The conference is held by the Water Environment Federation in cooperation with the Ohio Water Environment Association and the Water Research Foundation.
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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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*
- Bill Desing  
  *Jacobs*
- Dirk Apgar  
  *King County*
- Carlos Diaz  
  *Olores.org*
- Don Apking  
  *Ecoverde*
- Dick Finger  
  *Retired WTP manager*
- Sam Boswell  
  *Daniel Mechanical*
- Bill Gase  
  *City of Garland, TX*
- Scott Cowden  
  *Jacobs*
- Eric Hansen  
  *Evoqua Water Technologies, LLC*
ODORS AND AIR POLLUTANTS CONFERENCE COMMITTEE

Michael Headd  
Woodard & Curran

Chris Hunniford  
V&A Consulting Engineers

Bruce Koetter  
Webster Environmental Associates, Inc.

Dave McEwen  
Brown and Caldwell

Mike McGinley  
St. Croix Sensory, Inc.

James McMillen  
Perkins Engineering Consultants, Inc.

Ali Oskouie  
MWRD/IIT

Ron Patel  
City of Dallas, TX

Ray Porter  
Porter Odor Science

Jim Ross  
Webster Environmental Associates, Inc.

Bob Stallings  
AECOM

Mel Suffet  
UCLA

Lynsy Varner  
Plummer

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
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

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**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  
  *Sessions 1 through 4*  
  7:30 AM – 8:15 AM

- **Tuesday, March 17** — Room: 237  
  *Sessions 5 through 10*  
  7:30 AM – 8:15 AM
WEF Events Connect 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
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
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
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
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 is completed as indicated in the directions provided.
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:

\[
\begin{align*}
1.0 \text{ CEU} &= 10 \text{ Hours of session time} \\
1.0 \text{ PDH} &= 1 \text{ Hour of session time} \\
1.0 \text{ Contact Hour} &= 1 \text{ Hour of session time}
\end{align*}
\]

For example: \( 1.7 \text{ CEU Credits} = 17.0 \text{ PDH} \) 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
We would like to thank the following sponsoring companies for their contributions to the conference and program.

**PureAir Filtration**
CUSTOMIZED PERFORMANCE

[www.pureairfiltration.com](http://www.pureairfiltration.com)  
Platinum  
Booth 204

**DANIEL COMPANY**
PREMIER ODOR CONTROL SPECIALISTS

[www.danielmechanical.com](http://www.danielmechanical.com)  
Gold  
Booth 210

**ECS**
ENVIRONMENTAL SOLUTIONS

[www.ecs-env.com](http://www.ecs-env.com)  
Silver, Tote Bags, Lanyards, Terracycle Lanyard Recycling  
Booth 100

**HDR**

[www.hdrinc.com](http://www.hdrinc.com)  
Bronze Elite
We would like to thank the following sponsoring companies for their contributions to the conference and program.

**Evoqua Water Technologies**

www.evoqua.com  
Monday Luncheon  
Booth 119

**Hartzell Air Movement**

www.hartzellairmovement.com  
Water Bottle  
Booth 122

**Hazen**

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

Check the app for any updates and to leave feedback on this session.
Session 01: Odor Impact and Mitigation Assessment

Monday, March 16
10:45 AM – 11:45 AM
Room 230/231

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.
Session 02: Community Relations and Odor Complaints

Monday, March 16                Room 232
10:45 AM – 11:45 AM

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.
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
Asbjørn 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.
Session 04: Biological Odor Control

Monday, March 16                Room 232
1:30 PM – 3:00 PM

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, Cyrus 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

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 3:50 PM 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.
Session 05: Odor and Corrosion Treatment

Tuesday, March 17       Room 230/231
8:30 AM – 11:45 AM       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.
Session 06: Sewer Odor Modeling

Tuesday, March 17                Room 232
8:30 AM – 10:00 AM

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

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.

