



ODORS AND AIR POLLUTANTS CONFERENCE

MARCH 15-18 | CINCINNATI, OHIO



The conference is held by the Water Environment Federation in cooperation with the Ohio Water Environment Association and the Water Research Foundation.

#OAP20

2020



WEF Odors and Air Pollutants Conference 2020

March 15-18, 2020
Duke Energy Convention Center
Cincinnati, Ohio, USA



The conference is held by the Water Environment Federation in cooperation with the Ohio Water Environment Association and The Water Research Foundation.

Dear Conference Participants,

Welcome to Cincinnati and the 2020 Odors and Air Pollutants Conference. Cincinnati and surrounding areas offer a great array of distilleries, breweries, restaurants, and a vibrant downtown and riverfront area, in addition to its famous chili – but this week it is the center of the odor universe!

You've come to the right place to learn all about odor characterization, control methods, and solutions brought to you by WEF and the Air Quality and Odor Control Committee. This bi-annual conference features speakers from across the world who will share their experiences with you in many different forums. We also have some fun surprises in store for you, so get ready, get set, here we go.... And don't forget to use the conference mobile app to track activities, presentations, events, and meetings.

We start on a high note with our Sunday Pre-Conference Workshops where participants can engage with new tools and methodologies in odor control and related concerns. On Monday morning the conference will formally kick off with our Opening General Session; we will hear a few words from Keith Hobson, WEF Treasurer, followed by our Keynote Speaker Todd P. Trabert. Mr. Trabert joins us from the Wastewater Collection Division of MSDGC will tell us about Cincinnati's innovative odor control program. We will also hear a lively panel discussion from leaders across odor industry working to be proactive instead of reactive to odor events.

Exhibits open promptly at 10:00am on Monday followed by our technical sessions later that morning. Among our 60 presentations, we have two mobile sessions where you can learn from exhibitors. Don't forget the Networking Reception on the exhibit floor on Monday evening and the Meet the Speakers Event on Tuesday, which will not only be an excellent opportunity to talk to presenters about the technical sessions but will also include some other fun items.

We appreciate the dedication and effort of all the speakers, organizers, moderators, monitors, and WEF staff in putting this show together. We thank the exhibitors and sponsors who contribute to the success of this conference. We said there would be surprises at the conference so come and sniff them out.

So, welcome to Cincinnati! We hope you learn a lot, grow your professional network, participate in all the conference has to offer, and have a great time. We smell good things to come!

Good wishes from your Co-Chairs,

Sincerely,



Vaughn Harshman
Evoqua Water Technologies, LLC
Conference Co-Chair



Mark Perkins
Perkins Engineering Consultants, Inc.
Conference Co-Chair

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ODORS AND AIR POLLUTANTS CONFERENCE COMMITTEE

Conference Co-Chairs



Vaughan Harshman
Evoqua Water Technologies, LLC
Conference Co-Chair



Mark Perkins
Perkins Engineering Consultants, Inc.
Conference Co-Chair

ODORS & AIR POLLUTANTS CONFERENCE STEERING COMMITTEE

Ray Davis
Greeley and Hansen

Carla Dillon
City of Lomita, CA

Dennis Froehlich
Froehlich Environmental PLLC

Bart Kraakman
Jacobs

Inken Mello
USP Technologies

Richard Pope
Hazen and Sawyer

Amy West
Brown and Caldwell

ODORS & AIR POLLUTANTS CONFERENCE PROGRAM COMMITTEE

Ashraf Aly Hassan
University of Nebraska Lincoln

Dirk Apgar
King County

Don Apking
Ecoverde

Sam Boswell
Daniel Mechanical

Scott Cowden
Jacobs

Bill Desing
Jacobs

Carlos Diaz
Olores.org

Dick Finger
Retired WTP manager

Bill Gase
City of Garland, TX

Eric Hansen
Evoqua Water Technologies, LLC

ODORS AND AIR POLLUTANTS CONFERENCE COMMITTEE

Michael Headd
Woodard & Curran

Ron Patel
City of Dallas, TX

Chris Hunniford
V&A Consulting Engineers

Ray Porter
Porter Odor Science

Bruce Koetter
*Webster Environmental Associates,
Inc.*

Jim Ross
*Webster Environmental Associates,
Inc.*

Dave McEwen
Brown and Caldwell

Bob Stallings
AECOM

Mike McGinley
St. Croix Sensory, Inc.

Mel Suffet
UCLA

James McMillen
*Perkins Engineering Consultants,
Inc.*

Lynsy Varner
Plummer

Ali Oskouie
MWRD/IIT

Neil Webster
*Webster Environmental Associates,
Inc.*

COMMITTEE MEETING

Tuesday, March 17

Air Quality & Odor Control Committee Meeting

(Open to everyone)
12:30 PM – 1:30 PM
Room 236

REGISTRATION

All events are held in the Duke Energy Convention Center.

The Registration Desk is located in Hall C Lobby and will be open at the following times:

Hours:

Sunday, March 15	7:30 AM – 5:00 PM
Monday, March 16	7:30 AM – 5:00 PM
Tuesday, March 17	8:00 AM – 5:00 PM
Wednesday, March 18	8:00 AM – 12:00 PM

PRESENTER AND MODERATOR INFORMATION

All presenters, alternates, and moderators should sign in at the conference Registration Desk and attend their assigned briefing.

Presenters, alternates, and session moderators, participating Monday through Wednesday should attend their assigned briefing. Please attend only once unless speaking on multiple days. Please add them to your calendar via the App. The Speaker Briefing and room schedule is as follows:

Monday, March 16 — Room: 237	7:30 AM – 8:15 AM
*Sessions 1 through 4	
Tuesday, March 17 — Room: 237	7:30 AM – 8:15 AM
*Sessions 5 through 10	

MOBILE APP



WEF is pleased to offer the ***WEF Events Connect Mobile App*** which gives you access to all current and future WEF events, including Odors and Air Pollutants.

View full program details and the exhibitor list, then start building your #OAP20 agenda.

Download “***WEF Events Connect***” now from the Google Play OR Apple App Store. All other web-enabled devices can access the app via the web at <https://ativ.me/q9z>.

We want your feedback! Please complete in-app surveys on individual presentations, sessions, workshops, and more!

ONLINE PROCEEDINGS

Conference proceedings, consisting of manuscripts for each presentation, have been made available through an online portal. Advance registrants within Full Conference, Daily, Student, and Exhibiting categories will receive access to the OAP 2020 online proceedings on the day prior to the conference. Onsite registrants will receive an access link following the event’s conclusion.

Copies of proceedings may be ordered after the conference at the member rate of \$100 USD/nonmember rate of \$150 USD. All orders will be processed after conclusion of the conference. You may call 1-800-666-0206 or visit www.wef.org/ShopWEF and ask for Stock Number – CPOA2003

RECEPTION AND MEAL FUNCTIONS

Networking Reception

Exhibit Hall

Come grab a beer while they last! Join us in the exhibit area to mingle with your fellow attendees while you view the exhibits, renew acquaintances, and make new contacts. Light hors d'oeuvres and refreshments will be served. Beer will be available first come, first served with a cash bar to follow. Don't miss out!

Monday, March 16

4:45 PM – 6:15 PM

Sponsored by: PureAir Filtration, ECS, and Daniel Company

Luncheons

Exhibit Hall

Lunch will be provided for all registrants. Please advise staff as soon as possible if you have any special dietary requirements.

Monday, March 16

12:15 PM – 1:30 PM

Sponsored by: Evoqua Water Technologies

Tuesday, March 17

12:15 PM – 1:30 PM

Meet the Speakers Reception

Room 233

This event will provide participants and presenters the opportunity to discuss the technical presentations in a relaxed and collegial atmosphere. Take advantage of the opportunity to discuss any lingering questions or comments for a particular presentation one-on-one over light snacks and refreshments.

Tuesday, March 17

5:00 PM – 6:00 PM

Sponsored by: Hazen and Sawyer

Networking Breaks

The Networking Breaks will be held:

Monday, March 16

Exhibit Hall

10:00 AM – 10:45 AM and 3:00 PM – 3:45 PM

Tuesday, March 17

Exhibit Hall

10:00 AM – 10:45 AM and 3:00 PM – 3:45 PM

Wednesday, March 18

10:00 AM – 10:15 AM

CONTINUING EDUCATION

How Do I Receive Credit For this Conference?

To receive credit for all technical sessions and pre-Conference workshops, please fill out a Continuing Education Request Form and be sure to have a room monitor initial for verification.

Attendees will have to submit their CE Request Form to the Registration Desk at the end of the Conference. Please request a continuing education form when you check-in and ask WEF staff at the Registration Desk if you have further questions.

