

HORIBA

Online Workshop

December 19th, 2024 | 1 PM - 4 PM EST

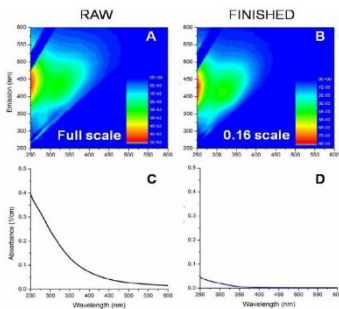
Comprehensive Drinking Water Treatment Quality and Contamination Analyses with A-TEEM Spectroscopy



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Read about [Disinfection Byproducts \(DBPs\) and Precursors in Drinking Water for EPA Compliance](#)



Aqualog Water Treatment Plant Analyzer

Complies with
ASTM D8431



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You are invited to register for our online workshop entitled:

Comprehensive Drinking Water Treatment Quality and Contamination Analyses with A-TEEM Spectroscopy.

Thursday, December 19th from 1:00 p.m EST / 11:00 a.m PDT

OVERVIEW:

Drinking water treatment faces challenges both due to infectious microorganisms in raw water and varying levels of dissolved organic carbon (DOC) from decomposed plant material from watershed sources. Disinfecting water, often with chlorine that reacts with DOC, can lead to carcinogenic disinfection byproducts (DBPs).

COURSE DESCRIPTION

This online course teaches how to use HORIBA's A-TEEM spectroscopy to measure DOC and its composition, as well as contamination from wastewater and petroleum products. Topics include instrument calibration, sample preparation, automation options, data optimization, troubleshooting, and reporting. We will also highlight the advantages of A-TEEM over traditional methods like TOC analyzers and chromatography in terms of speed, cost, accuracy, and automation.

WHAT YOU WILL LEARN:

- Theory and operation of Simultaneous Absorbance-Transmittance fluorescence Excitation Emission Matrix (A-TEEM) spectroscopy.
- Drinking Water Treatment and Disinfection: Infrastructure and Chemistry.
- Optical Characterization of Dissolved Organic Carbon and Water Contaminants.
- Sample Preparation, Automation and Troubleshooting.
- Data Analysis and Reporting.

WHO SHOULD ATTEND:

- Drinking water plant operators, laboratory staff, designers and managers
- Researchers specializing in drinking water treatment and organic carbon analysis
- Environmentalists interested in water pollution



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Comprehensive Drinking Water Treatment Quality and Contamination Analyses with A-TEEM Spectroscopy

I. Introductory Theory Section (45 min)

A. Drinking Water Treatment, Disinfection and Contamination: Infrastructure and Chemistry

1. Conventional Drinking Water Treatment Plant Features
2. Basic Chemical and Physical Process of DOC Removal
3. Disinfection and Disinfection Byproduct Formation
4. Oil Spill Contamination
5. Wastewater Contamination

B. A-TEEM Spectroscopy: Data Acquisition and Analysis

1. A-TEEM Optical Bench and Accessories for Automated Acquisition
2. Theory of A-TEEM Water Chemistry Data and Analysis
3. Water Sample Preparation for A-TEEM
4. Method Calibration and Validation
5. Data Reporting: Time Series Dashboard and Batch Analytical Toolboxes
6. Comparison and Complementarity: A-TEEM and Conventional Methods

II. A-TEEM Data Acquisition and Analysis Demonstration (45 min)

1. Instrument and Sample Preparation Including Maintenance
2. Daily Method Validation and Calibration Verification
3. Time-series Analysis Dashboard: DOC Composition and DBPs
4. Batch Acquisition: BTEX Contamination Detection and Reporting
5. Questions and Answers