ABOUT THE CONFERENCE

Explore advances in measurement technology, data quality assurance, and data uses at the Air & Waste Management Association’s Air Quality Measurement Methods and Technology. The conference continues the A&WMA legacy of promoting current air quality measurement methods and data use. Air quality issues related to greenhouse gas measurements, ambient monitoring, fugitive and area source air measurements, quality assurance, and data uses in order to improve models, emission inventories, and policy decisions will also be addressed.

The conference provides a forum for current advances in measurement technology covering all aspects of air quality, including ambient air, indoor air, point sources, and area sources. Both laboratory and field studies are welcomed. Past participants include a full range of investigators from academe, industry, consultants, and government agencies.

GENERAL INFORMATION

REGISTRATION

Register online at www.awma.org/measurements before November 6.

On site registration will be located at the Counter on the Second Floor and be open during the following hours:

Monday, November 6:   2:00 pm - 5:00 pm
Tuesday, November 7:  7:30 am - 4:30 pm
Wednesday, November 8:  7:30 am - 5:00 pm
Thursday, November 9:  7:30 am - 10:30 am

Your registration will not be processed without payment.

REFUND POLICY

If written notice of cancellation is received on or before October 16, 2017 payment will be refunded, less a $75 cancellation fee. (Cancellation fees apply regardless of payment method). Substitutions may be made at any time; payment for any difference is due at the time of substitution. This refund policy applies to all occurrences, including weather-related events and other natural disasters. In the unlikely occurrence of event cancellation, the Association is not liable for any expenses incurred by the registrant other than the full refund of registration fee(s) paid.

CONFERENCE PROCEEDINGS

Conference proceedings will be posted on the A&WMA website after the conference. Attendees will be notified via e-mail when the extended abstracts and presentations are available.

CONTINUING EDUCATION CREDIT

Conference attendees may be eligible for continuing education credits. For more information, please contact Gloria Henning at +1-412-904-6021 or ghening@awma.org.

PRESENTERS’ MEETING

Presenters and Session Chairs will meet on the day of their session involvement to review program details in Bixby 1, 2, and 5. Presenters should bring their presentations on a memory stick/USB to this meeting, as well as a brief biography.

CONFERENCE COMMITTEE

Conference Co-Chairs:
Ricky Tropp, Desert Research Institute
Eric Winegar, Exponent, Inc.

Technical Program Committee:
Tim Dye, TD Environmental Services
Sara Head, Yorke Engineering, LLC
Ray Merrill, U.S. EPA

LOCATION

Renaissance Long Beach Hotel
111 East Ocean Blvd., Long Beach, CA 90802
Phone: (562) 437-5900

ADA/SPECIAL REQUIREMENTS

The Air & Waste Management Association supports the Americans with Disabilities Act (ADA). Attendees requiring specific equipment or services should contact Cindy Fontanesi at cfontanesi@awma.org to make those needs known in advance. We will make every reasonable effort to accommodate them.
THANK YOU TO OUR SPONSORS

GOLD SPONSOR

SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. SCAQMD works proactively with its stakeholders in promoting advanced technologies and developing innovative control strategies so that its 17 million residents can breathe cleaner air and live healthier lives.

SILVER SPONSOR

Atmosphere (ISSN 2073-4433; IF: 1.487) is an international open access journal of scientific studies providing an advanced forum for atmospheric chemistry, atmospheric physics, and meteorology.

NETWORKING BREAK SPONSOR

Magee Scientific is the originator of the Aethalometer®, the most widely used instrument for real-time measurement of Black Carbon aerosols. The Optical Transmissometer measures the BC content of previously-collected filter samples. The new Total Carbon Analyzer measures the TC content, from which EC and OC may be derived.

GENERAL SPONSOR

Since 1994, Orsat has customized the installation and maintenance of hardware and software to produce a robust application for continuous unattended field measurement of VOCs in ambient air for Photochemical Assessment Monitoring Stations (PAMS). Orsat’s services encompass all aspects of site operation and quality control from deployment to operator training.

GENERAL SPONSOR

Restek is a leading developer and manufacturer of chromatography products. We provide analysts around the world with the innovative tools they need to monitor the quality of air, water, soil, foods, pharmaceuticals, chemical, and petroleum products. We supply columns, standards, and accessories, manufactured under ISO 9001 certification and backed by the best service in the industry. From sample collection to preparation, from injection through separation to detection, build your liquid or gas chromatography solution with products and expertise from Restek.
Atmosfir Optics, LTD
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Atmosfir is an innovative, advanced air monitoring Technology Company focused on providing our clients with the best air monitoring solutions. Atmosfir has unique intellectual properties and years of in-the-field experience. Our spectral and spatial data fusion algorithms all use the best available open path hardware, and innovative solutions to meet client needs.

2B Technologies, Inc.
www.twobotech.com

2B Technologies, Inc. is dedicated to the development and commercialization of portable analytical instruments for atmospheric and environmental measurements. We specialize in miniaturized instruments for measurements of ozone in air and water as well as NOx(NO/NO2) in air.

AethLabs
www.aethlabs.com

AethLabs, located in San Francisco, California, designs and manufactures small, mobile Black Carbon monitors. AethLabs is focused on the development of high quality personal exposure and Black Carbon monitoring instruments. The microAeth® family of Black Carbon monitors consists of three new continuous, unattended, full spectrum, multi-week to multi-month instruments which complement the microAeth® AES1 personal exposure monitor. The new microAeth® MA series boasts many advanced features integrated into compact, lightweight form factors.

Ambilabs
www.ambilabs.com

Ambilabs is a full services provider and integrator of air, environmental, and process monitoring solutions. We distribute, install, and train on a broad range of gas and particulate monitoring instrumentation. Our experienced staff provide expertise, engineering, software, instrumentation, systems and solutions for obtaining valid, accurate, and precise air quality data.

