

## **WORKSHOP: REAL-TIME WATER SENSING AS ALERT SYSTEM FOR SUBSTANCES OF CONCERN**

**Date:** Thursday 19 August 2021

**Time:** 12:00 -14:00

Zoom

There are increasing concerns about the presence of contaminants and pathogens in the environment because of the adverse effects of these substances on aquatic life. These adverse effects can include cytotoxicity, genotoxicity, and carcinogenesis resulting from the contaminants, and disease from the pathogens. Furthermore, the combination of seasonal flow patterns with factors like water scarcity, insufficient wastewater treatment capacity, greywater street-side streams and sporadic spilling events can result in substantial variation in the levels of these CECs in environmental water sources.

There is, therefore, a need for rapid and reliable detection of these substances of concern in our water sources. Determining the variation in concentrations of the micro pollutants (CECs) is a challenge as large number of them makes it impractical, time-consuming and expensive to test for. To overcome this challenge, real-time monitoring techniques and methods are required to use as alert systems for ensuring that early action can be taken.

To address the needs, a Water Research Commission project is currently being undertaken on the assessment of commercially available sensor technologies for application as proxy indicators of pollution risk. The project will provide knowledge and data on the occurrence and fate of a selected list of CECs, which will form the basis for local guidelines to be drawn up for regulatory purposes. It will also guide the application of treatment systems and process configurations that can be applied to remove these contaminants successfully.

We wish to invite you to participate in this workshop during which the aims and objectives of the project will be presented to role-players, stakeholders and other role-players with interest in this field, to solicit inputs on the proposed methodology and study sites.

### **WORKSHOP PROGRAMME (12:00 to 14:00)**

Programme		
12:00 -12:05	Welcome, Aims of the workshop and Programme	Dr Shafick Adams, WRC
12:05-12:15	Overview of the project	Chris Swartz
12:15 -12:35	Early warning systems for CECs in South Africa	Dr Edward Archer
12:35-12:55	Existing early warning system technologies	Dr Edward Archer
12:55-13:20	Using NIR to detect substances of concern	Cordi Lourens
13:20-13:40	Using the CHEMS system to detect substances of concern	Ludwig Brocker
13:40-13:50	Discussion	
13:50-14:00	Closure	Chris Swartz