<table>
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<tr>
<th>Time</th>
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<tr>
<td>10:45 AM</td>
<td>Mobile Session Introduction at entrance to exhibit hall</td>
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<tr>
<td>10:50 AM</td>
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</tr>
<tr>
<td>11:15 AM</td>
<td>2 Simultaneous Presentations</td>
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**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.
Session 07: Odor Measurement Monitoring and Performance

Tuesday, March 17                Room 230/231
1:30 PM – 4:45 PM                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.
Session 08: Innovative Treatment Approaches

Tuesday, March 17
1:30 PM – 4:45 PM

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

Wednesday, March 18  Room 232
8:30 AM – 11:15 AM

 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.
As of 3/6/2020
Updates will be reflected in the mobile app.

Aerisa ................................................................................................... Booth 316
www.aerisa.com
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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
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maintenance, low energy consumption, existing facility retrofit.

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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.

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ECS ....................................................................................................... Booth 100
www.ecs-env.com
Phone: 254-933-2270
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endurocomposites.com
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16602 Central Green Blvd
Houston, TX 77032

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Canada
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Indusco Environmental Services, Inc./RVT Process Equipment......................................................... Booth 206
www.induscoenviro.com
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Air Pollution Control - Odor Control Equipment and Systems - Scrubbers - Chemical - Biological - Carbon Design - Fabricate – Supply.
EXHIBITOR DIRECTORY

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www.johncockerill.com/en/environment
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Aspach-Michelbach 68700
France
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Purafil, Inc. ........................................................................................... Booth 114
www.purafil.com
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www.rubixsi.com
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3 Avenue Didier Daurat
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Scicorp International Corporation ..................................................... Booth 325
www.scicorp.net
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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.
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www.streamlineinnovations.com
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Germany
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Wager Company ................................................................. Booth 312
www.wagerusa.com
Phone: 336-416-6341
570 Montroyal Rd
Rural Hall, NC 27045
Odor control H2S gas.
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Updates will be reflected in the mobile app.
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<tr>
<th>Name</th>
<th>Title</th>
<th>Session(s)</th>
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</thead>
<tbody>
<tr>
<td>Aroosa Ansari</td>
<td>City of Los Angeles, Speaker</td>
<td>04</td>
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<tr>
<td>Diederik Apgar</td>
<td>Speaker Session 03, Moderator</td>
<td>03, 08</td>
</tr>
<tr>
<td>Gary Arthur</td>
<td>Fiberglass Reinforced Plastics Institute, Inc., Speaker Session 10</td>
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<tr>
<td>Ulrich Bazemo</td>
<td>Black and Veatch, Speaker</td>
<td>07</td>
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<tr>
<td>Samuel Boswell</td>
<td>Daniel Company, Speaker</td>
<td>04, 10</td>
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<tr>
<td>Ryan Cassel</td>
<td>Hartzell Air Movement, Speaker</td>
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<tr>
<td>Josef Cesca</td>
<td>Jacobs, Speaker Workshop A,</td>
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<tr>
<td>Scott Cowden</td>
<td>Jacobs, Moderator Session 02, Speaker</td>
<td>02, 09</td>
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<tr>
<td>Ray David</td>
<td>Greeley and Hansen, Moderator Session</td>
<td>09</td>
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<tr>
<td>Adam Dellinger</td>
<td>HDR, Speaker Session 05</td>
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<tr>
<td>Alexander Demith</td>
<td>JACOBS, Speaker Session 05</td>
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<tr>
<td>Marc Deshusses</td>
<td>Duke University, Speaker Session 04</td>
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<tr>
<td>Assem Dewidar</td>
<td>University of Cincinnati, Speaker Session 04</td>
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<tr>
<td>Carlos Diaz</td>
<td>Olores.org, Moderator Session 08</td>
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<tr>
<td>Phyllis Diosey</td>
<td>Hazen &amp; Sawyer, Speaker Session 10</td>
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<tr>
<td>Tim Drescher</td>
<td>ERWSD, Speaker Session 09</td>
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<tr>
<td>Patrick Dube</td>
<td>WEF; Moderator Session 01, 05</td>
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<tr>
<td>Shirley Edmondson</td>
<td>Black and Veatch, Moderator Session 07, Speaker Session 09</td>
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<tr>
<td>Dennis Froehlich</td>
<td>Pima County Regional Wastewater Reclamation Dept, Moderator Session 06, Speaker Session 09</td>
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<tr>
<td>Sofia Georgaki</td>
<td>Jacobs, Speaker Session 03</td>
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<tr>
<td>Cyrous Gilani</td>
<td>City of Los Angeles, Speaker Session 04</td>
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<tr>
<td>Jonathan Grabowy</td>
<td>MWRD, Speaker Session 09</td>
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<tr>
<td>Catherine Gracian</td>
<td>Suez International, Speaker Session 08</td>
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<tr>
<td>Jarod Gregory</td>
<td>Trinity Consultants, Speaker Session 01</td>
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<tr>
<td>Eric Hansen</td>
<td>Evoqua, Moderator Session 03</td>
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<tr>
<td>Vaughan Harshman</td>
<td>Evoqua, Speaker Workshop B</td>
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<tr>
<td>Lindsey Hassenauer</td>
<td>Hazen and Sawyer, Speaker Session 05</td>
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</table>
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
<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Role</th>
<th>Session No.</th>
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<tbody>
<tr>
<td>László Tutor</td>
<td>Organica Zrt.</td>
<td>Speaker</td>
<td>08</td>
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<tr>
<td>Catherine Vanyo</td>
<td>Brown and Caldwell</td>
<td>Speaker</td>
<td>02</td>
</tr>
<tr>
<td>Tadeo Vitko</td>
<td>Orange County Sanitation District</td>
<td>Speaker</td>
<td>07</td>
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<tr>
<td>Jes Vollersten</td>
<td>University of Aalborg</td>
<td>Speaker Workshop A</td>
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<tr>
<td>Hanting Wang</td>
<td>Greeley and Hansen</td>
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<tr>
<td>Mathew Ward</td>
<td>JACOBS</td>
<td>Speaker Workshop A</td>
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<tr>
<td>Lydia Watkins</td>
<td>Sanitation District No 1</td>
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<tr>
<td>Neil Webster</td>
<td>Webster Environmental Assoc</td>
<td>Moderator Session 05, Speaker Session 09</td>
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<tr>
<td>Amy West</td>
<td>Brown and Caldwell</td>
<td>Moderator Session 10</td>
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<tr>
<td>Anthony Yamini</td>
<td>PureAir Filtration</td>
<td>Moderator Session 06</td>
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</tbody>
</table>
Sunday, March 15

