water and wastewater treatment plants. We will further present practical examples from the application of effect-based monitoring in Finnish and Swedish wastewater and drinking water treatment plants.

Effect-based methods is a great approach to the new risk-based strategy included in the updated Drinking Water Directive (EU 2020/2184), as effects from new emerging contaminants can be discovered early. The methods could be of further use to fulfill the requirement in the DWD Article 4 that water treatment plants must produce “wholesome and clean” drinking water free from substances that could pose a risk to human health.

In the recent proposal for a directive amending the Water Framework Directive, the Groundwater Directive, and the Environmental Quality Standards Directive it is further proposed that member states should be required to carry out effect-based monitoring to assess the presence of estrogenic hormones in surface waters and that groups of chemicals/mixtures should be monitored by effect-based methods.