Workshops:

WEF offers Continuing Education Units (CEUs) for participation in workshops, which are held as full and half-day sessions in a classroom setting conducted by industry-leading professionals. **One CEU is the equivalent to 10 hours of training or formal instruction.** These are distributed for structured, relevant professional training above and beyond that of initial certification or employment in a particular field.

Technical Sessions:

WEF offers Professional Development Hours (PDHs) for participation in technical sessions. **A PDH is defined as one hour** spent engaged in an activity that contributes to the advancement or enhancement of professional skills or scientific knowledge of a professional engineer or operator.

Opening General Session:

General Contact hours are distributed for participating special sessions that are less technical in nature or have varied tracking methods. These sessions provide opportunities to see the newest developments in water related technology and get firsthand demonstrations from industry experts. A General Contact Hour is defined as one hour spent engaged in an activity that contributes to the professional knowledge of a participant.

When Will I Receive Credits For this Conference?

Certificates and transcripts for this event will be mailed within 8 weeks of the Conference.

Please keep in mind that although WEF does provide these files, most states will require the individual licensee to report continuing education credits.

Note: Educational Credits will not be recorded and documentation will not be distributed unless the attendee is a confirmed registrant of this event and the proper steps are completed as indicated in the directions provided.

CONTINUING EDUCATION

Are WEF Continuing Education Credits Approved in My State?

WEF applies for approval in many states and will be happy to work with individuals and Member Associations for additional state or agency approvals upon request. In addition, WEF has been approved as a Training Provider through the following:

The Florida Board of Professional Engineers, the New York State Department of Education, and the Ohio EPA. Several states typically accept WEF PDH and CEU credits without issue. For example: California (CWEA), Florida and New Jersey.

What Else Do I Need to Know?

WEF follows the International Association of Continuing Education and Training (IACET) guidelines along with state-specific regulations to achieve strict policies and procedures regarding its Continuing Education Program. WEF calculates education credits following a standardized method that is the most widely accepted by certification and licensing agencies. However, many states differ in the type and/or number of credits they will approve for educational events. Because of this, participants are responsible for exploring their state requirements and for ensuring that WEF conference credits are accepted.

Service and Support...

In keeping with IACET guidelines, WEF maintains a database of all continuing education files for a minimum of 7 years. You may contact WEF's Customer Service Team between the hours of 8:30am and 5:00pm EST, Monday through Friday to request these files. Please call 1-800-666-0206 or submit an email request to csc@wef.org.

State Credit Calculations:

*Some state licensing boards will accept CEUs for session under 3 hours in length. Some use different acronyms for training credits. In most instances the credits issued by WEF can be converted to meet state specific requirements that vary from the system used by WEF. This is usually managed at the state level using the following conversion:

1.0 CEU = 10 Hours of session time

1.0 PDH = 1 Hour of session time

1.0 Contact Hour = 1 Hour of session time

For example: **1.7 CEU Credits = 17.0 PDH** depending on individual state regulations.

**CEU & PDH credits are available for Workshops to Professional Engineers licensed in the state of New York (NYSED).*

For more information regarding WEF's Continuing Education Program, please visit www.wef.org/OdorsAir

SPONSORSHIP INFORMATION

We would like to thank the following sponsoring companies for their contributions to the conference and program.

**PureAir
Filtration**

CUSTOMIZED PERFORMANCE

www.pureairfiltration.com

Platinum
Booth 204

**DANIEL
COMPANY**
PREMIER ODOR CONTROL SPECIALISTS



www.danielmechanical.com

Gold
Booth 210

ECS

ENVIRONMENTAL SOLUTIONS

...because reputation matters

KCH HEIL

www.ecs-env.com

Silver, Tote Bags, Lanyards, Terracycle Lanyard Recycling
Booth 100

HDR

www.hdrinc.com

Bronze Elite

SPONSORSHIP INFORMATION

We would like to thank the following sponsoring companies for their contributions to the conference and program.



www.evoqua.com

Monday Luncheon

Booth 119



www.hartzellairmovement.com

Water Bottle

Booth 122

Hazen

www.hazenandsawyer.com

Meet the Speakers

WEF POLICIES & POSITIONS

WEF's Vision

A community of empowered professionals creating a healthy global water environment.

Core Values

Leadership, Passion, Scholarship, and Collaboration, and Service

WEF Policies

WEF respects and takes the broadest view of human diversity and inclusion and is committed to providing a professional, safe, and welcoming environment at its events for all water professionals and their guests. WEF expects all sponsors, speakers, attendees, media, exhibitors and other participants to uphold our commitment to diversity and inclusion by helping us provide a positive conference environment for everyone.

For more information, please see WEF's Diversity and Inclusivity Policy, as well as WEF's Non-Discrimination and Harassment Policy at www.wef.org/about/about-wef.

Reporting Concerns

If you have any concerns during this conference, please stop by the conference registration desk in the Regal Room at the Hyatt Regency Orange County, or you may email the WEF Executive Director Walter Marlowe at wmarlowe@wef.org.

WEF SOCIAL MEDIA POLICY

WEF strongly encourages the use of social media to share your experiences at our event. This includes sharing interesting quotes or information, taking pictures with colleagues, and using the event hashtag. However, to protect intellectual property, videotaping, filming, or live-streaming of any workshop or technical session presentation, or exhibit booth is prohibited. Any participant violating this policy must relinquish the media and may be removed from the conference. Also, promotional or commercial use of photographs taken at WEFTEC and other WEF conferences is strictly prohibited. If you are interested in content, materials, or products, please consider talking to the speaker or exhibitor, who may provide the information or grant permission.

CONFERENCE SAFETY AND SECURITY

WEF works hard to provide a comfortable and safe environment during our meetings and events, including contracting with private security firms and off-duty police officers when required. Your help also is needed to provide a safe and secure environment. WEF recommends that you follow these safety guidelines:

1. **Share your plans.** Advise a family member or friend of your travel plans, including the dates you will be gone, how you will travel to the meeting or event, and where you are staying;
2. **Protect your identity.** Wear your name badge only inside the meeting or event venue; remove and secure your name badge when going to and from the venue; when disposing of your name badge, scratch out or destroy your name and/or the QR code to protect your personal information;
3. **Plan for an emergency.** Be aware of your surroundings. Know where the nearest exits are located. Use the buddy system. Exchange contact information with another event attendee. In case of a venue evacuation, agree where you will meet up. Call for help if your buddy doesn't meet up at the agreed location within a reasonable amount of time.
4. **See something, say something.** If you see something that raises a safety or security concern, please follow the instructions printed below or in the mobile app to alert security personnel.
5. **Wash your hands often.** Hand Sanitizer will be provided at registration and the meeting rooms. Use alternatives to handshakes and handing out business cards.

DUKE ENERGY CONVENTION CENTER MEDICAL EMERGENCY

If a medical emergency should occur:
Security Office – 24 Hours – (513)-419-7325

Security/Medical house phones are located throughout the facility that go directly to the convention center's security office which is open 24-hours.

First Aid Office is located in the South Concourse across from Exhibit Hall A.

HYATT EMERGENCY PHONE NUMBER

To report an Emergency call #55 from any house phone or dial Hyatt Hotel Security at 513-579-1234.

STAY HEALTHY WHILE TRAVELLING

Avoid travel if you have a fever and cough



If you have a fever, cough and difficulty breathing seek medical care early and share previous travel history with your health care provider

Avoid close contact with people suffering from a fever and cough



Frequently clean hands by using alcohol-based hand rub or soap and water

Avoid touching eyes, nose or mouth



When coughing and sneezing cover mouth and nose with flexed elbow or tissue – throw tissue away immediately and wash hands



UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

THE GLOBAL GOALS For Sustainable Development



All WEF members and water professionals contribute to the UN Sustainable Development Goals (SDGs) every day they go to work. To highlight the value of water, WEF is offering an SDG educational certificate to all OAP 2020 attendees who attend at least 3 SDG related sessions and complete the onsite form. When identifying sessions, virtually all conference programming is related to SDG 6: Clean Water and Sanitation. However, we have selected an extensive list of sessions that directly address a key target for multiple SDGs. Please track all sessions you attend, submit your completed SDG form to the conference registration desk, and we will e-mail you the OAP 2020 SDG Awareness Professional Development Certificate after the event.

To participate, please pick up the OAP 2020 SDG worksheet from the conference registration desk and be sure to return it before heading home.



