TENTATIVE TECHNICAL PROGRAM

ASTM INTERNATIONAL

WORKSHOP ON AMBIENT AIR FENCELINE MONITORING USING ADVANCED MONITORING TECHNOLOGIES STATE OF THE ART, SUCCESSES, FRUSTRATIONS AND STANDARDIZATION NEEDS

Sponsored by ASTM Committee D22 on Air Quality.

April 28, 2022
Hyatt Regency Seattle
Seattle, WA, USA

Workshop Co-Chairs: Raul Dominguez
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ABOUT THE WORKSHOP:

Fenceline monitoring (concentration and flux) of ambient air pollution emissions from industrial facilities including refineries, landfills, composting operations, and other industrial activity is of high interest to the public. Various governmental agencies have promulgated rules and regulations intended to gather data on these emissions and disseminate this information to the public. Methodology used to collect this data includes use of open path instrumentation including long-path differential optical absorption spectroscopy (LP DOAS) and open path Fourier transform infrared spectroscopy (OP-FTIR), point source detectors including hydrogen sulfide analyzers and aethelometers as well as use of mobile platforms using instruments such as proton transfer reaction mass spectroscopy (PTR-MS) and solar occultation flux spectroscopy.

The application of these various methodologies to determine emissions crossing fencelines can be both challenging and fraught with pitfalls. The intent of this workshop is for air pollution monitoring contractors and consultants, impacted facilities, and regulators to present and discuss the state-of-the-art in fenceline measurement technology and its limitations, discuss ongoing projects, and possibly explore subtopics on instrument siting considerations, measurement successes, lessons learned, and measurement challenges. A key aspect of these measurements is determining the quality of generated data and the best techniques to audit hardware accuracy and performance. Outcomes from this workshop beyond informing attendees of current activity, will include identification of standardization needs that will assist the various fenceline monitoring stakeholders in performing fenceline monitoring and data analysis with well characterized limitations such that data quality objectives can be reasonably defined, and the intended purposes and expectations satisfied.

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THURSDAY, APRIL 28, 2022

8:00 AM	**Introduction** Raul Dominguez, Workshop Chair
8:15 AM	**What's Required to Get the Most Out of Open Path Systems** Eric Stevenson
8:40 AM	**Fenceline Emission Monitoring of Refineries** Marianne Ericsson
9:05 AM	**Fenceline Monitoring Solutions for Industrial Facilities with SIFT-MS Fixed Installation and Mobile Deployment** Anthony Qualley, PhD and Leslie Silva, PhD
9:30 AM	**Fenceline and Community Air Monitoring Network to Access Air Pollution Near Refineries** Catalina Tsai
9:55 AM	BREAK
10:10 AM	**BTEX Monitoring Inside a Refinery Using UCLA's Research-Grade UV-DOAS Instruments** Jochen Stutz
10:35 AM	**Refinery Fenceline Open Path Monitoring Rule 1180, Lessons Learned Detection Limits and QA** Steven J. LaZar
11:00 AM	**Minimum Detection Limit Calculation for Open-Path Measurements** Ryan Moffett, PhD
11:25 AM	**Using OP-FTIR and OTM-10 to Assess Emissions Flux** Troy Boley
11:50 AM	LUNCH (On Your Own)
1:00 PM	**Mobie Optical Remote Sensing Measurements of Industrial Emissions in the Los Angeles Air Basin: A Review of the Methodology, Applications and Lessons Learned** Jack Porter
1:25 PM	**Fenceline and Industrial Monitoring with PTR-MS: Notes from the Instrumentation Experts** Abigail Koss
1:50 PM	**A Comparison of a PTR-ToF-MS Against Four Other VOC Measurement Methods** Antonios Tasoglou

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2:15 PM	**Advances in Quantitative Diffusive (Passive) Monitoring for Trace VOCs in Air** Caroline Widdowson
2:50 PM	BREAK
3:05 PM	**Development of a Comprehensive Performance Evaluation Protocol for VOC Sensors** Wilton Mui
3:40 PM	**Real Time Asbestos Monitoring Technologies: In Situ Studies** Frank Ehrenfeld, III
4:05 PM	**Cannabis Odor: A Case Student for Focusing an Analytical Approach to Fenceline Monitoring** Emily Long
4:35 PM	**Panel Discussion: The Path Forward** Six Presenters
5:25 PM	**Closing Remarks** Raul Dominguez and David Elam, Jr., Workshop Co-Chairs
5:30 PM	WORKSHOP ADJOURNS