ARA Instruments
www.arainstruments.com

ARA Instruments is a manufacturer of innovative ambient air monitoring equipment. We specialize in portable, battery-powered particulate samplers for air pollution research. We also offer flow calibration instruments and accessories for routine air monitoring. Our goal is to help our customers make important air quality decisions by providing affordable, versatile, reliable, and accurate equipment.

Consolidated Analytical Systems (CAS)
www.cas-en.com

Consolidated Analytical Systems (CAS) provides expertise in the design, manufacturing, integration and support of Monitoring Systems for ambient air, industrial fence line and natural gas pipeline sectors. The CAS-manufactured process and standalone Laboratories, Shelters and Enclosures are designed with LEED energy efficiency principles and instrument optimization in mind. CAS offers a complete line of industrial and field deployable gas chromatographs for VOCs and speciated sulfurs as well as Natural Gas impurity measurement, mercaptan identification and odorization.

Cooper Environmental Services
www.cooperenvironmental.com

Cooper Environmental Services (CES) has the unique capability to measure and interpret elements using X-ray Fluorescence (XRF) in a fully-automated fashion. CES manufactures XRF-based multi-metals metals monitoring systems for both source and ambient applications. Beyond manufacturing, CES offers other services and knowledge to serve the needs of air quality issues.

DR DAS LTD
www.dr-das.com

DR DAS LTD is the pioneer in digital data collection. Learn about innovative data acquisition and control solutions for air quality, emissions and property line monitoring. Envidas Ultimate DAS, EnvistaARM and public information products (Websites, Kiosks, Telephony, Mobile Apps) will be on display. Learn why 40+ agencies rely on DRDAS.

ENMET
www.enmet.com

ENMET manufactures a wide array of environmental and industrial health and safety monitoring instruments. Our new GC based products offer a new cost effective approach to benzene trace level detection (sub ppb) at the Fenceline and in the workplace with the ability to provide specific gas analysis in complex mixtures.

Entech Instruments, Inc.
www.entechnst.com

Entech Instruments is a leading developer and manufacturer of analytical instrumentation that supports professionals in the Environmental, Industrial Hygiene, Food & Beverage, Product Testing, Forensic & Clinical Analysis markets. We specialize in the creation of inert sample collection equipment as well as GC & GC/MS sample preparation and introduction technologies.

Forest Technology Systems
www.ftsinc.com

Forest Technology Systems (FTS) is a world leader in environmental monitoring with 3500+ weather stations deployed in the US. FTS has the capability to add air quality monitoring sensors to a large network of existing weather monitoring infrastructure. FTS has also developed a solar powered, remote communication camera system which can be used to monitor air quality impacting events, such as a wildfire.
Global Analyzer Systems Ltd.  
www.gasl.ca  
Global Analyzer Systems Ltd. offers a wide array of continuous emission monitoring and ambient air technologies. We are excited to release our new Photolytic NO2 Converter. This product can be used as a simple retrofit to existing systems by directly replacing thermal metal converters typical of NOx analyzers, and offers linear conversion over a wide dynamic range providing true NO2.

LA Testing  
www.latesting.com  
LA Testing offers a wide array of analytical testing services to support environmental investigations focused on asbestos, mold & bacteria (microbiology), lead paint, indoor air quality, and industrial hygiene applications. Our unmatched capacity coupled with a company wide focus on customer satisfaction makes no project too large or too small.

Magee Scientific  
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Magee Scientific is the originator of the Aethalometer®, the most widely used instrument for real-time measurement of Black Carbon aerosols. The Optical Transmissometer measures the BC content of previously-collected filter samples. The new Total Carbon Analyzer measures the TC content, from which EC and OC may be derived.

Montrose Environmental Group, Inc.  
www.montrose-env.com  
Montrose Environmental Group is a national environmental company offering Air Quality, Environmental Laboratory and Regulatory Compliance services to a diverse range of clients in industry and government. Our team of experienced engineers, scientists, chemists, and technicians provide reliable and timely environmental data using the highest technical and ethical standards.

New Star Environmental, Inc.  
www.newstarenvironmental.com  
New Star Environmental has nearly 60 years combined experience in environmental monitoring and related markets with a focus in all applications of aerosol particle measurement. That experience combined with our extensive knowledge in the sampling and analysis of gases has made us the preferred provider of environmental monitoring instrumentation for research institutions, universities, government agencies, environmental, pharmaceutical, and industrial hygiene companies, and more.

Orsat  
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Since 1994, Orsat has customized the installation and maintenance of hardware and software to produce a robust application for continuous unattended field measurement of VOCs in ambient air for Photochemical Assessment Monitoring Stations (PAMS). Orsat’s services encompass all aspects of site operation and quality control from deployment to operator training.

Scion Instruments  
www.scioninstruments.com  
SCION Instruments is a leading supplier of Gas Chromatography instrumentation and solutions. Building on the legacy of Varian GC and GC-MS, SCION develops, manufactures and markets systems ranging from simple stand-alone GC through to fully configured analyzers which are tailored for specific customers’ complex applications and analysis.

Sonoma Technology  
www.sonomatech.com  
Sonoma Technology, Inc. (STI) is an employee-owned firm that delivers innovative, science- and technology-based solutions for our clients’ environmental needs worldwide. Our services include air quality research, atmospheric measurements, air quality and smoke forecasting, atmospheric modeling and analysis, instrumentation and data system deployment, software development, decision support systems, and outreach.

Sunset Labs  
www.sunlab.com  
Sunset Laboratory has been leading the way for Organic/Elemental Carbon Aerosol (OCEC) measurements since 1984. We remain the market leader in OCEC instrumentation and analysis for filters with our Laboratory-based OCEC analyzer and in ambient monitoring with our Semi-Continuous OCEC aerosol analyzer. Our instrumentation has the ability to easily perform a variety of official analysis methods, such as NIOSH Method 5040, Improve-A, STN, EUSAAR2, as well as others.

Teledyne API  
www.teledyne.com  
Teledyne Advanced Pollution Instrumentation offers a complete line of Air Quality Monitoring instrumentation, which complies with the US Environmental Protection Administration, European Union, and other requirements for the measurement of ambient air quality. Utilizing proven measurement principles, we also offer instruments for Continuous Emissions Monitoring and a number of other applications.

