

CONFERENCE PROGRAM

A&WMA's 116th Annual Conference & Exhibition

Smart Growth: Balancing Development, Restoration, and Resiliency

JUNE 5-8, 2023

Orlando, FL



AIR & WASTE MANAGEMENT
ASSOCIATION

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Information in this program was correct at time of printing. Changes and additions are reflected in the tech program website and ACE 2023 App.

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App Icon

Install and open the event app.



Event Icon

Find this event in the Upcoming Events (bottom row). Tap the event icon to launch the ACE 2023 App.

2. Start using the App now!

The most current information on the ACE 2023 program and events are on the App and Technical Program website. Make sure you check rooms, times, and event details online.

3. Get the most out of the App

- **Login** and enter your username (your email) and access key that were emailed to you. Or, if you recently registered, use code **AWMA23OR** to create an account.
- **Create** your profile and share your contact information to network with attendees and exhibitors.
- **Browse** the event information and create a personal schedule by tapping on the star next to presentation titles.

WELCOME FROM THE A&WMA PRESIDENT



Jordan M. Haywood
2023 A&WMA President

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Welcome to Orlando and the 116th A&WMA ACE

More than just a family-fun destination and home to some of the world's most-famous theme parks, Orlando is a fantastic location for holding a cutting-edge environmental technical conference, and the Hyatt Regency is an amazing venue, with everything to offer the individual traveler as well as those who have brought their significant others and families.

The ACE is our not-to-be-missed flagship annual event, aimed to serve our core purpose of improving environmental knowledge and decisions by providing a neutral forum for exchanging information. From the Keynote to the Critical Review to the nearly 50 sessions with 160+ papers, 20+ panels and numerous posters, there will be many topics of interest and learning opportunities for everyone. The Tuesday morning opening Keynote Panel, 'Sustainable by Design', features three renowned speakers representing the trifecta of industry, regulation, and consulting. The 53rd Critical Review on Thursday morning, 'Environmental Sampling for Disease Surveillance', will be led by experts with a passion for the subject and decades of experience. The Young Professionals Advisory Council (YPAC) will be holding five 'How Does it Work?' panels, which cover a range of topics for those new to the profession as well as those more 'seasoned'. The YPAC will also host a mentor breakfast, speed networking, a networking reception (with the students), and the YP Hub, where you can get to know others and meet A&WMA leaders. Students will also have plenty to do and see, with a poster competition, a welcome reception, and keynote on sustainability and waste management, the exciting Environmental Challenge Competition, and awards ceremony.

The exhibit hall provides opportunities to connect with equipment and service providers that can help all of us in our daily work. The exhibit hall will open immediately following the keynote, so you'll have the perfect opportunity to meet our exhibitors right away and see how they can support your goals. In addition to networking opportunities such as the Tuesday evening opening reception, there will also be an exhibitor reception on Wednesday. The Women's Professional Development Workshop and Luncheon, a specialty event (not just for women) on Tuesday, will feature discussions on 'The Great Resignation'. All these events and more will provide you with the ability to catch up with friends, colleagues, and make new connections.

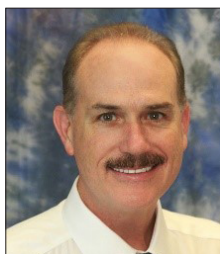
And take it from a local, there's way more to the area than theme parks (though those can be fun too, especially if you bring your kids), including the Kennedy Space Center, parks, rivers, springs, and lakes (for air boat rides, fishing, kayaking, rowing, and swimming). Both coasts (Gulf and Atlantic) are less than 2 hours away with beautiful beaches. There are nearly a dozen excellent restaurants 5 minutes from the Hyatt at The Pointe and the hotel's restaurants, pool, and bar are top-notch. If you're feeling a little overwhelmed or lost, please don't hesitate to reach out to me, one of the many volunteers, leaders, or staff – we are all happy to make this your best conference ever (until next year's, of course!).

A huge thank you to the hard-working Local Host Committee (led by Joe Applegate and Chrissy Schaub), the Technical Council and its committees (led by Dave Long), the dozens of volunteers too numerous to list, and as always, the A&WMA Headquarters Staff led by Executive Director Stephanie Glyptis, for putting together this year's ACE. I'm sure all attendees will reap the benefits of their herculean efforts. Last but certainly not least, I'd like to thank YOU, our attendees, for joining us at ACE this year. I sincerely hope you make the most out of the ACE, and Orlando, enjoy!

Jordan M. Haywood

Founded in 1907, the Air & Waste Management Association (A&WMA) is a nonprofit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for information exchange, professional development, networking opportunities, public education, and outreach to more than 5,000 environmental professionals in 65 countries. A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society.