SESSIONS AT-A-GLANCE

Session Number	Session Title	Time	Credits	Room
Sunday, March 15th				
Workshop A	Odor Corrosion Problem Solving using Sewer Process Modeling Tools	8:30am–12:00pm	3.0 CEUs	
Workshop B	Odor Measurements – Proper Use and Interpretation for Air Nuisance Odor Control	1:30pm–5:00pm	3.0 CEUs	
Monday, March 16th				
OGS	Opening General Session	8:30am–10:00am	1.5 GCHs	232
Session 1	Odor Impact and Mitigation Assessment	10:45am–11:45am	1.0 PDHs	230/231
Session 2	Community Relations and Odor Complaints	10:45am–11:45am	1.0 PDHs	232
Session 3	Collection Systems - Odor and Corrosion Mitigation	1:30pm–4:45pm	3.0 PDHs	230/231
Session 4	Biological Odor Control	1:30pm–3:00pm	1.5 PDHs	232
Tuesday, March 17th				
Session 5	Odor and Corrosion Treatment	8:30am – 11:45am	3.0 PDHs	230/231
Session 6	Sewer Odor Modeling	8:30am–10:00am	1.5 PDHs	232
Session 7	Odor Measurement Monitoring and Performance	1:30pm–4:45pm	3.0 PDHs	230/231
Session 8	Innovative Treatment Approaches	1:30pm–4:45pm	3.0 PDHs	232
Wednesday, March 18th				
Session 9	Utility Odor Management and Planning	8:30am – 11:15am	3.0 PDHs	230/231
Session 10	Not Treatment Technology: The Other Critical Components of an Odor Control System	8:30am – 11:15am	3.0 PDHs	232

PRE- CONFERENCE WORKSHOPS

Pre-conference workshops require a separate registration fee to participate. Please see the conference registration desk for more information before participating.

Workshop A: Odor Corrosion Problem Solving using Sewer Process Modeling Tools

**Sunday, March 15
8:30 AM – 12:00 PM**

Bart Kraakman, Jacobs; Jes Vollersten, Aalborg University; Josef Cesca, Matthew Ward, Jacobs

Evaluating and mitigating wastewater collection system odor and corrosion is challenging, because:

1. Collection systems are highly dynamic. Frequent and often rapid changes in wastewater flows and characteristics will vary hydrogen sulfide concentrations, sewer headspace volume, and headspace pressures significantly with time and along the length of a sewer.
2. Collection networks are complex. Collection systems include numerous elements – pipes of multiple diameters and lengths, manholes, elevation drops, junction boxes, and outfall structures that are interconnected in complex ways.

Can sewer process modeling address the above challenges, opening the way for a more pro-active approach, so that reactive trial-and-error approaches can be avoided? This workshop will provide a comprehensive understanding of the sewer processes (a sewer as a bioreactor, so more than only transport) and will illustrate the latest developments, including an appreciation of the advantages and limitations, of sewer process modeling tools.

Workshop B: Odor Measurements – Proper Use and Interpretation for Air Nuisance Odor Control

**Sunday, March 15
1:30 PM – 5:00 PM**

Raymond Porter, Porter Odor Science; Mel Suffet, UCLA; Michael McGinley, St Croix Sensory, Inc.; Vaughan Harshman, Evoqua

The four dimensions of odor perception are detection (odor threshold), recognition (odor character), quantification (odor intensity) and appreciation (hedonic tone). If you have a mixture of chemical odorants, consideration of what general method or set of specific methods will efficiently and economically allow for the mitigation of the odor nuisance is a major consideration. This workshop will present a set of methodologies to help address the odor nuisance control problem including identifying the odor character, determining the chemical causing the odor, applying the odor measurement data to apply the appropriate mitigation measures and demonstrating compliance with odor guideline criteria.

OPENING GENERAL SESSION

Opening General Session

Monday, March 16

Room 232

8:30 AM – 10:00 AM

8:30 AM

Conference Chairs' Welcome

Vaughan Harshman, Evoqua Water Technologies, 2020
Conference Co-Chair
Mark Perkins, Perkins Engineering Consultants, 2020
Conference Co-Chair

8:35 AM

Ohio Water Environment Association Welcome

Jaime Gellner, Ohio Water Environment Association

8:40 AM

WEF Welcome

Keith Hobson, WEF Board of Trustees, FOX Engineering
Associates

8:45 AM

Keynote Address

Todd Trabert, Metropolitan Sewer District of Greater Cincinnati

9:10 AM

Panel Discussion

Jean-Christophe Mifsud, RubiX S&I; MaryLynn Lodor,
Metropolitan Sewer District of Greater Cincinnati; Asbjorn
Hanning Nielsen, Aalborg University; Chris Hunniford, V&A
Consulting Engineers

10:00 AM

Session Adjourns for Networking Break in Exhibit Hall

TECHNICAL PROGRAM

Session 01: Odor Impact and Mitigation Assessment

Monday, March 16

Room 230/231

10:45 AM – 11:45 AM

Moderators: Patrick Dube, WEF; Michael Lannan, Tech Environmental

- 10:45 AM** **Odors in the Queen City: Case Study for Quantifying, Analyzing, and Mitigating Odors in the Cincinnati Area**
Jarod Gregory, Brian Otten, Trinity Consultants
- 11:15 AM** **A Case Study for Investigating Elevated Hydrogen Sulfide within a Wastewater Treatment Plant**
Patricia Hsia, Hana Long, Thomas Knapp, Michael Liu, Nikos Melitas, LA County Sanitation District
- 11:45 AM** **Session Adjourns for Networking Luncheon in Exhibit Hall**
- Alternate** **Assessing of Odor Impacts in Urban Areas Using an Advanced Modeling Approach**
Raymond Porter, Porter Odor Science; Peter D'Abreton, Envirosuite; Mark Feltner, HRSD

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 02: Community Relations and Odor Complaints

Monday, March 16
10:45 AM – 11:45 AM

Room 232

Moderators: David McEwen, Brown and Caldwell; Scott Cowden, Jacobs

- 10:45 AM** **Controlling Fugitive Odor Emissions Gives Pima County a Breath of Fresh Air**
Catherine Vanyo, Brown and Caldwell; Dean Moulis, Pima County Regional Wastewater Reclamation Department; Steven Davidson, Brown and Caldwell; Bobby DeAngelo, Pima County Regional Wastewater Reclamation Department; Alex Marye, Edward Lamb, Lamb Tech Inc.
- 11:15 AM** **Not In My Back Yard: A Risk Based Approach to Odor Mitigation Buffer Zones**
Brian Huang, Christopher Hunniford, V&A Consulting Engineers; Brent Meyer, City of Woodland
- 11:45 AM** **Session Adjourns for Networking Luncheon in Exhibit Hall**
- Alternate** **Bridging the Gap Between People, Politics and Professionals**
Bryan Smith, Pivotal Engineering, LLC

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 03: Collection Systems - Odor and Corrosion Mitigation

Monday, March 16
1:30 PM – 4:45 PM

Room 230/231
SDG: 3

Moderators: Eric Hansen, Evoqua; Dirk Apgar, King County Wastewater Treatment Division

- 1:30 PM** **Collection System Designs Lead to Upset Neighbors**
Richard Pope, Hazen and Sawyer
- 2:00 PM** **Odor & Corrosion Juggling Act: Challenges of Upgrading a Major Municipal Collection System Odor Control Program to Include Corrosion Control Objectives**
Nickolas Wagner, Manatee County; David Hunniford, Christopher Hunniford, V&A Consulting Engineers; Michael Fleury, Carollo Engineers
- 2:30 PM** **Sacrificial Concrete Sewers as an Odor Control Strategy**
Asbjorn Nielsen, Jes Vollertsen, Aalborg University
- 3:00 PM** **Networking Break in Exhibit Hall**
- 3:45 PM** **A Study to Assess the Effects of Hydrogen Sulphide Formation in a Large CSO Storage Tunnel, UK**
Sofia Georgaki, Rodrigo Baur, David Crawford, Jacobs
- 4:15 PM** **A Utility's Journey to Evaluate Alternatives and Craft a Collection System Odor and Corrosion Control Strategy**
Hanting Wang, Greeley and Hansen; Brian Brach, Manasquan River Regional Sewerage Authority; Ray David, Greeley and Hansen; Michael Hope
- 4:45 PM** **Session Adjourns for Networking Reception in Exhibit Hall**

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 04: Biological Odor Control

Monday, March 16
1:30 PM – 3:00 PM

Room 232

Moderators: Bart Kraakman, Jacobs; James McMillen, Perkins Engineering Consultants

- 1:30 PM** **Overcoming Challenges to Startup of Biological Odor Control in Low H₂S Conditions**
Samuel Boswell, Daniel Company
- 2:00 PM** **City of Los Angeles Expands Sustainable Odor Control Technology at DCT Air Treatment Facility**
Amirmohammad Jafarnejad, Cyrous Gilani, David Copp, Aroosa Ansari, City of Los Angeles
- 2:30 PM** **A Novel Integrated Biotrickling Filter – Anammox Bioreactor System for the Complete Treatment of Ammonia in Air with Nitrification and Denitrification**
Marc Deshusses, Lizhan Tang, Duke University
- 3:00 PM** **Session Adjourns for Networking Break in Exhibit Hall**
- Alternate** **Biosurfactants - A Novel Approach for Enhanced Biooxidation of Hydrophobic Volatile Organic Compounds**
Assem Dewidar, University of Cincinnati; George Sorial, Dept of Civil & Env Eng

Check the app for any updates and to leave feedback on this session.