TISCH Environmental  
www.tisch-env.com  
TISCH Environmental is a family business founded to develop and manufacture air pollution monitoring instruments. The Tisch family have produced nearly a half million devices for the air pollution monitoring community over the last 60 years. TIE is looking into the future needs of today’s aerosol research professionals.
TRICORNTech Corporation
Booth 21
www.tricorntech.com

TRICORNTech is a voc monitoring expert, offering a wide product range from high-tech portable instruments to online systems and comprehensive software. TRICORNTech commits to providing integrated, cost-effective, and constructive solutions to assist valued customers solving problems. TRICORNTech solutions make an excellent foundation for a proactive approach to maintenance, integrated in customers' normal maintenance activities. On customers' request, TRICORNTech puts together the monitoring equipment package best suited to your economic and technical requirements.

TSI, Inc.
Booth 2
www.tsi.com

TSI, a world leader in particle measurements, offers a variety of aerosol monitors for real-time, direct-reading results. The new Environmental DustTrak™ measures PM1, PM2.5, respirable, PM10 and total PM size fractions, providing near-reference method quality data. In addition, TSI offers ultrafine particle monitors and next-generation low-cost PM2.5 sensors.

URG Corporation
Booth 3
www.urgcorp.com

URG is helping to ensure the air we breathe is the best it can be by creating the Ambient Ion Monitor (AIM) for the time-resolved, direct measurement of gas (hydrochloric acid, nitric acid, nitrous acid, sulfur dioxide, ammonia) and artifact free particulate matter (nitrate, sulfate, nitrite, phosphate, chloride ammonium, sodium, calcium, potassium, magnesium) air pollutants. We specialize in Teflon coated cyclones with various cut-points and flow rates, and stainless steel cyclones for diesel emissions.

Yorke Engineering, LLC
Booth 4
www.YorkeEngr.com

Yorke Engineering, LLC was founded in 1996 and has assisted over 650 customers with air quality and environmental compliance, engineering, and permitting issues. Our philosophy is to efficiently help government and industrial customers with the complex array of environmental rules and regulations issued by the local, state, and federal agencies.
Optimizing Quality Assurance for Ambient Air Monitoring Programs

Instructors: Jason Low, Ph.D., QA Manager, South Coast Air Quality Management District; Eugenia McNaughton, Ph.D., QA Manager, U.S. EPA Region 9; Mathew Plate, Environmental Scientist, U.S. EPA Region 9

Broadly, the application of quality assurance principles and processes has three basic components. This training will start with EPA and air monitoring agencies optimization strategies for systematic planning and quality control. How to use the data quality objectives process in the development of an ambient air monitoring program will be discussed in detail. Reviewing the data and the quality system is the last "leg of the stool" and must include a well-defined corrective action process. These concepts will be used to develop and optimize a hypothetical air monitoring program.

Course Objectives:
- Learn quality system concepts
- Become aware of quality assurance resources for ambient air
- Gain a working knowledge on the development of ambient air monitoring quality systems
- Develop an understanding of air monitoring system oversight, improvement, and corrective action
Session 1A: SENSOR APPLICATIONS
[concurrent with Session 2A]
Broadlind

Chair: Tim Dye, TD Environmental Services

10:15 am – 10:40 am
ME79
State of Air Quality Sensing in 2017 - Where We Are, Where We’re Going.
Tim Dye, TD Environmental Services, LLC, Petaluma, CA

10:40 am – 11:05 am
ME58
Design and Development of a “Low-Cost” Sensor Network to Measure Volatile Organic Compounds for Facility and Community Monitoring
Robert Wimmer, Olga Pikelnaya, Andrea Polidori; South Coast Air Quality Management District, Diamond Bar, CA

11:05 am – 11:30 am
ME70
“Low-cost” Sensors for Measuring Gaseous and Particle Air Pollutants: Performance Results from Three Years of AQ-SPEC Field and Laboratory Testing and Network Applications at the Fenceline and Community Level
Vasileios Papapostolou, Brandon Feenstra, Hang Zhang, Andrea Polidori, South Coast Air Quality Management District, Diamond Bar, CA

11:30 am – 11:55 am
ME59
Assessing Community Exposure to Hazardous Air Pollutants Using a Combination of Optical Remote Sensing and “Low-Cost” Sensor Technologies
Olga Pikelnaya, Andrea Polidori, Robert Wimmer, South Coast Air Quality Management District, Diamond Bar, CA; Johan Mellqvist, Jerker Samuelsson, Marianne Ericsson, Pontus Andersson, Samuel Brohede, Oscar Izos, FluxSense Inc., San Diego, CA

Session 2A: OIL AND GAS MONITORING
[concurrent with Session 1A]
Pike 3

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

10:15 am – 10:40 am
ME80
Addressing Public Outrage at an Oil Field Site in Down Town Los Angeles—An Air Monitoring and Risk Mitigation Model for Other Urban Oil and Gas Operations
Eric Winegar, Exponent, Inc.; Charles E. Lambert, Intrinsik, Inc., Sacramento, CA

10:40 am – 11:05 am
ME07
Fugitive Emissions Testing at California Natural Gas Production Facilities
David Ranum, TRICORD Consulting, LLC, Frisco, TX; Michael Hebert, Booth Environmental, Lake Charles, LA

11:05 am – 11:30 am
ME05
Indoor and Outdoor Assessment of PM Concentrations at Umm Al-Aish Oil Field-North Kuwait
Ashraf Ramadan, Environmental Pollution and Climate Program, Environment and Life Sciences Research Center, Kuwait Institute for Scientific Research, Safat, Kuwait

LUNCH PRESENTATION
Bixby 1, 2, and 5
12:00 pm – 1:30 pm
Welcome from Scott Freeburn, A&WMA 2017 President