WELCOME FROM THE CONFERENCE CHAIRS



Joe Applegate
Conference Chair,
Geosyntec Consultants



Chrissy Schaub
Conference Co-Chair,
Quadratic Consulting

The Local Host Committee (LHC) is thrilled and excited to welcome you all to beautiful sunny Orlando, Florida for the 2023 Annual Conference & Exhibition (ACE). Come take advantage of the exceptional work that our LHC has put into planning the 116th ACE. With “Smart Growth: Balancing Development, Restoration, and Resiliency” as a theme, this international event organized by the Air & Waste Management Association is a unique opportunity to discuss numerous environmental challenges for our society as we continue to grow and develop. The keynote includes an esteemed and diverse panel addressing “Sustainable by Design”. Other highlights include world-class technical programs, a Critical Review of “Environmental Sampling for Disease Surveillance”, and the Women’s Professional Development Workshop and Luncheon focusing on “The Great Resignation – The Good, The Bad, and The New Working Environment”.

For young professionals and students, there are educational sessions as well as exciting social networking events. Be sure to see the student presentations, posters, and the Environmental Challenge International (ECi) Competition on the Road to Decarbonization. Finally, thanks to all of our sponsors and exhibitors. We look forward to seeing everyone at the wonderful Opening Reception, Honors & Awards Lunch, Exhibition Hall Opening, and the Exhibitor Reception.

Joe Applegate and Chrissy Schaub, Conference Chair and Co-Chair

LOCAL HOST COMMITTEE

General Conference Chair

Joe Applegate
Geosyntec Consultants

Co-Chair

Chrissy Schaub
Quadratic Consulting

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Byron Burrows

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Technical Program Vice Chair
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Keynote

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Student Program

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The Louisiana Section of the Air & Waste Management Association is over 300 members strong with representation throughout the state and including the Southwest Louisiana Chapter of the Air and Waste Management Association. The Section is very active with meetings held every other month, YP Group meetings and Golf Tournament in May, and a two-day Fall Conference in October. The Section strives to reach the growing and changing demands of the environmental industry and is committed to the diversity of our membership and supporting the Association's mission. www.la-awma.org



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The West Coast Section (WCS) was chartered in 1957. Charter Members, S. Smith Griswold, Robert L. Chase, and Dr. W.L. Faith, were also Presidents of International A&WMA/APCA. The WCS has Chapters including Channel Islands, Mojave Desert, Orange County, Mid-Pacific, and San Diego. WCS has also adopted international Chapters in Delhi India, Singapore, Thailand and Turkey. In addition to our award-winning Student Chapter at the California Polytechnic State University, San Luis Obispo, in 2022 we added an A&WMA Student Chapter at Kwame Nkrumah University of Science and Technology in Ghana, Africa. www.wcsawma.org

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DAILY SCHEDULE AT-A-GLANCE

TIME	EVENT	MEETING ROOM
SUNDAY, JUNE 4		
9:00 am – 5:00 pm	A&WMA Board of Directors' Meeting	Orlando N
MONDAY, JUNE 5		
7:00 am – 1:00 pm	NASA Kennedy Space Center Tour	Meet in Tower 1 Lobby
8:00 am – 12:00 pm	A&WMA Education Council Meeting	Florida Ballroom A
8:00 am – 3:30 pm	A&WMA Sections & Chapters Council Meeting	Florida Ballroom B
9:00 am – 5:00 pm	A&WMA Technical Council Meeting	Florida Ballroom C
1:00 pm – 4:00 pm	A&WMA Young Professionals Advisory Council Meeting	Florida Ballroom A
2:00 pm – 6:00 pm	Exhibit Hall Set-up/Poster Set-up	Plaza International GH
2:00 pm – 6:00 pm	Registration	Plaza International Foyer
TUESDAY, JUNE 6 – CONFERENCE OPENING DAY		
7:00 am – 6:00 pm	Registration	Plaza International Foyer
7:00 am – 6:00 pm	Technical Resource Center	Atlantic
7:00 am – 10:00 am	Exhibit Hall Set-up/Poster Set-up	Plaza International GH
8:30 am – 10:30 am	Opening Keynote Plenary Session	Orlando Ballroom
10:30 am – 5:30 pm	Exhibit Hall Grand Opening	Plaza International GH
10:45 am – 12:15 pm	Technical Poster/Student Poster Session	Exhibit Hall Plaza International GH
11:00 am – 1:00 pm	Women's Professional Development Workshop and Luncheon	Barrel Spring II
11:00 am – 12:30 pm	Publications Committee Meetings	Silver Spring I/II
11:30 am – 1:30 pm	Past Presidents' Lunch	Descend 21 Restaurant
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings	See page 19
12:00 pm – 1:00 pm	Student Welcome Reception and Program Orientation	Barrel Spring I
1:00 pm – 2:00 pm	Student Keynote Address	Barrel Spring I
1:30 pm – 3:30 pm	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
2:00 pm – 2:45 pm	Career Panel	Barrel Spring I
2:45 pm – 5:30 pm	Student/ECi Poster Judging	Exhibit Hall Plaza International GH
3:30 pm – 4:00 pm	Afternoon Networking Break in the Exhibit Hall	Plaza International GH
4:00 pm – 6:00 pm	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
6:00 pm – 6:45 pm	Annual Business Meeting of the Membership	Barrel Spring I
6:30 pm – 8:00 pm	Opening Reception: Welcome to Orlando	Plaza International D, E, F