MOBILE SESSION I

Mobile Session I

Monday, March 16
3:45 PM – 4:45 PM

Exhibit Hall

*The two exhibitors listed below will each be holding the same 25-minute presentation twice in a row. Participants are invited to join a different presentation at each of the times listed below. Each presentation happens at the exhibitor's booth. Presentations kickoff concurrently at **3:50PM** and **4:15 PM** in each of the booths.*

3:45 PM	Mobile Session Introduction at entrance to exhibit hall
3:50 PM	2 Simultaneous Presentations
4:15 PM	2 Simultaneous Presentations

Booth 109 **Hydrogen Sulfide and Differential Pressure Monitors for Odor and Corrosion Control Purposes**
Lindy Eppinger, *Detection Instruments Corporation*

Booth 123 **Training and Screening of Assessors for Odor Evaluation Testing**
Michael McGinley, *St Croix Sensory Inc.*

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 05: Odor and Corrosion Treatment

Tuesday, March 17
8:30 AM – 11:45 AM

Room 230/231
SDG: 9

Moderators: Neil Webster, Webster Environmental Associates; Patrick Dube, WEF

- 8:30 AM** **Horizontal Airflow Vertical Bed Dry Media Odor Scrubber Geometry, Media Retention System Design and Access for Internal Maintenance and Repair – One Utility’s Experience Based Knowledge**
Diederik Apgar, King County Dept Of Natural Resources & Parks; Sally Gordon, Samayyah Williams, King County - Wastewater Treatment Division
- 9:00 AM** **NIMBE (Not in My Basement, Ever!) – Sewer Odors DS of a PS**
Lindsey Hassenauer, Bo Copeland, Hazen and Sawyer; Lydia Watkins, Sanitation District No 1
- 9:30 AM** **A New Way to Stop H2S Odor and Corrosion In Large Diameter Gravity Sewers**
Richard Speece, Vanderbilt University; Alison Trollier, Eco Oxygen Technologies LLC
- 10:00 AM** **Networking Break in Exhibit Hall**
- 10:45 AM** **Proactive Planning for Ventilation and Odor Control of a Large Diameter Tunnel System**
Adam Dellinger, Jennie Celik, Chris Easter, HDR
- 11:15 AM** **Minimum Acceptable Dose – Future Sewer Corrosion Management through Sewer Process Modeling**
Alexander Demith, Matthew Ward, Jacobs; Chris Quigley, CH2M; Derek Velarde, Salt Lake City Department of Public Utilities
- 11:45 AM** **Session Adjourns for Luncheon in Exhibit Hall**

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 06: Sewer Odor Modeling

Tuesday, March 17
8:30 AM – 10:00 AM

Room 232

Moderators: Anthony Yamini, PureAir Filtration; Dennis Froehlich, Pima County Regional Wastewater Reclamation

8:30 AM **Sulfide Control Optimization Using Sewer Process Models**
Adrian Romero, Jacobs; Mark Holstad, City of Albuquerque;
Matthew Ward, CH2M; Jes Vollersten, University of Aalborg

9:00 AM **pH Impacts to Sulfate-Reducing Bacteria: Research, Modeling, and Case Study**
David McEwen, Brown and Caldwell

9:30 AM **WATS the Deal? Understanding and Mitigating Hydrogen Sulfide Impacts in Billings, MT through Collection System Modeling**
Kelsey Kenel, Chris Easter, HDR; Louis Engels, City of Billings; Jes Vollertsen, Aalborg University

10:00 AM **Session Adjourns for Networking Break in Exhibit Hall**

Alternate **Enhanced Toolkit Guides Odor Control Solutions**
Scott Cowden, Jacobs; Monica Wright, CH2M; Keith Kibbee, Alexander Demith, Jacobs

Check the app for any updates and to leave feedback on this session.

MOBILE SESSION II

Mobile Session II

Tuesday, March 17
10:45 AM – 11:45 AM

Exhibit Hall

*The two exhibitors listed below will each be holding the same 25-minute presentation twice in a row. Participants are invited to join a different presentation at each of the times listed below. Each presentation happens at the exhibitor's booth. Presentations kickoff concurrently at **10:50 AM** and **11:15 AM** in each of the booths.*

10:45 AM	Mobile Session Introduction at entrance to exhibit hall
10:50 AM	2 Simultaneous Presentations
11:15 AM	2 Simultaneous Presentations

Booth 119 **Critical Importance of a Pro-Active Approach to Service Based Sulfide Control Programs**
Justin Stewart, *Evoqua Water Technologies*

Booth 204 **Review of Methods to Monitor Odor Control Systems**
Kevin Jameson, *PureAir Filtration*

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 07: Odor Measurement Monitoring and Performance

Tuesday, March 17
1:30 PM – 4:45 PM

Room 230/231
SDG: 3, 9

Moderators: Shirley Edmondson, Black & Veatch; Kevin Jameson, PureAir
Filtration

- 1:30 PM** **Investigating Volatile Sulfur Compound (VSCs) Emissions from Primary Sedimentation Tanks**
Ulrich Bazemo, DC Water; Adrian Romero, Jacobs; Haydee De Clippeleir, DC Water
- 2:00 PM** **Odor Control System Evaluation and Optimization at the F. Wayne Hill WRC**
Kristen Smeby, Hazen and Sawyer; Gayathri Ram Mohan, Gwinnett County - Department of Water Resources
- 2:30 PM** **Development of a Biosensor for Objectively Quantifying Odorants**
Sharmily Rahman, Daniel Meeroff, Florida Atlantic University
- 3:00 PM** **Networking Break in Exhibit Hall**
- 3:45 PM** **Budgeting Odor Sampling Uncertainty - A Practical Strategy**
Charles McGinley, St Croix Sensory Inc
- 4:15 PM** **Lessons Learned from OCSD's Odor Control Master Plan**
Tadeo Vitko, Brian Reed, Orange County Sanitation District
- 4:45 PM** **Session Adjourns for Social with Speakers**
- Alternate** **Malodor Detection for Fecal Sludge Management Technologies by an Integrated Gas Sensors System**
Claire Welling, Siddharth Kawadiya, Sonia Grego, Marc Deshusses, Duke University

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 08: Innovative Treatment Approaches

Tuesday, March 17
1:30 PM – 4:45 PM

Room 232
SDG: 3, 9

Moderators: Carlos Diaz, Olores.org; Chris Hunniford, V&A Consulting Engineers

- 1:30 PM** **Full-scale Digester Micro-Aeration Studies to Improve Biogas Quality**
Bart Kraakman, Jacobs; Israel Diaz, Raul Munoz, University of Valladolid; Josef Cesca, Jacobs
- 2:00 PM** **Using Horticulture for Treating Wastewater Odor on Reactor Top and Utilizing Synesthesia for Altering Perception**
László Tutor, Organica Zrt.
- 2:30 PM** **Development of Inorganic Media for Organic Odor Removal in Biofilters - An Incredible Journey!**
Louis le Roux, Louis Jackson, Matthew Johnson, Bioair Solutions LLC
- 3:00 PM** **Networking Break in Exhibit Hall**
- 3:45 PM** **Advanced Water Scrubber for Odorous VOC Treatment in WWTP**
Catherine Gracian, Valérie Nastasi, Suez International
- 4:15 PM** **Microbioreactors Application for Process Intensification of VOC Treatment for Indoor Air Quality Control: Reactor Design, Fabrication and Operation Optimization**
Luis Rafael De Leon, Kelsey Deaton, Marc Deshusses, Duke University
- 4:45 PM** **Session Adjourns for Social with Speakers**
- Alternate** **Wet Chemical Packed Tower Scrubber Sizing for Waste Water Odor Control – A Practical Approach**
Diederik Apgar, King County Dept Of Natural Resources & Parks; Samayyah Williams, Sally Gordon, King County - Wastewater Treatment Division
- Alternate** **Process Modelling of Sulfur Chemistry to Understand and Optimize a Full-Scale Micro Aeration Process**
Josef Cesca, Jacobs; Derek Van Rys, Sydney Water; Adrian Romero, Jacobs, Bruce Johnson, CH2M; Bart Kraakman, Jacobs