AB617: Making What We Measure Matter
Janet Whittick, Director of Policy, California Council for Environmental and Economic Balance
Session 1B: SENSOR APPLICATIONS  
(concurrent with Session 2B)  
Broadlind

Chair: Tim Dye, TD Environmental Services

1:30 pm – 1:55 pm  
ME73  
Variations in Wintertime PM among Communities in Sacramento Measured with a Combination of Traditional and Low-Cost Sensor Methods  
Anando Mukherjee, Steven G. Brown, Michael C. McCarthy, Sonoma Technology, Petaluma, CA; Aleta Kennard, Janice Lam Snyder, Stephen D’Andrea, Sacramento Metropolitan Air Quality Management District, Sacramento, CA

1:55 pm – 2:20 pm  
ME56  
Application of Consumer-grade Sensors to Study the Effect of Heatwaves on Indoor Air Quality  
Gediminas Mainelis, Ruikang He, Department of Environmental Sciences, Rutgers University, New Brunswick, NJ; Ioanna Tzoulou, Sanjeevi Thirumurugesan, Brian Morgan, Stephanie Gonzalez, Deborah Plotnik, Jennifer Senick, Clinton Andrews, Edward J. Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, NJ

2:20 pm – 2:45 pm  
ME28  
Development of Hybrid Microresonators for Optical Vapor Detection  
Simin Mehrabani, South Coast Air Quality Management District, Diamond Bar, CA; Andrea M. Armani, University of Southern California, Los Angeles, CA

Session 2B: OPTICAL GAS IMAGING AND MONITORING MEASUREMENTS  
(concurrent with Session 1B)  
Pike 3

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

1:30 pm – 1:55 pm  
ME29  
Video Imaging Spectral Radiometry (VISR) Based Flare Monitor  
Yousheng Zeng, Jon Morris, Srikanth Mutyala, Albert Sanders, Providence Photonics, Baton Rouge, LA

1:55 pm - 2:20 pm  
ME30  
Applications and Field Results for Quantitative Optical Gas Imaging  
Jon Morris, Yousheng Zeng, Srikanth Mutyala, Albert Sanders, Providence Photonics, Baton Rouge, LA

2:20 pm - 2:45 pm  
ME33  
Dual-Cell FTIR Analyses of Semiconductor Point-of-Use Abatement Devices  
Brian Adair, Geosyntec Consultants, Charlotte, NC; Curtis T. Laush, Geosyntec Consultants, Austin, TX

REFRESHMENT BREAK AND EXHIBITION VIEWING FOR ALL SESSIONS  
2:45 pm - 3:10 pm  
Bixby 3, 4, and Farrell’s Lounge

Session 1C: SENSOR APPLICATIONS PANEL  
3:10 pm - 4:40 pm  
Bixby 1, 2, and 5

Chair: Tim Dye, TD Environmental Services

Panelists include:

- Andrea Polidori, Atmospheric Measurements Manager South Coast Air Quality Management District (Government)
- Michael Ogletree, Air Quality Program Manager, Denver Dept. of Environmental Health (City)
- Barbara Toole O’Neil, Principal Scientist, Scan-it Technologies (Private Sector)
- Gediminas “Gedi” Mainelis, Ph.D., Professor, Rutgers University (Academia)
- Luis Olmedo Velez, Executive Director, Comite Civico del Valle (Community)

NETWORKING RECEPTION AND EXHIBITION VIEWING  
4:45 pm - 6:00 pm  
Bixby 3, 4, and Farrell’s Lounge
## TECHNICAL PROGRAM - Wednesday, November 8

### Session 3A: AIR TOXICS  
(concurrent with Sessions 4A and 5A)

**Broadlind**  
**Chairs:** Julie Swift, ERG, and Stephen Dutz, South Coast Air Quality Management District

### Session 4A: NETWORK PM DATA  
(concurrent with Sessions 3A and 5A)

**Pike 3**  
**Chair:** Ann Dillner, University of California, Davis

### Session 5A: FUGITIVE MODELING  
(concurrent with Sessions 3A and 4A)

**Pike 2**  
**Chair:** Ray Merrill and Ned Shappley, U.S. EPA

### Schedule

**8:30 am – 8:55 am**  
**ME63**  
Exemptions and Studies in Reference to the EPA NATTS Carbonyl and Polycyclic Aromatic Hydrocarbon (PAH) Programs  
Randy Bower and Julie Swift, ERG, Morrisville, NC

**8:55 am – 9:20 am**  
**ME64**  
Evaluation of U.S. EPA Method TO-11A for the Measurement of Carbonyls in Ambient Air  
Ian C. MacGregor, Elizabeth A. Hanft, Brannon A. Seay, Naveen Shankar, Nicholas D. Skomrock, Martha W. McCauley, Larry A. Mullins, Dennis J. Tomcik, Christina Saeger, Douglas J. Turner, Marcie Lindner, Melissa L. Langton, Battelle, Columbus, OH

**9:20 am – 9:45 am**  
**ME65**  
Improving On-Line (PAMS) and Canister (TO-15) Analysis of Trace-Level Compounds in High-Humidity Ambient Air  
Nicola Watson, Rui Li, Claire Keller; Markes International Inc, Gold River, CA

**9:45 am – 10:10 am**  
**ME66**  
Novel Approach to Measuring Non-Methane Organic Compounds (NMOC) with Cryo-Trapping  
Randall Bramston-Cook, Edward Bramston-Cook, Lotus Consulting, Long Beach, CA

**10:10 am – 10:40 am**  
**ME67**  
Chemical Speciation Network Data Validation: Techniques, Challenges, and Lessons Learned  
Dominique E. Young, Sean M. Raffuse, Nicholas J. Spada, Nicole P. Hyslop, Krystyna Trzepla, Air Quality Research Center, University of California, Davis, Davis, CA

**10:45 am – 11:10 am**  
**ME68**  
Characterizing Carbonaceous Aerosols in Ambient Monitoring Networks using Fourier Transform Infrared Spectroscopy  
Ann M. Dillner, Andrew T. Weakley, Bruno Debus, Alexandra J. Boris, University of California, Davis, Davis, CA; Adele Kuzmiakova, Satoshi Takahama, ENAC/IIE, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland

**11:15 am – 11:40 am**  
**ME69**  
Comparison of Three FTIR Instruments for the Prediction of Carbonaceous Aerosols in Large Particulate Speciation Networks – Is Calibration Transfer Required?  
Bruno Debus, Andrew T. Weakley, Ann M. Dillner, University of California, Davis, Davis, CA; Matteo Reggente, Satoshi Takahama, ENAC/IIE, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland

**11:45 am – 12:10 pm**  
**ME70**  
Quantification of Organic Aerosol Composition by Functional Groups: Using Infrared Spectroscopy to Measure Carbonyl Mass within the Southeastern Aerosol Research and Characterization (SEARCH) Network  
Alexandra J. Boris, Andy T. Weakley, Bruno Debus, Ann M. Dillner, Air Quality Research Center, University of California Davis, Davis, CA; Satoshi Takahama, Swiss Federal Institute of Technology, Lausanne, Switzerland

**12:15 pm – 1:00 pm**  
**ME71**  
The TEMMAS project “Teledetection, Measure, Modeling of Atmospheric Pollutants on Industrial Sites”: Confrontation of PM Analysis with Dispersion Models (non-reactive Lagrangian Model and Plume in Grid model with Chemical Mechanism)  
Olivier Duclaux, Laboratoire Qualité de l’Air, TOTAL RESEARCH CENTER, Solaize, France; Valentin RUFFORT CEREA, Ecole des Ponts ParisTech/EDF R&D, Université Paris-Est, France; Jonathan LEMUS, Laboratoire Qualité de l’Air, TOTAL RESEARCH CENTER, Solaize, France; Pierre Yves FOUCHER ONERA, The French Aerospace Lab; Edouard Belin, Toulouse, France; YELVA ROUSTAN CEREA, Ecole des Ponts ParisTech/EDF R&D, Université Paris-Est, 77455 Champs-sur-Marne, France; Alexandre ARMENGAUD AIRPCA, Marseille, France; Henri WORTHAM Laboratoire Chimie et de l’Environnement, Université Aix-Marseille

**1:05 pm – 1:30 pm**  
**ME72**  
NonParametric Trajectory Analysis of R2Pier Data  
Ronald C. Henry, University of Southern California, Los Angeles, CA; Gayle Hagler, U.S. EPA Office of Research and Development, Research Triangle Park, NC; Daniel Birkett, U.S. EPA Region 2, New York, NY

**1:35 pm – 2:00 pm**  
**ME73**  
Quantification of VOC Emission by Remote Monitoring: Reverse Dispersion Modeling in Complex Industrial Site for Quantification of VOC Emission in Waste Water Treatment of a Refinery  
Olivier Duclaux, Jonathan Lemus, Ludovic Donnat, Catherine Jery, TOTAL Refining & Chemistry, Laboratoire Qualité de l’Air, TOTAL RESEARCH CENTER, Solaize, France; Brice Hello, Azeddine Ben Daud, CAIRPOL, Environnement S.A group, POISSY CEDEX 4 – FRANCE

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**REFRESHMENT BREAK AND EXHIBITION VIEWING FOR ALL SESSIONS**  
**10:10 am - 10:40 am**  
Bixby 3, 4, and Farrell’s Lounge
**Session 3B:**
**AIR TOXICS**
[concurrent with Sessions 4B and 5B]
Broadlind

**Chairs:** Julie Swift, ERG, and Stephen Dutz, South Coast Air Quality Management District

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<th>Time</th>
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<tbody>
<tr>
<td>10:40 am – 11:05 am</td>
<td>ME12</td>
<td><strong>Taking Your Lab to the Field: AutoGC Systems and the Data they Generate</strong></td>
<td>Carol J. Meyer, Orsat, LLC, Pasadena, TX</td>
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<tr>
<td>11:05 am – 11:30 am</td>
<td>ME82</td>
<td><strong>Extremely Wide Concentration Ranges for Toxic Analytes in Air with Lotus Consulting TO15 Analyzer and Scion SQ Mass Spectrometer</strong></td>
<td>Randall Bramston-Cook, Edward Bramston-Cook, Lotus Consulting, Long Beach, CA; Stefan D’Angona, Charles Reiner, Enthalpy Analytical LLC., Berkeley, CA; Mark Scesny, M Solutions, Terrell, TX</td>
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<tr>
<td>11:30 am – 11:55 am</td>
<td>ME72</td>
<td><strong>A New Cryogenless TO15 Canister Preconcentrator with Substantially Reduced System Carrier-Over When Exposed to Higher Concentration Samples</strong></td>
<td>Daniel B Cardin, Jiewen Zhang, Tom Robinson, Victoria Noad, Entech Instruments, Inc., Simi Valley, CA</td>
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**POSTER PRESENTATIONS**

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<tr>
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<tbody>
<tr>
<td>10:40 am – 11:05 am</td>
<td>ME48</td>
<td><strong>Fourier Transform Infrared Determination of Organic and Elemental Carbon in PM2.5 Collected from Federal Reference Method Samplers</strong></td>
<td>Andrew T. Weakley, Ann M. Dillner, Air Quality Research Center, University of California Davis, Davis, CA; Satoshi Takahama, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland</td>
<td></td>
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<tr>
<td>11:05 am – 11:30 am</td>
<td>ME44</td>
<td><strong>Determination of Carbonaceous Aerosols in IMPROVE Network Samples Based on FTIR Spectroscopy – Assessing the Impact of Spectral Processing Methods</strong></td>
<td>Bruno Debus, Andrew T. Weakley, Ann M. Dillner, University of California, Davis, Davis, CA; Matteo Reggente, Satoshi Takahama, ENAC/IIE, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland</td>
<td></td>
</tr>
<tr>
<td>11:30 am – 11:55 am</td>
<td>ME49</td>
<td><strong>Fourier Transform Infrared Determination of Organic and Elemental Carbon: Addressing Anomalous Predictions Related to Aerosol Sources</strong></td>
<td>Andrew T. Weakley, Ann M. Dillner, Air Quality Research Center, University of California Davis, Davis, CA; Satoshi Takahama, Swiss Federal Institute of Technology Lausanne (EPFL), Lausanne, Switzerland</td>
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**Session 4B:**
**NETWORK CARBONACEOUS PM**
[concurrent with Sessions 3B and 5B]
Pike 3