DAILY SCHEDULE AT-A-GLANCE

TIME	EVENT	MEETING ROOM
WEDNESDAY, JUNE 7		
7:00 am – 5:00 pm	Registration	Plaza International Foyer
7:00 am – 6:00 pm	Technical Resource Center	Atlantic
7:00 am – 8:00 am	International Affairs Committee Meeting	Silver Spring I/II
8:00 am – 6:30 pm	Exhibit Hall Open	Plaza International GH
8:00 am – 9:00 am	Young Professionals' Breakfast Club	Barrel Spring I
8:00 am – 9:00 am	East Central Section Breakfast	Barrel Spring II
8:00 am – 9:40 am	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
8:00 am – 12:45 pm	Orange Co. Landfill and Stanton Energy Center Tour	Meet in Tower 1 Lobby
9:00 am – 10:00 am	Speed Networking	Barrel Spring I
9:30 am – 10:30 am	Breakfast with the Exhibitors	Plaza International GH
10:10 am – 11:50 am	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings	See page 19
12:00 pm – 1:00 pm	Rehearsal for Honors & Awards Ceremony	Orlando Ballroom
1:00 pm – 3:30 pm	ECi Presentations	Barrel Spring I
1:30 pm – 3:10 pm	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
3:10 pm – 3:30 pm	Afternoon Session Break	Exhibit Hall Plaza International GH
3:30 pm – 5:30 pm	Technical Sessions	Florida A, B, C, Plaza International I, J, K, Blue Spring I/II, Rainbow Spring I/II
5:00 pm – 6:00 pm	Student Awards Ceremony and Reception	Barrel Spring I
5:30 pm – 6:30 pm	Reception in the Exhibit Hall	Plaza International GH
6:30 pm – 8:00 pm	Exhibit Tear-down	Plaza International GH
6:30 pm – 8:30 pm	YP/Student Reception	Cuba Libre Restaurant, Saratoga Room, 9101 International Drive
THURSDAY, JUNE 8		
7:00 am – 2:00 pm	Registration	Orlando Ballroom Foyer
7:00 am – 3:00 pm	Technical Resource Center	Atlantic
8:00 am – 10:00 am	Annual A&WMA Critical Review	Florida B
8:00 am – 11:00 am	Orange County Ambient Air Station Tour	Meet in Tower 1 Lobby
10:10 am – 11:50 am	Technical Sessions	Florida B, C, Blue Spring I/II, Rainbow Spring I/II
10:30 am – 11:30 am	Critical Review Committee Meeting	Silver Spring I/II
12:00 pm – 1:30 pm	Honors & Awards Ceremony and Luncheon	Orlando Ballroom
1:40 pm – 4:00 pm	Technical Sessions	Florida B, C, Blue Spring I/II, Rainbow Spring I/II
4:00 pm – 5:00 pm	2024 ACE Planning and TC Wrap-up Meeting	Silver Spring I/II

OPENING KEYNOTE PANEL

Tuesday, June 6, 8:30 am – 10:30 am, Orlando Ballroom

Sponsored by:



Sustainable by Design

Find out what's in store for the future of the environmental industry! This spectacular event features three high-level environmental leaders who will share their perspective and solutions for creating a sustainable future. Presentations from each speaker will be followed by a Q&A session, where speakers will address pre-approved questions from the audience.

Featured Keynote Speakers:



Kate MacGregor, Vice President of Environmental Services, NextEra

Kate currently serves as the Vice President of Environmental Services for NextEra, charged with ensuring thoughtful environmental planning and compliance from project development through to operations. Prior to joining NextEra, Kate served as the Senate-confirmed Deputy Secretary of the U.S. Department of the Interior, responsible for overseeing 70,000 employees and an annual budget of over \$14 billion. Kate's work at Interior included overseeing responsible domestic energy and mineral development on public lands and waters, implementation of the Great American Outdoors Act to enhance our National Parks, and other Interior-focused priorities. Prior to joining the Interior Department, Kate worked on Capitol Hill for 10 years, serving two Chairmen of the House Natural Resources Committee. She is a graduate of the University of Pennsylvania in Philadelphia.