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 09: Utility Odor Management and Planning

Wednesday, March 18
8:30 AM – 11:15 AM

Room 230/231
SDG: 7

Moderators: Ray David, Greeley and Hansen; Jim Ross, Webster
Environmental Associates

- 8:30 AM** **Cost of Being a Good Neighbor**
Scott Cowden, Jacobs; Sharon Paterson, Anue Water
Technologies; Mark Feltner, HRSD
- 9:00 AM** **Solving Odor Control Needs while Meeting Indoor
Endotoxin Limits and Optimizing Energy Used for
Ventilation at the Avon WWTP**
Neil Webster, Webster Environmental Assoc; Tim Drescher,
ERWSD; Carter Biesemeyer, Carollo
- 9:30 AM** **Multi-faceted Odor Control Planning for Primary Clarifiers
at the Orange County Sanitation District**
Lynne Moss, Black & Veatch; May Kyi, Orange County
Sanitation Dist; Shahrzad Namini; Andy DaSilva; Shirley
Edmondson, Mark Wilson, James Clark, David Cover, Black &
Veatch
- 10:00 AM** **Networking Break**
- 10:15 AM** **The Thornton Composite Reservoir – Odor Lessons
Learned from the Operation of Unique 30 Billion Liter (7.9
Billion Gallon) Combined Sewer Overflow Mega-Structure**
Jonathan Grabowy, Kevin Fitzpatrick, Reed Dring, Dominic
Brose, Brent Bedell, Weizhe An, Kuldip Kumar, Metropolitan
Water Reclamation District of Greater Chicago
- 10:45 AM** **Modeling for Management: Wastewater Quality
Transformations and Odor Generation Potential In
Conveyance Resulting From Upstream Discharges of
Scalping Facility Sludge**
Dennis Froehlich, Pima County Regional Wastewater
Reclamation Dept; Rajeev Goel, Hydromantis ESS, Inc
- 11:15 AM** **Conference Adjourns**

Check the app for any updates and to leave feedback on this session.

TECHNICAL PROGRAM

Session 10: Not Treatment Technology: The Other Critical Components of an Odor Control System

Wednesday, March 18
8:30 AM – 11:15 AM

Room 232

Moderators: Amy West, Brown and Caldwell; Richard Pope, Hazen and Sawyer

- 8:30 AM** **Corrosion Damage Mechanisms, Contributing Factors and Prevention Options in Odor Control Systems**
Robert Nixon, Corrosion Probe Inc
- 9:00 AM** **Optimizing Your Fiberglass Process Equipment Mechanical Reliability**
Gary Arthur, Fiberglass Reinforced Plastics Institute, Inc.
- 9:30 AM** **Key Factors Often Overlooked When Specifying Fans**
Richard Pope, Hazen and Sawyer; Ryan Cassel, Hartzell Air Movement
- 10:00 AM** **Networking Break**
- 10:15 AM** **Corrosive Odors and Their Successful Conveyance. If it Looks Bad, Sounds Bad, Smells Bad, it Probably is Bad**
Samuel Boswell, Daniel Company; Richard Pope, Hazen and Sawyer
- 10:45 AM** **Effective Odor Control System Exhaust Approaches: Exhaust Stacks and Vents**
Phyllis Diosey, Hazen & Sawyer
- 11:15 AM** **Conference Adjourns**

Check the app for any updates and to leave feedback on this session

EXHIBITION INFORMATION

Monday, March 16

10:00 AM – 6:15 PM **Exhibit Hall Open**
10:00 AM – 10:45 AM Networking Break
12:00 PM – 1:30 PM Networking Luncheon
3:00 PM – 3:45 PM Networking Break
4:45 PM – 6:15 PM Networking Reception

Tuesday, March 17

10:00 AM – 3:45 PM **Exhibit Hall Open**
10:00 AM – 10:45 AM Networking Break
12:00 PM – 1:30 PM Networking Luncheon
3:00 PM – 3:45 PM Networking Break

Children under 18 entering the Exhibition must be accompanied by a parent or guardian at all times. The parent or guardian must obtain a child badge at registration, and assumes all risk and responsibility for the child's safety.

Due to the proprietary nature of the displays, photography of displays and materials is forbidden without exhibitors' express permission.

EXHIBITOR DIRECTORY

As of 3/6/2020

Updates will be reflected in the mobile app.

Aerisa Booth 316

www.aerisa.com

Phone: 877-423-7472

1214 W Boston Post Rd, #410

Mamaroneck, NY 10543

Aerisa's ionization technology provides a complete air quality improvement solution more than competing systems. Aerisa systems deliver: cost effective odor removal corrosion control, reduced maintenance, low energy consumption, existing facility retrofit.

Air Clean USA, LLC Booth 318

www.aircleanusa.com

Phone: 786-554-8679

1200 Brickell Ave, 800 #6

Miami, FL 33131

Air Clean USA realizes air pollution control systems using biological technologies (MonaShell – up to 400 ppm H₂S inlet, Crumrubber – up to 4000 ppm H₂S inlet) alone or in combination with conventional technologies (scrubbers, activated carbon).

Airflow Sciences Corporation Booth 116

www.airflowsciences.com

Phone: 734-525-0300

12190 Hubbard St

Livonia, MI 48150

ASC has been supplying innovative engineering solutions since 1975. Our portable fan test system can be used to determine the location and flow rate requirements of a permanent installation, optimized for effective depressurizing of the sewer system.

AirSep Corporation Booth 208

www.airsep.com

Phone: 716-691-0202

260 Creekside Dr

Buffalo, NY 14228

AirSep Corporation offers innovative, non-cryogenic oxygen supply solutions as an alternative to cylinder or liquid supplies.

EXHIBITOR DIRECTORY

Anua Booth 107

www.anuainternational.com/clean-air

Phone: 346-225-8033

4106 Bernau Ave

Greensboro, NC 27407

Anua's environmentally friendly, custom-designed odor control and air emissions solutions solve the challenges facing today's municipal wastewater and industrial manufacturing communities; all while utilizing sustainable media options.

Anue Water Technologies Booth 309

www.anuewater.com

Phone: 760-727-2683

5631 Palmer Way, Ste L

Carlsbad, CA 92010

Anue Water Technologies provides the proven, cost-saving, sustainable FORSe 5 odor and corrosion control technology for wastewater collection systems using oxygen and ozone. EnviroPrep automates fat, oil, grease remediation in wet wells.

BacTee Systems, Inc..... Booth 123

www.bactee.com

Phone: 1-800-975-8775

2534 17th Ave S, Ste D3

Grand Forks, ND 58201

BacTee Systems is a provider of aeration systems, innovative cover technologies and system integration services for use in the biofilter and compost industries.

BioAir Solutions, LLC Booth 113

www.bioairsolutions.com

Phone: 856-258-6969 x101

110 Kresson Gibbsboro Rd, Ste 303

Voorhees, NJ 08043

BioAir Solutions: Global leader in odor and air emissions control for municipalities and industry, specializing in advanced biotrickling filter technology. With global installations, unparalleled process experts, and a focus on R&D, BioAir remains the world's leading provider of total odor solutions.

Biorem Technologies Inc..... Booth 320

www.biorem.biz

Phone: 678-697-9722

100 Rawson Rd , Ste 230

Victor, NY 14564

Leader in biological odor control.

EXHIBITOR DIRECTORY

Bohn Biofilter..... Booth 313

www.bohnbiofilter.com

Phone: 520-624-4644

PO Box 44235

Tucson, AZ 85733

Odor and air emissions control. Soil biofilters– high efficiency, long filter life, and dependable operation. Performance guarantees for 99% H₂S removal and all nuisance odors.

Cabot Norit Activated Carbon Booth 121

www.cabotcorp.com

Phone: 800-641-9245

3200 University Ave

Marshall, TX 75670

Cabot Norit Activated Carbon is the world's largest and most experienced producer of activated carbon. We offer a full range of products, services and technical support to ensure that you receive the right products and solutions.

Carbon Activated Corporation Booth 118

www.activatedcarbon.com

Phone: 310-885-4555

2250 S Central Ave

Compton, CA 90220

CAC is a leading manufacturer and supplier of coconut, coal and wood based activated carbon, as well as catalytic and impregnated activated carbon. We provide systems, installations, large-scale project management, and performance guarantees.

Carbonxt..... Booth 209

www.carbonxt.com

Phone: 352-378-4950

3951 NW 48th Terrace, Ste 111

Gainesville, FL 32606

Carbonxt provides solutions for air emission and wastewater regulations by developing and manufacturing activated carbon-based technologies. We are the only US manufacturer of activated carbon pellets, and provide PACs for multiple applications.