**Chair:** Ann Dillner, University of California, Davis

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<tr>
<td>11:05 am – 11:30 am</td>
<td>ME55</td>
<td><strong>Field Study on Online Monitoring Network of Air Toxics and Source Tracking at Petrochemical Industrial Park</strong></td>
<td>Yu-Cheng Chen, Chin-Yu Hsu, National Environmental Health Research Center, National Health Research Institutes, Miaoli, Taiwan; Ching-Lin Hsiao, TricornTech Corporation, Taipei, Taiwan; Li-Peng Wang, Tsung-Kuan A. Chou, TricornTech Corporation, San Jose, CA</td>
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<tr>
<td>11:30 am – 11:55 am</td>
<td>ME36</td>
<td><strong>Assessment of Benzene Fenceline Monitoring Data for Corrective Action Planning and Near-field Source Correction</strong></td>
<td>David L. Elam, Jr., TRC Companies, Raleigh, NC</td>
<td></td>
</tr>
</tbody>
</table>

**Session 5B:**
**FUGITIVE FENCENE MONITORING**
[concurrent with Sessions 3B and 4B]
Pike 2

**Chair:** Clinton Macdonald and Hilary Hafner, Sonoma Technology, Inc.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>11:05 am – 11:30 am</td>
<td>ME74</td>
<td><strong>Assessment of Technology Needed to Meet Refinery Air Quality Fenceline Monitoring Rules</strong></td>
<td>Clinton MacDonald, Paul Roberts, Hilary Hafner, Sonoma Technology, Petaluma, CA</td>
<td></td>
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<tr>
<td>11:30 am – 11:55 am</td>
<td>ME55</td>
<td><strong>Field Study on Online Monitoring Network of Air Toxics and Source Tracking at Petrochemical Industrial Park</strong></td>
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</table>

**LUNCH FOR ALL SESSIONS**

12:00 pm - 1:30 pm

Bixby 1, 2, and 5
Session 3C:  
AIR TOXICS  
[concurrent with Sessions 4C and 5C]  
Broadlind  
Chair: Ian MacGregor, Battelle  

1:30 pm – 1:55 pm  
ME01  
Migration from Analog to Digital Data Acquisition in an Ambient Air Quality Measurement Network  
Yousaf Hameed, Clark County Department of Air Quality, Las Vegas, NV  

1:55 pm – 2:20 pm  
ME09  
Source Profiles and Ozone Formation Potentials (OFPs) of Volatile Organic Compounds (VOCs) of Port Industries  
Qiaoli Wang, State Key Laboratory of Clean Energy Utilization, College of Energy Engineering, Zhejiang University (Yuquan Campus), Hangzhou, China; Wei Li, Key Laboratory of Biomass Chemical Engineering of Ministry of Education, Institute for Industrial Ecology and Environment, College of Chemical and Biological Engineering, Zhejiang University (Yuquan Campus), Hangzhou, China; Sujing Li, Key Laboratory of Biomass Chemical Engineering of Ministry of Education, Institute of Industrial Ecology and Environment, College of Chemical and Biological Engineering, Zhejiang University (Yuquan Campus), Hangzhou, China; Xiang Gao, State Key Laboratory of Clean Energy Utilization, College of Energy Engineering, Zhejiang University (Yuquan Campus), Hangzhou, China; Dongxiao Zhang, Henan Tianguan Group Co., Ltd, Nanyang, China  

2:20 pm – 2:45 pm  
ME41  
Increasing Interest in and Use of Passive Diffusive Samplers in Vapor Intrusion Investigations  
Samantha Henningsen, ALS Group Air Quality Laboratory, Simi Valley, CA  

Session 4C:  
PM SPECIATION  
[concurrent with Sessions 3C and 5C]  
Pike 3  
Chair: Ricky Tropp, Desert Research Institute  

1:30 pm – 1:55 pm  
ME39  
NonParametric Trajectory Analysis of CMAPS Data  
Ronald C. Henry, University of Southern California, Los Angeles, CA; Gary A. Norris, U. S. EPA, Research Triangle Park, NC  

1:55 pm – 2:20 pm  
ME54  
Positive Matrix Factorization (PMF) and Data Quality Assessment of EPA’s PM2.5 Chemical Speciation Network (CSN) Derived from Six Collocated CSN Sites for the Period 2010 - 2013  
Richard J. Tropp, Division of Atmospheric Sciences, Desert Research Institute, Reno, NV; L.-W. Antony Chen, Department of Environmental and Occupational Health, University of Nevada Las Vegas, Las Vegas, NV  

2:20 pm – 2:45 pm  
ME86  
A New Method and Instrument for the Measurement of Carbonaceous Aerosols  
M. Rigler, Aerosol d.o.o. Ljubljana, Slovenia; L. Drinovec, G. Močnik, Aerosol d.o.o. Ljubljana, Slovenia; Jozef Stefan Institute, Slovenia; A. D. A. Hansen, Magee Scientific Corp., Berkeley, CA  

2:45 pm – 3:10 pm  
ME14  
Assessing Continuous PM2.5 Monitoring with FEM SHARP 5030 in Ontario, Canada  
Yushan Su, Uwayemi Sofowote, Jerzy Debozs, Luc White, Anthony Munoz, Ontario Ministry of the Environment and Climate Change, Toronto, Ontario, Canada  

Session 5C:  
FUGITIVE ADVANCED MONITORING  
[concurrent with Sessions 3C and 4C]  
Pike 2  
Chair: Clinton Macdonald and Hilary Hafner, Sonoma Technology, Inc.  