Jeffery Koerner, Director, Division of Air Resource Management, Florida Department of Environmental Protection

Mr. Koerner has more than 30 years of experience in air pollution control and regulation, working with numerous industries and participating in more than 750 air permit projects. As Director, his primary responsibilities are to implement the Clean Air Act and ensure compliance with the federal National Ambient Air Quality Standards (NAAQS). Jeff graduated from the University of Florida in 1985 with a B.S. in mechanical engineering. He is a licensed Professional Engineer in Florida and a graduate of the 2014 class of the Florida Engineering Leadership Institute. In addition to membership in the Florida Engineering Society and Air & Waste Management Association, Jeff represents Florida in the Association of Air Pollution Control Agencies (AAPCA) and the Southeastern State Air Resource Managers (SESARM). He also received A&WMA's S. Smith Griswold Award in 2021.



Dr. Jennifer L. Languell, Founder and President, Trifecta Construction Solutions

For more than 25 years, Dr. Jennifer Languell has championed the implementation of green building and sustainable development principles within the construction industry. She is called upon by leading builders and developers to help develop strategies to achieve their sustainability and resilience goals by creating more resource efficient, healthy and durable projects. Dr. Languell and Trifecta have received numerous awards from government and industry organizations, and her knowledge and leadership in the area of sustainability have made her a sought-after subject matter expert for several media outlets. Dr. Languell was also selected as a technical advisor and star for the Discovery Channel's environmental series Discovery Project Earth. Dr. Languell serves in leadership roles with many non-profit organizations and is a LEED Accredited Professional, USGBC Green Rater, Class 1 Certified Energy Rater, NAHB Verifier, Certified Green Professional, and Certifying Agent and past president with the Florida Green Building Coalition.



Moderated by: Jordan M. Haywood, Discipline Expert – Environmental Engineering, Siemens Energy

Jordan Haywood is a Discipline Expert in Environmental Engineering with Siemens Energy in Orlando, dealing primarily with power plant air emissions and acoustical issues. Prior to joining Siemens in 1999, Jordan worked as an air pollution consultant for several years following graduation with a Master's in Environmental Engineering from the University of Central Florida in 1996. Jordan is the 2023 A&WMA President and previously served on the International Board of Directors from 2015-2017. He spent six years as a Group Coordinator with the Technical Council, chaired the Florida Section three times, served as the Student Committee Chair for ACE 2011 in Orlando, and served as General Conference Chair for the 2012 Florida Section Annual Conference. Jordan also spent nearly six years in the U.S. Navy as a Nuclear Reactor Operator/Electronics Technician.

53RD ANNUAL CRITICAL REVIEW

Thursday, June 8, 8:00 am – 10:00 am, Florida B

Environmental Sampling for Disease Surveillance: Recent Advances and Recommendations for Best Practice

Authors: Joshua L. Santarpia, Elizabeth Klug, Ashley Ravnholdt, and Sean M. Kinahan, University of Nebraska Medical Center

Environmental sampling has been used throughout the recent COVID-19 pandemic to identify the route of transmission, identify emerging outbreaks, and characterize contamination in a variety of environments. Although this has been given recent attention, it has been used for many decades for a variety of purposes, from biodefense and remediation to the characterization of other infectious diseases. A wide variety of technologies and approaches have been used to accomplish these goals. Individually, each approach can provide valuable information, and combinations of approaches are often necessary to provide more complete risk assessments. In this review, the authors will provide historical background on environmental characterization of infectious contamination leading up to the ongoing work around the COVID-19 pandemic, and other current outbreaks. Individual approaches used for environmental sampling, focusing primarily on air, surface and wastewater will be included and discussed. Recommendations will be made for best practices, including individual techniques and combinations of approaches, based on the intent of the sampling. The full-length paper will appear in the June 2023 issue of the *Journal of the Air & Waste Management Association (JA&WMA)*.

About the Lead Author



Dr. Joshua L. Santarpia is an Associate Professor of Microbiology and Pathology and Program Director for Biodefense and Health Security Degree Program at the University of Nebraska Medical Center (UNMC). He is also the Science and Technology Advisor for the National Strategic Research Institute at the University of Nebraska. His work is generally in the field of aerobiology, the study of airborne microorganisms. He

has worked extensively on biological sensors, building and facility sensing networks, and has developed aerosol measurement tools, including those for unmanned aerial vehicles and for biodetection/collection activities for both the U.S. Department of Defense (DOD) and the U.S. Department of Homeland Security (DHS). He has worked extensively to understand optical and other signatures that can be used to detect and identify biological aerosol and studied how those signatures change over time. He has developed novel methods to study bioaerosol hazards in medical environments. Most recently, he has applied these methods to characterizing SARS-CoV-2 aerosol in the patient environment and characterizing aerosol risk in public spaces.

Following the presentation, invited discussants will critique the presentation and provide alternate viewpoints. Comments also will be solicited from the floor during a live question-and-answer sequence to end the session.