Continental Carbon Group Booth 120

www.continental-carbon.com

Phone: 905-643-7615

1100 S Service Rd, Ste 321

Stoney Creek, ON L8E 0C5

Canada

CCG specializes in products and systems for air filtration and odor control for municipal, commercial and industrial applications. Our experienced staff can help determine the ideal solution for your air quality or odor control application.

EXHIBITOR DIRECTORY

**DANIEL
COMPANY**
PREMIER ODOR CONTROL SPECIALISTS



Daniel Company **Booth 210**

www.danielmechanical.com

Phone: 909-982-1555

1939 W 11th St, Ste E

Upland, CA 91786

Daniel Company provides professional engineering solutions and manufacturers high quality products: biotrickling filters, chemical scrubbers, carbon adsorbers, decarbonators, FRP Tanks, FRP pipe/duct and accessories.

Detection Instruments Corp. **Booth 109**

www.detectioninstruments.com

Phone: 602-797-0630

18441 N 25th Ave, Ste 101

Phoenix, AZ 85023

Featuring Acrulog hydrogen sulfide gas loggers measuring from 3 ppb to 2000 ppm, including ppb and ppm loggers, DiCom perimeter monitor, continuous emissions monitor, differential pressure loggers and ammonia loggers measuring up to 100 ppm.

Draeger **Booth 103**

www.draeger.com

Phone: 800-4DRAGER

7256 S Sam Houston Pkwy W, Ste 100

Houston, TX 77085

Founded in 1889 in Lübeck, Germany, Dräger is a global leader in safety technology. Dräger specializes in fixed flame & gas detection systems, portable gas detection and respiratory protection. Our guiding philosophy is "Technology for Life".

ECO2 **Booth 322**

www.eco2tech.com

Phone: 317-706-6484

3939 Priority Way S Dr, Ste 200

Indianapolis, IN 46240

ECO2's SuperOxygenation system efficiently dissolves pure oxygen gas, CO₂ or ozone into water or wastewater at extremely low O&M costs. Good for: odor control and corrosion prevention, lake and river oxygenation, post-aeration, increased aeration capacity for high strength wastewater, pH adjustment with CO₂.

EXHIBITOR DIRECTORY

Ecoverde..... Booth 105

www.ecoverdetechologies.com

Phone: 888-330-0772

2315 E Washington St

Phoenix, AZ 85034



ECS..... Booth 100

www.ecs-env.com

Phone: 254-933-2270

PO Box 127

Belton, TX 76513

ECS Environmental Solutions offers a complete line of odor control systems and accessories with unique in-house manufacturing capabilities.

Enduro Composites, Inc. Booth 112

endurocomposites.com

Phone: 713-560-9105

16602 Central Green Blvd

Houston, TX 77032

Enduro Composites manufactures products and innovative solutions that deliver long term value for challenging applications in building construction, cable management, infrastructure, and process operations.

ENVEA Inc..... Booth 108

www.envea.global

Phone: 630-262-4400

2623 Kaneville Ct

Geneva, IL 60134

ENVEA is a global manufacturer of gas and air quality monitoring solutions for more than 40 years. We offer customized and turnkey solutions for solving your environmental challenges.

EnviroKlenz..... Booth 205

www.enviroklenz.com

Phone: 239-330-650

24301 Walden Center Dr, Ste 101

Bonita Springs, FL 34134

EnviroKlenz provides air purification and odor control equipment for consumers, commercial/industrial customers, and custom engineered solution projects. We can provide our adsorptive neutralization media in a variety of systems and forms.

EXHIBITOR DIRECTORY



Evoqua Water Technologies LLC Booth 119

www.evoqua.com/odorcontrol

Phone: 262-521-8284

210 Sixth Ave, #3300

Pittsburgh, PA 15222

Transforming water. Enriching life. Evoqua delivers high performance technologies for clarification, biological treatment, ultrafiltration, tertiary filtration, anaerobic digestion, odor control, UV, and disinfection.

Fab-Tech Inc Booth 115

www.fabtechinc.com

Phone: 802-503-2126

480 Hercules Dr

Colchester, VT 05446

Fab-Tech Inc. manufactures PermaShield Pipe (PSP®), a Factory Mutual approved system of stainless steel corrosive fume exhaust duct with PermaShield Fluoropolymer Barrier Coating on interior surfaces. Perfect for odor control applications.

Hahn Plastics (North America) Ltd Booth 326

www.hahnbiofilterfloor.ca

Phone: 519-218-8800

2597 Herrgott Rd

St Clements, ON N0B 2M0

Canada

HAHN is the manufacturer of 100% recycled plastic products. The Raised Flooring System is commonly used in biofilter applications. It is acid resistant, allows good airflow, easy to install, and can be modified on-site using standard tools.



Hartzell Air Movement..... Booth 122

www.hartzellairmovement.com

Phone: 1-800-336-3267

1025 S Roosevelt Ave

Piqua, OH 45356

Indusco Environmental Services, Inc./

RVT Process Equipment..... Booth 206

www.induscoenviro.com

Phone: 251-621-2338

30914 Jay Dr

Spanish Fort, AL 36527

Air Pollution Control - Odor Control Equipment and Systems - Scrubbers - Chemical - Biological - Carbon Design - Fabricate – Supply.

EXHIBITOR DIRECTORY

International Dioxide Inc..... Booth 314

www.idiclo2.com

Phone: 401-619-1104

40 Whitecap Dr

North Kingstown, RI 02852

International Dioxide, a division of ERCO Worldwide, specializes in chlorine dioxide technologies, and is a leading supplier of odor control solutions, sodium chlorite solutions, and ClO₂ generator technology for a wide variety of markets.

John Cockerill..... Booth 315

www.johncockerill.com/en/environment

Phone: 717-201-1810

1 rue des Pins

Aspach-Michelbach 68700

France

Specializes in odors and harmful gases treatments. Designs and supplies tailor-made technical and economic solutions dedicated to odor removal using a combination of technologies and equipment: gas scrubbing, biofiltration, activated carbon filtration and stripping.

Kemira Chemicals Inc. Booth 323

www.kemira.com

Phone: 410-935-2032

1000 Parkwood Circle SE

Atlanta, GA 30339

Our areas of expertise: water intensive industries and municipal water treatment. Through our global network of dedicated experts, production facilities and R&D centers, we serve customers to improve their product quality, efficiency and sustainability.

Kusters Water Booth 117

www.kusterswater.com

Phone: 864-641-5691

101 Zima Park Rd

Spartanburg, SC 29301

Kusters Water/CSO Group - specializing in advanced ionized based odor control in both municipal and industrial based applications.

Odalog-CAS Dataloggers..... Booth 321

www.dataloggerinc.com

Phone: 440-729-2570

8437 Mayfield Rd, Unit 104

Chesterland, OH 44026

CAS Dataloggers the master distributor of industry proven Odalog® portable gas dataloggers designed for the wastewater industry. Available for H₂S, low range and multigas monitoring, providing intrinsically safe operation with wireless data retrieval.

EXHIBITOR DIRECTORY

Perry Fiberglass Products Inc..... Booth 106

www.perryfiberglass.com
Phone: 321-609-9036
5415 Village Dr
Rockledge, FL 32955

Purafil, Inc..... Booth 114

www.purafil.com
Phone: 770-662-8545
2654 Weaver Way
Doraville, GA 30340

Single-source manufacturer of custom engineered gas-phase air filtration media, filters, systems and air-monitoring instrumentation for odor, corrosion and toxic gas control for over 40 years.

PureAir Filtration

CUSTOMIZED PERFORMANCE

PureAir Filtration..... Booth 204

www.pureairfiltration.com
Phone: 678-935-1431
2905 Amwiler Rd, Ste E
Atlanta, GA 30360

PureAir Filtration designs dry air scrubbing systems and manufactures high quality chemical adsorbent media for a range of gas phase filtration applications. We specialize in removing odors from WWTPs and offer live media bed monitoring technology.

RUBIX S&I..... Booth 324

www.rubixsi.com
Phone: +33607427481
3 Avenue Didier Daurat
Toulouse 31400
France

RUBIX S&I is a GreenTech IoT startup who develops online devices that aim to monitor and identify nuisances around us to measure air quality, for indoor spaces and outdoor environments. RUBIX's mission is to use AI and sensors to improve wellbeing.

Scicorp International Corporation..... Booth 325

www.scicorp.net
Phone: 905-829-1749,
3300 Ridgeway Dr, Unit 13
Mississauga, ON L5L 5Z9
Canada

Scicorp Biologic supplies odor control using plant based micro nutrient solutions to stop generation of odors and oxidize airborne fugitive odors from a wide range of organic waste sources.