7:30 AM – 5:00 PM Registration
8:30 AM – 12:00 PM Workshop A*
1:30 PM – 5:00 PM Workshop B*

*Additional registration fees apply

Monday, March 16

7:30 AM – 5:00 PM Registration
8:30 AM – 10:00 PM Opening General Session
10:00 AM – 6:15 PM Exhibition Open
10:45 AM – 11:45 AM Technical Sessions 1, 2
11:45 AM – 1:30 PM Luncheon in Exhibit Hall
1:30 PM – 4:45 PM Technical Session 3
1:30 PM – 3:00 PM Technical Session 4
3:40 PM – 4:45 PM Mobile Session I
4:45 PM – 6:15 PM Networking Reception

Tuesday, March 17

8:00 AM – 5:00 PM Registration
8:30 AM – 11:45 AM Technical Sessions 5
8:30 AM – 10:00 AM Technical Session 6
10:40 AM – 11:45 AM Mobile Session II
11:45 AM – 1:30 PM Luncheon in Exhibit Hall
1:30 PM – 4:45 PM Technical Session 7, 8

Wednesday, March 18

8:00 AM – 11:30 AM Registration
8:30 AM – 11:15 AM 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, Pharmacopeia, 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.
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/.
SAVE THE DATE

REGISTRATION OPENS
APRIL 14, 2020

www.WEFTEC.org
#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.