Discussants:



Gary S. Casuccio

Vice President and Senior Scientist, RJ Lee Group, Pittsburgh, PA



Dr. John A. Lednicky

Research Professor, University of Florida, Gainesville



Dr. John G. Watson

Research Professor, Desert Research Institute, Nevada

Join the Discussion

To complete the review process, the Critical Review Committee Chair will synthesize all of the discussion points into a single paper that will be published in the October 2023 issue of *JA&WMA*. Comments should be submitted in writing to Susan S. Wierman at susan.wierman@gmail.com by July 13, 2023.

Want to get involved? Attend the Critical Review Committee Meeting on Thursday, June 8, 10:30 am – 11:30 am, Silver Spring I/II

NETWORKING EVENTS

Exhibit Hall Grand Opening*

Tuesday, June 6, 10:30 am, Plaza International GH

Immediately following the Keynote Program at 10:30 am, join your fellow attendees and presenters for the Grand Opening of the Exhibit Hall. It's the perfect opportunity to meet with leading environmental professionals showcasing their latest products and services. Enjoy a light brunch while exploring the booths and displays, which will be open until 5:30 pm.

Opening Reception – Welcome to Orlando*

Tuesday, June 6, 6:30 pm – 8:00 pm

Plaza International D, E, F

Sponsored by:



Kick off the conference in style at the Opening Reception on Tuesday evening to experience the view and connect with old friends, meet new ones, and enjoy some local cuisine. Come relax with your colleagues, mingle, and enjoy the Florida sunshine! Ticket required. Additional tickets may be purchased for \$75.

Exhibitor Reception*

Wednesday, June 7, 5:30 pm – 6:30 pm

Plaza International GH

Join us for the last hour in the Exhibit Hall to connect with exhibitors and colleagues during the Exhibitor Reception. Take advantage of this opportunity to network and get those last-minute business cards from key suppliers to add to your professional network.

Young Professional/Student Networking Reception

Wednesday, June 7, 6:30 pm – 8:30 pm

Cuba Libre Restaurant & Rum Bar (Saratoga Room),
9101 International Drive

Sponsored by:



Cost: \$30. Tickets must be purchased in advance.

Annual Honors & Awards Ceremony and Luncheon*

Thursday, June 8, 12:00 pm – 1:30 pm, Orlando Ballroom

Join A&WMA members and conference attendees at this popular luncheon as they recognize the accomplishments of outstanding individuals, organizations, and companies.

Ticket required (included with full conference registration).
Additional tickets may be purchased for \$75.

TECHNICAL TOURS

NASA Kennedy Space Center Shoreline Restoration and Dune Tour

Monday, June 5, 7:00 am – 1:00 pm

Attendees will tour a portion of the KSC Inland Dune project site to see inland dune and coastal areas, native plants, and wildlife, and Launch Complexes 39 A&B, as well as some of KSC's other launch infrastructure. After the guided tour, attendees will also have free time to view exhibits at the Visitor's Center.

Orange County Landfill and Stanton Energy Center

Wednesday, June 7, 8:00 am – 1:00 pm

This tour begins at the Orange County Landfill to see what happens to garbage and recyclables after you put them at the curb. The tour then moves to the Orlando Utilities Commission (OUC) Curtis H. Stanton Energy Center (SEC) to learn about the power generation process, plant logistics and operations, and information related to the pollution control practices and equipment utilized by the facility. Attendees will also visit the coal unit main control room and get a bird's-eye view of the entire facility.

Orange County Ambient Air Station

Thursday, June 8, 8:00 am – 11:00 am

During this tour, attendees will learn about Orange County's Air Quality Management Program, including information on compliance, enforcement, and asbestos; permitting; and ambient air monitoring. Attendees will visit Ambient Quality Station # 095-2002 and see instrumentation measuring ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter.

Pre-registration required. All tours will depart from the Hyatt Regency Tower I Lobby.

***Events included with full conference registration.**



NETWORKING EVENTS

The Great Resignation: The Good, The Bad, and The New Working Environment

Tuesday, June 6, 11:00 am – 1:00 pm, Barrel Spring II

Cost: \$60. Tickets must be purchased in advance.



Planned by the Committee for the Professional Development of Women

The Women's Professional Development Workshop, which is open to all attendees, will feature an extraordinary panel of accomplished women discussing the impacts of the Great Resignation on their lives and working environment.

In 2021, in the wake of the COVID-19 pandemic, the workforce started to experience an extremely heightened rate of voluntary resignation. "The Great Resignation" is a dramatic shift in the relationship between employees and their employers with almost 50 million workers in the US quitting their jobs in 2021. Women outpaced men by 1.1% overall and this gender gap is even more significant where women are underrepresented, such as STEM careers.

Specifically, the panel will discuss:

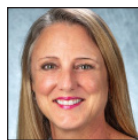
- The current state of the Great Resignation
- Impacts of "Quiet Quitting"
- "Resignation" vs. "Reshuffle"
- Opportunities and challenges created by this current state
- Personal accounts of the impacts to work and home life
- Impact differences based on gender
- Where does our industry go from here?
- What does this mean to the new and upcoming generations as well as those heading toward retirement?