1:30 pm – 1:55 pm  
ME68  
Long Distance Detection of Aromatics with UV LED-Based Absorption Correlation Spectroscopy  
Pascal Dufour, François Babin, Félix Cayer, and Jean-François Y. Gravel, INO, Québec City, QC, Canada  

1:55 pm – 2:20 pm  
ME85  
Advanced Remote Sensing Solutions Accommodating Petrochemical/Chemical Industrial Monitoring Needs and Challenges  
Gilad Shpitzer, Atmosfir Optics Ltd, A.S. Research Services  

2:20 pm – 2:45 pm  
ME71  
Combining US EPA Methods TO15 and 325A/B on a Single GC/MS  
Daniel B Cardin, Jiewen Zhang, Tom Robinson, Victoria Noad, Entech Instruments, Inc., Simi Valley, CA  

2:45 pm – 3:10 pm  
ME03  
Assessment of Ambient Air Pollution Levels at Umm Al-Aish Oil Field-Kuwait  
Ashraf Ramadan, Mufreh Al-Rashidi, Environmental Pollution and Climate Program, Environment and Life Sciences Research Center, Kuwait Institute for Scientific Research, Safat, Kuwait  

REFRESHMENT BREAK AND EXHIBITION VIEWING  
3:10 pm - 3:40 pm  
Bixby 3, 4, and Farrell’s Lounge
Session 3D: STATIONARY SOURCE METHODS
[concurrent with Sessions 4D and 5D]
Broadlind
Chair: Ned Shappley, U.S. EPA

3:40 pm - 4:05 pm
ME84
Performance of a Non-Methane Organic Compound Analyzer - EPA Method 25 and South Coast AQMD Method 25.3
Randall Bramston-Cook, Edward Bramston-Cook, Lotus Consulting, Long Beach, CA; Douglass Williams, Almega Environmental, Cypress, CA

4:05 pm – 4:30 pm
ME88
An Emerging Technique for Low-Concentration Measurement of Particulate Emissions from Gas-Fired Gas Turbines
Kevin J. Crosby, Montrose Air Quality Services, LLC, Antioch, CA; Glenn C. England, Ramboll Environ, Irvine, CA

4:30 pm – 4:55 pm
ME27
Application of Real-Time and On-Site Air Emissions Measurement Technologies to Optimize the Use of Mixed and Alternate Fuels
Thomas A. Dunder, TRC Environmental Corporation, Raleigh, NC

4:55 pm – 5:20 pm
ME90
Electrochemical Portable Analyzer Test Method Update
Wendy Coulson and Jim McCarthy, Innovative Environmental Solutions, Inc., Cary, IL

Session 4D: OTHER NEW METHODS
[concurrent with Sessions 3D and 5D]
Pike 3
Chair: Ricky Tropp, Desert Research Institute

3:40 pm – 4:05 pm
ME87
Comparison Study of Particulate Matter Light-Scattering Mass Monitor to Beta Attenuation and Gravimetric Methods
Rachel Kolberg, Piotr Nowinski, Mick Turner, Clark County Department of Air Quality, Las Vegas, NV

4:05 pm – 4:30 pm
ME25
A Comparative Study of Sensor Output from Solar Radiation Sensors with Varying Spectral Responses and the Impacts on Aermod Modeling Results: Part I Monitoring Results
Shane L. Hansen, Inter-Mountain Labs, Sheridan, WY; Ronn G. Smith, Independent Consultant, Powell, WY

POSTER PRESENTATIONS

4:30 pm – 4:55 pm
ME22
An Alternative Approach to Ambient Nitrogen Dioxide (NO2) Monitoring
Doug Haugen and Patrick King, Teledyne Advanced Pollution Instrumentation, San Diego, CA

4:55 pm – 5:20 pm
ME60
Evaluation of Epifluorescence Methods for Quantifying Bioaerosol in Air Quality Samples
L.-W. Anthony Chen, Ting Liu, Mi Zhang, Rachel Kolberg, Department of Environmental and Occupational Health, University of Nevada Las Vegas, Las Vegas, NV; Judith C. Chow, John G. Watson, Division of Atmospheric Sciences, Desert Research Institute, Reno, NV

Session 5D: CRITERIA POLLUTANTS METHOD DEVELOPMENT
[concurrent with Sessions 3D and 4D]
Pike 2
Chair: Eric Winegar, Exponent, Inc.

3:40 pm – 4:05 pm
ME52
A Standalone True NO2 Converter for Upgrading Chemiluminescence Analyzers

4:05 pm – 4:30 pm
ME31
Field Evaluations of Newly Available “Interference-free” Monitors for Ozone (O3) Interferences and Inlet Height O3 Gradients at Rural and Urban NAAQS Compliance Sites
Will M. Ollison, API, Washington, DC; Alan R. Leston, Air Quality Research & Logistics, LLC, Lebanon, CT

4:30 pm – 4:55 pm
ME60
Evaluation of Epifluorescence Methods for Quantifying Bioaerosol in Air Quality Samples
L.-W. Antony Chen, Ting Liu, Mi Zhang, Rachel Kolberg, Department of Environmental and Occupational Health, University of Nevada Las Vegas, Las Vegas, NV; Judith C. Chow, John G. Watson, Division of Atmospheric Sciences, Desert Research Institute, Reno, NV

4:55 pm – 5:20 pm
ME51
Real-Time PM Measurement Using BAMs and High-Volume Samplers
Bipul Saraf and Greg Wolfe, Yorke Engineering, LLC, San Juan Capistrano, CA

ALL ATTENDEES INVITED:
A&WMA West Coast Section and Orange County Chapter Meeting
6:00 pm - 9:30 pm
L’Opera Restaurant, 101 Pine Avenue, Long Beach, CA
Welcome and Introduction from Scott Freeburn, A&WMA President

Feature Presentation: Air Pollution and Human Health: What’s Climate Got to Do With it?
Michael T. Kleinman, Ph.D., Professor and Associate Director of the Air Pollution Health Effects Laboratory in the Department of Medicine at University of California at Irvine

