

# **Air Quality Measurement Methods and Technology 2021**

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# TECHNICAL PROGRAM – Tuesday, May 11

## OPENING KEYNOTE PRESENTATION

**12:00 pm – 1:00 pm ET** (9:00 am – 10:00 am PT)

### Opening Welcome

Brian Bunger, A&WMA President

### Conference Overview and Introduction

Eric Winegar, Exponent, Conference Chair; Ray Merrill, U.S. EPA, Technical Program Committee

### How Are Air Measurement Methods and Technologies Keeping Up with Environmental Priorities? 1

Lara P. Phelps, Director, Air Methods and Characterization Division, U.S. EPA



Lara P. Phelps

## SESSION 1: ADVANCES IN CONTINUOUS AMBIENT AIR MONITORING

**1:00 pm – 2:30 pm ET**  
(10:00 am – 11:30 am PT)

Sponsored By:



Chair: Ian MacGregor, Battelle

ME14

### Evaluation of Continuous XRF for Metals Monitoring 18

Josephine Lee, Jacobs Engineering, Portland, OR

ME33

### Real-time ppb & ppt HAPS in Ambient Air by FTIR 30

Martin L. Spartz, Kelly McPartland, Max Analytical Technologies, East Windsor, CT

ME20

### Trans-continental VOC Emissions in China Revealed by Mobile Mass Spectrometry N/A

Abigail Koss, Tofwerk USA; Wen Tan, Liang Zhu, Tofwerk China

**2:30 pm – 2:45 pm ET**

Break

## SESSION 2: TOXICS AND PRECURSORS – PROGRESS AND INNOVATION

**2:45 pm – 4:00 pm ET** (11:45 am – 1:00 pm PT)

Chair: Ian MacGregor, Battelle

ME28

### Agilent PAMS AutoGC Data: Review and Validation of 2019 Data 40

Amy Plummer, Carol J. Meyer, Orsat, LLC, Pasadena, TX; Adam Arnold, Utah Department of Environmental Quality, Salt Lake City, UT; Khin Sann Thaug, DC Department of Energy and Environment, Washington, DC

ME16

### Applying Synchronous SIM/Scan MS to the Measurement of Ethylene Oxide in Ambient Air 59

Heidi Hayes, Diane Benton, Eurofins Air Toxics LLC, Folsom, CA

# FINAL PROGRAM

## TECHNICAL PROGRAM – Wednesday, May 12

### SESSION 3: ADVANCED FENCELINE AND FUGITIVE EMISSION MONITORING

**12:00 pm – 2:00 pm ET** (9:00 am – 11:00 am PT)

Co-Chairs: Ray Merrill and Ned Shappley, U.S. EPA

Sponsored By:

**PICARRO**

ME21

**Next Generation Tunable Diode Laser (TDL) Analyzer Utilizing Near-IR and Interband Cascade Mid-IR Wavelengths for Source Level Emission Monitoring 69**

*Tim Kuiken, M&C TechGroup North America, Inc., Ventura, CA*

ME31

**Laser Dispersion Spectroscopy - Next Generation Emissions Monitoring 83**

*Sophie Purser, MIRICO Ltd, Harwell, Didcot, UK*

ME03

**Comparison of PTR-TOF-MS Technology Strategies for Sampling and Quantitation of HRVOC and OHAP Including Odor Allocation Multivariate Analysis 92**

*Peter G. Zemek, Steven E. Yuchs, Arthur Dean, Montrose Air Quality Services, LLC, Irvine, CA*

ME17

**Single-Photon Lidar Gas Imagers for Low Cost and Continuous Methane Emission Monitoring 107**

*Murray Reed, James Titchener, Alex Dunning, Xiao Ai, QLM Technology Ltd, Bristol, UK*

**2:00 pm – 2:15 pm ET**

**Break**

### SESSION 4: SENSORS FOR FENCELINE AND FUGITIVE MEASUREMENTS

**2:15 pm - 3:45 pm ET**  
(11:15 am – 12:45 pm PT)

Sponsored By:



Co-Chairs: Ray Merrill and Ned Shappley, U.S. EPA

ME41

**Monitoring Data Quality of a Mobile Air Quality Sensing Network Using Regulatory Reference Stations 121**

*Brian LaFranchi, Matthew Chow, Cassandra Trickett, Caroline Parworth, Bassam Dgheim, Paul Solomon, Nicole Goebel, Todd Langland, Kate Hu, Melissa Lunden, Aclima Inc., San Francisco, CA*

ME26

**Hybrid Air Monitoring Network: Sensors, Mid-Tier, Reference, and Mobile 131**

*Michael Ogletree, Department of Public Health & Environment, Environmental Quality Division, City and County of Denver, CO*

ME34

**Evaluation of a New Low-Cost Particle Sensor as an IoT Device for Outdoor Particulate Matter Monitoring N/A**

*Abi Roberts, Kathryn Van Valkinburgh, Christopher Post, Elena Mikhailova, John Pearce, Andrew R. Metcalf, Clemson University, Anderson, SC*

**3:45 pm – 4:00 pm ET**

**Break**

### Virtual Networking Social for all attendees

**4:00 pm - 5:00 pm ET** (1:00 pm – 2:00 pm PT)

Join fellow presenters and attendees for a video networking social to connect, chat, and discuss the conference topics through Zoom breakout rooms on General Air Monitoring and Sensors/Environmental Justice.

# TECHNICAL PROGRAM – Thursday, May 13

## SESSION 5: ENVIRONMENTAL JUSTICE MONITORING EFFORTS – WHERE ARE WE NOW?

**12:00 pm – 1:45 pm ET** (9:00 am – 10:45 am PT)

Chair: Eric Winegar, Exponent

ME37

### **Advancing Air Quality Monitoring in Environmental Justice Communities of the South Coast Air Basin, CA: Overview of Approaches, Technologies, and Community Engagement 139**

*Payam Pakbin, Faraz Ahangar, Sina Hasheminassab, Mohammad Sowlat, Steven Boddeker, Julia Montoya-Aguilera, Avi Lavi, Christopher Lim, Andrea Polidori, Jason Low, South Coast Air Quality Management District, Diamond Bar, CA*

ME29

### **Continuous Monitoring Of Polycyclic Aromatic Hydrocarbons Using Automatic Thermal Desorption-gas Chromatography 151**

*Omar Guerra, Franck Amiet, Jean-Philippe Amiet, Damien Bazin, Chromatotec, Saint-Antoine, France*

ME53

### **Localized Air Quality Assessment and Source Apportionment Using A Community Deployed Low Cost Sensor Network Blended with a Real Time Air Quality Model 165**

*Justin Bando, Kurt Richman, Shari Libicki, Ramboll, San Francisco, CA*

**1:45 pm – 2:00 pm ET**

**Break**

## SESSION 6: SENSOR EVALUATION – METHODS AND RESULTS

**2:00 pm – 4:00 pm ET** (11:00 am – 1:00 pm PT)

Chair: Eric Winegar, Exponent

ME19

### **Field Evaluation of a Novel Low-Cost Outdoor PM Monitor 179**

*Sreenath Avula, Dereck Dasrath, Andrew Lasch, TSI Incorporated, Shoreview, MN*

ME40

### **Performance Assessment of Sensors in a Mobile Platform 194**

*Caroline Parworth, Bassam Dgheim, Brian LaFranchi, Melissa Lunden, Matthew Chow, Paul Solomon, Todd Langland, Aclima Inc., San Francisco, CA*

ME59

### **Development of an ASTM Standard for the Evaluation of Air Quality Sensors 203**

*Geoff Henshaw, Aeroqual Ltd, Auckland, New Zealand*

ME60

### **What's Important for Air Sensor Performance: Where Have We Been and Where Are We Going? 213**

*Tim Dye, TD Environmental, Petaluma, CA*

**4:00 pm ET**

**Conference Wrap-up Discussion**