Speakers:



Sandra J. Guerra, Head of Human Resources North America, Siemens Energy

Sandra Guerra, Ph.D., SHRM-SCP, SPHR, is the North American Head of Human Resources for Siemens Energy, a global leader in the energy industry. She leads the North American team consisting of HR Business Partners and an operations team in the US and Canada. The North American team works to support the advancement of business objectives through talent management, talent acquisition, strategic workforce planning, and organizational change management. Sandra achieved a doctorate degree in Industrial Organizational Psychology from Capella University, MBA from Western International University, and BS from Southern Illinois University Carbondale.



Rebecca (Becky) Hensley, Senior Manager, Environmental Programs, CSX Transportation, Inc.

Rebecca (Becky) Hensley is a Senior Manager of Environmental Programs at CSX Transportation, Inc. where she coordinates the CAA program and Environmental, Social and Governance (ESG) reporting. She has over 25 years of experience with EHS, sustainability, and regulatory compliance and specializes in data management solutions and cross-functional team collaboration. Before joining CSX, she worked as a consultant for a variety of transportation, manufacturing, military, and government clients. Her career has specialized in environmental permitting and developing customized solutions and tools for air, water, and waste compliance. She holds a BS in Environmental Engineering from the University of Florida. She served as the Chair and other board positions for the Florida Section and Northeast Florida Chapter of A&WMA and Co-Chair for the 2011 A&WMA Annual Conference in Orlando, FL.



Elaina Modlin, Senior Principal Environmental Engineer, Geosyntec

An environmental consultant at Geosyntec, Elaina Modlin helps her clients assess and manage their regulatory obligations and risks, particularly for operating facilities and new developments. Elaina also co-manages the firm's Florida operations with a focus on business strategy and human resources. Elaina is passionate about building human capital and helping her colleagues develop long and rewarding careers. A long-standing mentor in Geosyntec's women's mentoring program, for over ten years, Elaina also developed and managed Geosyntec's college recruiting program. This work included ensuring that the company had wide-ranging programs at major universities, developing mechanisms for sharing recruiting information and overarching recruiting strategies, and conducting interviews and training.

Moderator:



Kate MacGregor, Vice President of Environmental Services, NextEra

Kate currently serves as the Vice President of Environmental Services for NextEra, charged with ensuring thoughtful environmental planning and compliance from project development through to operations. Prior to joining NextEra, Kate served as the Senate-confirmed Deputy Secretary of the U.S. Department of the Interior, responsible for overseeing 70,000 employees and an annual budget of over \$14 billion. Kate's work at Interior included overseeing responsible domestic energy and mineral development on public lands and waters, implementation of the Great American Outdoors Act to enhance our National Parks, and other Interior-focused priorities. Prior to joining the Interior Department, Kate worked on Capitol Hill for 10 years, serving two Chairmen of the House Natural Resources Committee. She is a graduate of the University of Pennsylvania in Philadelphia.

STUDENT EVENTS

Student Platform Paper Presentations

Tuesday, June 6 – Wednesday, June 7

See your fellow students present their research as platform presentations throughout the week.

Student and ECi Poster Set-Up

Monday, June 5, 2:00 pm – 6:00 pm and Tuesday, June 6, 7:00 am – 10:00 am, Exhibit Hall, Plaza International GH

Technical and Student Poster Session

Tuesday, June 6, 10:45 am – 12:15 pm, Exhibit Hall Plaza International GH

Student Welcome Reception and Program Orientation

Tuesday, June 6, 12:00 pm – 1:00 pm, Barrel Spring I



Students participating in the Student Paper, Student Poster Competition, and the Environmental Challenge International (ECi) are invited to meet and network with fellow students from around the world. Poster setup guidelines and ECi rules will be reviewed.



Student Keynote Address

Tuesday, June 6, 1:00 pm – 2:00 pm, Barrel Spring I

Sustainability for WM, and for You

Liz Foeller, Senior Area Environmental Protection Manager, Waste Management Inc. of Florida

Liz Foeller is the Senior Area Environmental Manager for the WM Florida operations. In this position, she oversees the permitting and compliance activities for all media including air, water, waste, and tanks for the collection, post-collection, and recycling facilities. Specifically, Liz provides leadership and direction for site personnel to ensure facility operations meet or exceed our regulatory requirements. Liz has been part of the WM Florida operations for six years and has been practicing environmental engineering in Florida for over 25 years. With an MS and BS in Engineering, Liz is a professional licensed engineer in Florida.