Cost: $35 A&WMA Members; $50 Nonmembers
Register online at: https://wcsawma_dinner_meeting_lb_nov_8.eventbrite.com/.
Contact Chhai Chorn at CCHorn@aqmd.gov or Sara Head at SHead@YorkeEngr.com.
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<th>Session 6A: AGRICULTURE/LANDFILL MEASUREMENTS</th>
<th>Session 7A: COMMUNITY ASSESSMENT</th>
<th>Session 8A: ADVANCED FUGITIVE MONITORING</th>
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<td>[concurrent with Session 7A and 8A]</td>
<td>[concurrent with Session 6A and 8A]</td>
<td>[concurrent with Session 6A and 7A]</td>
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<tr>
<td>Broadlind</td>
<td>Bixby 3</td>
<td>Bixby 4</td>
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<tr>
<td><strong>Chair:</strong> Greg Wolffe, Yorke Engineering, LLC</td>
<td><strong>Chair:</strong> Laki Tisopoulos, South Coast Air Quality Management District</td>
<td><strong>Chair:</strong> Ricky Tropp, Desert Research Institute</td>
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8:30 am – 8:55 am
**ME53**
Real-Time Nuisance Odor Monitoring and Notification System
Greg Wolffe and Bipul K. Saraf, Yorke Engineering, LLC, San Juan Capistrano, CA

8:55 am – 9:20 am
**ME42**
Identification of Agricultural Emissions – What's That Smell?
Samantha Henningsen, ALS Group Air Quality Laboratory, Simi Valley, CA

9:20 am – 9:45 am
**ME17**
Assessment of Odor Impacts from Landfill Operations
Paul W. Schafer, SCS Engineers, Sacramento CA; Thomas J. Rappolt, SCS Engineers, Carlsbad CA,

9:45 am – 10:10 am
**ME50**
New Instrument for Ambient Air Monitoring
Pete Manautou, Barbara Toole O'Neil, Scanit Technologies, San Francisco, CA

8:30 am – 8:55 am
**ME23**
Swansea Elementary School Fixed Site Demonstration Project for Monitoring of Construction Air Quality
Michael R. Ogletree, Department of Environmental Health (DEH), City & County of Denver, CO

8:55 am – 9:20 am
**ME02**
Rehabilitation of Mercury Polluted Industrial Site by the Construction and Accommodation of an Official Building
Layla Al-Awadi, Abdul Rehman Khan, Environmental Pollution and Climate Program (EPCP); Mufreh Al-Rashidi, Crisis Decision Support Program (CDS), Environment and Life Sciences Research Center (ELSRC), Kuwait Institute for Scientific Research, Kuwait

9:20 am – 9:45 am
**ME04**
Assessment of Noise Levels Spatial Distribution at Umm Al-Aish Oil Field-Kuwait
Ashraf Ramadan, Environmental Pollution and Climate Program, Environment and Life Sciences Research Center, Kuwait Institute for Scientific Research, Safat, Kuwait

REFRESHMENT BREAK
10:10 am - 10:30 am
Second Floor Prefunction Hallway
TECHNICAL PROGRAM - Thursday, November 9

Session 6B:
AGRICULTURAL/LANDFILL MEASUREMENTS
[concurrent with Session 7B]
Broadlind

Chair: Greg Wolff, Yorke Engineering, LLC

10:30 am – 10:55 am
ME89
Automated Landfill Gas Collection Increases Revenues, Lowers Costs, and Reduces Fugitive Emissions
Joseph G. Michels, Sarah M. Rizk, William D. Bingham, Ian S. Martin, Peter A. Quigley, Loci Controls Inc., Fall River, MA

10:55 am – 11:20 am
ME32
Validation of Tracer Dispersion Method for Quantifying Whole Landfill Methane Emission
Jacob Mønster, FORCE Technology, Brøndby, Denmark; Charlotte Scheutz, Technical University of Denmark, Lyngby, Denmark; Anders Fredenslund, Technical University of Denmark, Lyngby, Denmark

11:20 am – 11:45 am
ME16
Uncertainty Analyses of Backward Lagrangian Stochastic Inverse-Dispersion Technique
Kyoung S Ro, Jerry H Martin, USDA-ARS Coastal Plains Soil, Water & Plant Research Center, Florence, SC; Steven Trabue, USDA-ARS National Laboratory for Agriculture and the Environment, Ames, IA

Session 7B:
NETWORK DESIGN
[concurrent with Session 6B]
Bixby 3

Chair: Laki Tisopulos, South Coast Air Quality Management District

10:30 am – 10:55 am
ME75
Considerations for Effective Upper-Air Meteorological Networks
Clinton MacDonald, Kevin Smith, Max Dillon, Sonoma Technology, Petaluma, CA

10:55 am – 11:20 am
ME37
Wintertime PM2.5 Saturation Network in North Pole, Alaska
David H. Bush, David L. Yoho, T&B Systems, Valencia, CA; Tom Carlson, Sierra Research, Sacramento, CA; Barbara Trost, Alex Edwards, Alaska Department of Environmental Conservation, AK

11:20 am – 11:45 am
ME38
Wintertime PM2.5 Mobile Measurements in North Pole, Alaska
David H. Bush, David L. Yoho, T&B Systems, Valencia, CA; Tom Carlson, Sierra Research, Sacramento, CA; Barbara Trost, Alex Edwards, Alaska Department of Environmental Conservation, AK

Conference Adjourns
11:45 am
Thank you for attending the Air Quality Measurements Conference.

Please complete the conference survey that will be sent to you via email in the next few weeks. Your feedback is important to us and we will use it to improve future conferences.

ABOUT THE AIR & WASTE MANAGEMENT ASSOCIATION

A&WMA is a not-for-profit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for technology exchange, professional development, networking, public education, and outreach to more than 5,000 environmental professionals in 65 countries. A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society. For more information, please visit www.awma.org.