EXHIBITOR DIRECTORY

Source Technologies, LLC Booth 104

www.sourcetechnologiesllc.com

Phone: 859-608-2730

157 Venture Ct, Ste 9

Lexington, KY 40511

Specializing in providing safe and green solutions for the municipal and industrial wastewater markets since 2005. As a turnkey solution for odor and corrosion control, offering a range of cost-effective chemical solutions in the water, air, and biosolids.

St. Croix Sensory, Inc. Booth 125

www.fivesenses.com

Phone: 651-439-0177

1150 Stillwater Blvd N

Stillwater, MN 55082

Odor laboratory (ISO17025), recognized for sensory testing, training, and innovative solutions, including the Nasal Ranger®, Odor Track'r®, and "ODOR SCHOOL"® training. We represent Olfasense olfactometers, sampling equipment, and Ortelium™.

Streamline Innovations Booth 317

www.streamlineinnovations.com

Phone: 1-888-787-6569

117 Waiden Cove

Georgetown, KY 40324

Syneco Systems, Inc. Booth 110

www.synecosystems.com

Phone: 612-578-0282

PO Box 323

Longville, MN 56655

Manufacturers of Hydrogen Sulfide H₂S Odor Control, using our Peacemaker® Dry Air Scrubbers and Manhole Scrubbers line, along with our patented Persnickety® Converting, Oxidizing and Polishing Media.

UNITECHNICS KG Booth 319

www.unitechnics.de/en/

Phone: +49 160 960 734-80

Werkstrasse 717

Schwerin 19061

Germany

UNITECHNICS gives solutions and consulting for odor in sewage systems.

EXHIBITOR DIRECTORY

USP Technologies Booth 311

www.usptechnologies.com

Phone: 858-245-7883

1375 Peachtree St NE, Ste 300N

Atlanta, GA 30309

Experts in odor and corrosion control using H₂O₂, nitrates, chlorites, iron salts, our NEW low-hazardous SulFeLox™ solution, the regeneration of iron for extended, more cost effective odor control in long collection systems and biosolids odor control.

Vapex Environmental, LLC Booth 101

www.vapex.com

Phone: 407-977-7250 x120

2971 Oxbow Cir, Ste B

Cocoa, FL 32926

Vapex uses hydroxyl radicals to eliminate odor while remediating surface fats, oils and grease, and mitigating microbial induced corrosion. Vapex units effectively oxidize odorous compounds without compromising energy and space, making it the radical solution for wastewater applications.

Wager Company Booth 312

www.wagerusa.com

Phone: 336-416-6341

570 Montroyal Rd

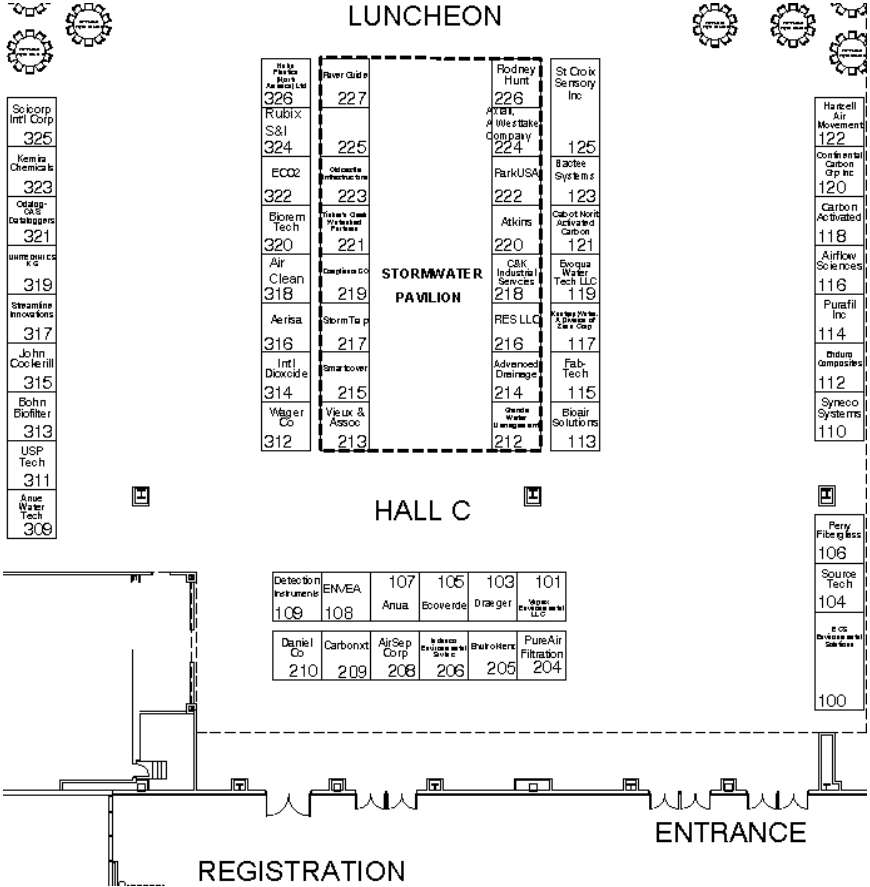
Rural Hall, NC 27045

Odor control H₂S gas.

EXHIBIT HALL FLOOR PLAN

As of 3/6/2020

Updates will be reflected in the mobile app.



PRESENTER AND MODERATOR DIRECTORY

Aroosa Ansari City of Los Angeles, **Speaker Session 04**

Diederik Apgar King County Dept Of Natural Resources & Parks, **Moderator Session 03, Speaker Session 05, 08**

Gary Arthur Fiberglass Reinforced Plastics Institute, Inc., **Speaker Session 10**

Ulrich Bazemo Black and Veatch, **Speaker Session 07**

Samuel Boswell Daniel Company, **Speaker Session 04, 10**

Ryan Cassel Hartzell Air Movement, **Speaker Session 10**

Josef Cesca Jacobs, **Speaker Workshop A, Session 08**

Scott Cowden Jacobs, **Moderator Session 02, Speaker Session 06, 09**

Ray David Greeley and Hansen, **Moderator Session 09**

Adam Dellinger HDR, **Speaker Session 05**

Alexander Demith JACOBS, **Speaker Session 05**

Marc Deshusses Duke University, **Speaker Session 04**

Assem Dewidar University of Cincinnati, **Speaker Session 04**

Carlos Diaz Olores.org, **Moderator Session 08**

Phyllis Diosey Hazen & Sawyer, **Speaker Session 10**

Tim Drescher ERWSD, **Speaker Session 09**

Patrick Dube WEF; **Moderator Session 01, 05**

Shirley Edmondson Black & Veatch, **Moderator Session 07, Speaker Session 09**

Dennis Froehlich Pima County Regional Wastewater Reclamation Dept, **Moderator Session 06, Speaker Session 09**

Sofia Georgaki Jacobs, **Speaker Session 03**

Cyrous Gilani City of Los Angeles, **Speaker Session 04**

Jonathan Grabowy MWRD, **Speaker Session 09**

Catherine Gracian Suez International, **Speaker Session 08**

Jarod Gregory Trinity Consultants, **Speaker Session 01**

Eric Hansen Evoqua, **Moderator Session 03**

Vaughan Harshman Evoqua, **Speaker Workshop B**

Lindsey Hassenauer Hazen and Sawyer, **Speaker Session 05**

PRESENTER AND MODERATOR DIRECTORY

Patricia Hsia LA
County Sanitation
District, **Speaker**
Session 01

Brian Huang V&A
Consulting
Engineers, **Speaker**
Session 02

David Hunniford
V&A Consulting
Engineers, Inc.,
Speaker Session
03, Moderator
Session 08

Louis Jackson
Bioair Solutions,
Speaker Session
08

Kevin Jameson
PureAir Filtration,
Moderator Session
07

Siddharth
Kawadiya Duke
University, **Speaker**
Session 07

Kelsey Kenel HDR,
Speaker Session
06

Bart Kraakman
Jacobs,
Coordinator
Workshop A,
Moderator Session
04, Speaker
Session 08