Career Panel: What Is Your Next Move? Tips on How to Advance Your Environmental Career in Industry, Government, or Academia

Tuesday, June 6, 2:00 pm – 2:45 pm, Barrel Spring I

Get the inside scoop from distinguished professionals working in different parts of the environmental field as they share their career experiences and answer questions in this interactive and enlightening panel.

Speakers:

- Georges Bou-Saab, Assistant Research Scientist, Health and Sustainability Program, Air Quality, Energy, and Health Division, Texas A&M Transportation Institute (TTI)
- Veronica K. Figueroa, PE, Engineer Lead, Air Permitting & Compliance, Mosaic
- George Noel, Air Quality Modeling Specialist, Environment, Air Quality and Realty Team, Federal Highway Administration's (FHWA) Resource Center
- Kaitlyn Watkins, Principal Environmental Specialist, Florida Power & Light (Subsidiary of NextEra Energy)

Student Poster Competition

Tuesday, June 6, 2:45 pm – 5:30 pm, Exhibit Hall Plaza International GH

Watch as students present their posters to the judges during this year's Student Poster Competition. The competition recognizes student posters to be the best among those considered in the undergraduate, masters, and doctoral categories. Awards for exceptional posters will be provided at the Student Awards Ceremony and Reception on Wednesday, June 7.

Environmental Challenge International

Sponsored by:



Louisiana Section
Mother Lode Chapter
Pacific Northwest International Section

ECi Poster Judging

Tuesday, June 6, 2:45 pm – 5:30 pm, Exhibit Hall Plaza International GH

Join the ECi teams as they interact (often in surprising ways) with role players and present their posters to the judges. Good luck to this year's teams: Wilkes University, University of Texas at Arlington, Cal Poly, Louisiana State University, and the University of Florida.

ECi Final Presentations

Wednesday, June 7, 1:00 pm – 3:30 pm, Barrel Spring I

Watch the top ranking ECi teams present their final problems and solutions incorporating the "tweak" they received prior to the conference.

Student Awards Ceremony and Reception

Wednesday, June 7, 5:00 pm – 6:00 pm, Barrel Spring

Sponsored by:



NUCOR®

All students and professionals participating with the Student Program are invited to the Student Awards Ceremony and Reception, which will honor exceptional students who have received scholarships, poster awards, platform paper awards, thesis and dissertation awards, and ECi awards.

YOUNG PROFESSIONAL EVENTS

Join us for #YPWednesday at ACE 2023 and get involved in all of these events!

The YP Hub

The YP (Young Professional) Hub (Booth 211, Exhibit Hall, Plaza International GH) is a meet up space targeting students and young professionals. The Hub will serve as a lounge to relax or hang out between technical sessions, networking space, demonstration space for interested vendors/exhibitors, and meet and greet venue with speakers and A&WMA leaders. Events are planned during technical session breaks, lunch, and exhibition hall networking events Tuesday and Wednesday. While many of the events are marketed towards students and young professionals (35 years and under), all of the events are open to attendees of all ages.

YP Hub Schedule

Tuesday, June 6

11:30 am – 12:00 pm: VIP Meet and Greet with Sean Alteri
12:00 pm – 12:30 pm: VIP Meet and Greet with Stephanie Bolyard
12:30 pm – 1:00 pm: VIP Meet and Greet with Andrew Dorn
1:00 pm – 1:30 pm: VIP Meet and Greet with Heidi Hollenbach
3:30 pm – 4:00 pm: VIP Meet and Greet with Maud Walsh

Wednesday, June 7

12:00 pm – 12:30 pm: VIP Meet and Greet with Bhaskar Chandan
12:30 pm – 1:00 pm: Vendor Demo with Ryan Janoch, Mapistry
1:00 pm – 1:30 pm: VIP Meet and Greet with Wilma Dreessen
3:10 pm – 3:30 pm: VIP Meet and Greet with Jennifer Tullier
5:30 pm – 6:00 pm: Vendor Demo with Michael Hammer, Lakes Environmental Software
6:00 pm – 6:30 pm: YP/Student Meetup

Refer to the App for the most current schedule.

Young Professionals' Breakfast Club

Wednesday, June 7, 8:00 am – 9:00 am, Barrel Spring I

Sponsored by: **ROCHEM** AMERICAS

This annual professional networking breakfast gives young professionals and recent graduates the opportunity to network and be mentored by an experienced environmental professional. For established professionals, this is a great opportunity to connect with the industry's next generation of rising stars. Advance registration and sign-up for A&WMA Mentoring Program required.

Speed Networking

Wednesday, June 7, 9:00 am – 10:00 am, Barrel Spring I

Don't miss this opportunity to practice your networking skills! Young and experienced professionals and students are invited to engage in a fast-paced networking exercise. Answer questions, provide perspectives, and learn the best techniques for making connections that count.



Young Professional/Student Networking Reception

Wednesday, June 7, 6:30 pm – 8:30 pm

Cuba Libre Restaurant & Rum Bar

(Saratoga Room), 9101 International Drive

Cost: \$30. Tickets must be purchased in advance.