Michael Lannan
Tech Environmental,
Moderator Session
01

Hana Long LA
County Sanitation
District, **Speaker**
Session 01

David McEwen
Brown and Caldwell,
Moderator Session
02, Speaker
Session 06

Charles McGinley
St Croix Sensory
Inc, **Speaker**
Session 07

Michael McGinley
St Croix Sensory
Inc, **Speaker**
Workshop B

James McMillen
Perkins Engineering
Consultants,
Moderator Session
04

Asbjorn Nielsen
Aalborg University,
Dept. Civil
Engineering,
Speaker Session
03

Robert Nixon
Corrosion Probe Inc,
Speaker Session
10

Richard Pope
Hazen and Sawyer,
Speaker Session
03, Moderator
Session 10

Raymond Porter
Porter Odor
Science,
Coordinator
Workshop B,
Speaker Session
01

Luis Rafael De
Leon Duke
University, **Speaker**
Session 08

Sharmily Rahman
Florida Atlantic
University, **Speaker**
Session 07

Adrian Romero
Jacobs, **Speaker**
Session 06

Jim Ross Webster
Environmental
Associates,
Moderator Session
09

Kristen Smeby
Hazen and Sawyer,
Speaker Session
07

Bryan Smith,
Pivotal Engineering,
LLC, **Speaker**
Session 02

Mel Suffet UCLA,
Coordinator
Workshop B

Alison (Ali) Trollier
Eco Oxygen
Technologies LLC,
Speaker Session
05

PRESENTER AND MODERATOR DIRECTORY

László Tutor
Organica Zrt.,
Speaker Session
08

Catherine Vanyo
Brown and Caldwell,
Speaker Session
02

Tadeo Vitko Orange
County Sanitation
District, **Speaker**
Session 07

Jes Vollersten
University of
Aalborg, **Speaker**
Workshop A

Hanting Wang
Greeley and
Hansen, **Speaker**
Session 03

Matthew Ward
JACOBS, **Speaker**
Workshop A

Lydia Watkins
Sanitation District
No 1, **Speaker**
Session 05

Neil Webster
Webster
Environmental
Assoc, **Moderator**
Session 05,
Speaker Session
09

Amy West Brown
and Caldwell,
Moderator Session
10

Anthony Yamini
PureAir Filtration,
Moderator Session
06

CONFERENCE SCHEDULE AT-A-GLANCE

Sunday, March 15

7:30 AM – 5:00 PM
8:30 AM – 12:00 PM
1:30 PM – 5:00 PM

Registration
Workshop A*
Workshop B*

**Additional registration fees apply*

Monday, March 16

7:30 AM – 5:00 PM
8:30 AM – 10:00 PM
10:00 AM – 6:15 PM
10:45 AM – 11:45 AM
11:45 AM – 1:30 PM
1:30 PM – 4:45 PM
1:30 PM – 3:00 PM
3:40 PM – 4:45 PM
4:45 PM – 6:15 PM

Registration
Opening General Session
Exhibition Open
Technical Sessions 1, 2
Luncheon in Exhibit Hall
Technical Session 3
Technical Session 4
Mobile Session I
Networking Reception

Tuesday, March 17

8:00 AM – 5:00 PM
8:30 AM – 11:45 AM
8:30 AM – 10:00 AM
10:40 AM – 11:45 AM
11:45 AM – 1:30 PM
1:30 PM – 4:45 PM

Registration
Technical Sessions 5
Technical Session 6
Mobile Session II
Luncheon in Exhibit Hall
Technical Session 7, 8

Wednesday, March 18

8:00 AM – 11:30 AM
8:30 AM – 11:15 AM

Registration
Technical Sessions 9, 10

GREEN INITIATIVES AT OAP 2020

DUKE ENERGY CONVENTION CENTER SUSTAINABILITY PRACTICES

The Duke Energy Total Environmental Plan:

Sustainability has become an ever-present initiative in the venue management industry as it exemplifies the triple bottom line: people, planet, and profit. Spectra and the Duke Energy Convention Center, in particular, have made great strides in diverting waste from our landfills and stretching energy efficiency goals to make a positive impact.

The following accomplishments highlight the initiatives of the Center:
Some highlights of our efforts at the DECC include:

- In 2011, the DECC completed the installation of a 101.0 kW DC photovoltaic solar array on the roof of the Exhibit Halls. Since May 18, 2011 through FY 2015, the system has generated 510,662.03kwh, which is the equivalent of the following:
 - 2,914 60-watt bulbs for 1 year of 8 hour/day use
 - 366 Tons of CO₂ saved
 - 41,363 gallons of gas saved
 - Total CO₂ offset equals 9,191 trees
- Spectra's DECC staff works diligently to divert waste from landfills. Since 2010, we have diverted 311.32 tons of waste from landfill. Current diversion items include:
 - Co-mingling recycling items (glass, paper, aluminum, plastic), cardboard, and compostable food waste
 - Other items include used cooking oil, old electronic equipment, lamps and bulbs, batteries, and unused food from events. In addition, we also divert bulk items left over from the events we host.
- LED lighting upgrades including the first floor Exhibit Halls resulting in 526 metric tons of CO₂ emissions saved.
- A cardboard bailer has been installed on the loading dock. It is estimated that over the course of a year, the DECC will produce more than 50 tons in recycled cardboard. Staff has been trained in the use of the bailer and the decorators and vendors who utilize the facility have been informed of its presence.
- All public restrooms use green certified GOJO soap and eco-friendly tissue paper and paper towels.
- Only low or non-VOC paint products are used.
- Products purchased from recycled materials include copier paper, note pads, direct mail brochures, annual report documents and plastic pens.
- Utility costs have been reduced by 19% annually, resulting in \$265,000 in savings.

Continued on following page

GREEN INITIATIVES AT OAP 2020

Future initiatives include:

- Green Info Wall-A living wall to showcase the DECC green initiatives for guests of the DECC.
- Front of House Composting-This will increase our impact and encourage attendees to contribute to conservation.
- Additional Multi Stream Receptacles for Exhibit Halls-20 additional recycling units are being purchased to aid diversion in the Exhibit Halls. These will be in addition to the 29 units already existing throughout the lobby areas.

HYATT REGENCY CINCINNATI SUSTAINABILITY PRACTICES **CARBON EMISSIONS AND WATER**

We strive to operate our building as efficiently as possible.

- Lights are turned on in meeting rooms only when needed.
- Our daily operational reports are used to effectively schedule heating and cooling needs.
- Through our Conserve program, we change linens every third day unless requested otherwise, and guests may choose to reuse towels by leaving them hanging.

INFORMATION ABOUT OUR DESTINATION

- ECO friendly escalators
- Pineapple's hotel amenity line, Pharmacoopia, is made without synthetic fragrances, which will appeal to anyone with skin sensitivities, and are made without animal by-products.

WASTE

We work to reduce waste where possible.

- Plastic straws are not used. Rather, straws made of paper are offered upon request.
- Water served using carafes is the default offering for meetings and events.
- If you would like to avoid disposable water bottles, hydration stations are available
- Recycle Bins in sleeping rooms

OUR FOOD PHILOSOPHY

Hyatt's Food. Thoughtfully Sourced. Carefully Served. philosophy guides us in how we select ingredients that are better for people, communities and the planet.

- Cage-free eggs are used in our restaurants.
- Local products, fresh, seasonal produce, and other ingredients are emerging as a significant focus of hotel food and beverage programs. Hyatt Regency Cincinnati is 95% scratch kitchen.

UPCOMING WEF EDUCATION AND TRAINING EVENTS

Residuals and Biosolids Conference 2020

March 31-April 3, 2020
Minneapolis, Minnesota
www.wef.org/ResidualsBiosolids

Collection Systems Conference 2020

June 2-5, 2020
El Paso, Texas
www.wef.org/CollectionSystems

WEF/AWWA Transformative Issues Symposium on Communications 2020

August 17-19, 2020
Cincinnati, Ohio
www.wef.org/TIScommunications

WEFTEC 2020

October 3-7, 2020
New Orleans, Louisiana
www.weftec.org

WEF/AWWA The Utility Management Conference 2021

February 23-26, 2021
Atlanta, Georgia
www.wef.org/UtilityManagement

Innovations in Process Engineering Conference 2021 Technology & Treatment

June 8-11, 2021
Miami, Florida
www.wef.org/ProcessEngineering

For more information, visit individual event site or <https://www.wef.org/events/all-events/>.

NOTES

NOTES

 **weftec**[®] 2020
the water quality event™



SAVE THE DATE

REGISTRATION OPENS
APRIL 14, 2020

www.WEFTEC.org
[#WEFTEC20](https://twitter.com/WEFTEC20)

93RD ANNUAL WATER ENVIRONMENT FEDERATION
TECHNICAL EXHIBITION & CONFERENCE
New Orleans Morial Convention Center, New Orleans, LA
Conference: October 3 - 7, 2020 | Exhibition: October 5 - 7, 2020



Local Connections, Global Ideas

Our clients face tough decisions with limited resources. That's why we support leading water associations—like AWWA and WEF—to help make great things possible for our industry.

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