Sponsored by: 
Civil & Environmental
Consultants, Inc.

Join A&WMA students and young professionals for a fun evening of networking at the Cuba Libre Restaurant & Rum Bar. This popular event brings together many students, YPs, and seasoned professionals in a fun, casual environment. Cuba Libre, which translates to "a free Cuba," celebrates the island's culture through its food, beverage, and entertainment.

YP/Introductory Technical Sessions

Become familiar with current environmental technology and find out how the different disciplines are connected.

How Does It Work? Air Modeling Fundamentals

Tuesday, June 6, 4:00 pm – 6:00 pm, Florida C

How Does It Work? The Hydrogen Rainbow

Wednesday, June 7, 10:10 am – 11:50 am, Florida C

How Does It Work? Quantifying ESG

Wednesday, June 7, 1:30 pm – 3:10 pm, Florida C

How Does It Work? Air Modeling in Action – Case Studies and Real-Life Applications

Wednesday, June 7, 3:30 pm – 5:30 pm, Florida C

How Does It Work? Managing Waste and Water Issues Before, During, and After a Natural Disaster

Thursday, June 8, 10:10 am – 11:50 am, Florida C

EXHIBIT HALL ATTRACTIONS

The Exhibit Hall at the 116th A&WMA Annual Conference & Exhibition is the one-stop destination for environmental technology solutions, product and service demonstrations, and informative visits with experts from across the environmental spectrum.

Be sure to visit the Exhibit Hall, Plaza International GH during these hours:

Tuesday, June 6: 10:30 am – 5:30 pm

Wednesday, June 7: 8:00 am – 6:30 pm

Exhibition Grand Opening

Tuesday, June 6, 10:30 am – 5:30 pm

Immediately following the Keynote Program at 10:30 am, join your fellow attendees and presenters for the Grand Opening of the Exhibit Hall. It's the perfect opportunity to meet with leading environmental professionals showcasing their latest products and services. Enjoy a light brunch for the first hour while exploring the booths and displays.

Technical and Student Poster Session

Tuesday, June 6, 10:45 am – 12:15 pm

Sponsored by:  **ARCADIS**

Student and ECi Poster Judging

Tuesday, June 6, 2:45 pm – 5:30 pm

Networking Breaks



Sponsored by:



Please join our many exhibitors for networking and refreshment breaks in the exhibit hall between technical sessions.

Tuesday, June 6, 3:30 pm – 4:00 pm

Wednesday, June 7, 3:10 pm – 3:30 pm

Breakfast with the Exhibitors

Wednesday, June 7, 9:30 am – 10:30 am

Exhibitor Reception

Wednesday, June 7, 5:30 pm – 6:30 pm

Join us for the last hour in the Exhibit Hall to connect with exhibitors and colleagues during the Exhibitor Reception. Take advantage of this opportunity to network and get those last-minute business cards from key suppliers to add to your professional network.

The YP Hub

Visit the YP Hub at Booth #211 to see what's going on and attend planned events such as meet-and-greets with professionals, regulators, and VIPs, exhibitor demonstrations, and more. Find out about ACE, YP, and A&WMA events and get help with the ACE 2023 App if you need it. See page 15 or refer to the App for the most current YP Hub schedule.

A&WMA Sales and Marketing Booth

Discover many A&WMA programs and services including membership, specialty conferences, webinars, and explore volunteer opportunities. Book your exhibit space and sponsorship support for ACE 2024 in Calgary. Booth #415

Career Center

If you're looking for a new job or candidates to fill your open positions, be sure to stop by the Career Center. Post your job description or resume on the Career Center wall and meet with potential candidates or recruiters. Booth #417

Please bring 30 copies of your job posting or resume printed on 8 ½ x 11 paper, portrait style, directly to the Career Center and place in an open pocket holder.



GENERAL INFORMATION

Registration Hours

Plaza International Foyer

Monday, June 5: 2:00 pm – 6:00 pm

Tuesday, June 6: 7:00 am – 6:00 pm

Wednesday, June 7: 7:00 am – 5:00 pm

Thursday, June 8: 7:00 am – 2:00 pm (Registration will move to the Orlando Ballroom Foyer on Thursday)

Exhibition Hours

Plaza International GH

Tuesday, June 6: 10:30 am – 5:30 pm

Wednesday, June 7: 8:00 am – 6:30 pm

Technical Program Resource Center

Atlantic Room

Open at 7:00 am daily through the end of the last session.

The Technical Program Resource Center is available for authors to preview their presentations and for session chairs to pick up Continuing Education Attendee Sign-In Sheets and Session Head Count Forms and print out presenter bios.

Do you have a session that you want to propose for next year's annual conference? Come by the Technical Program Resource Center to share your ideas for the 2024 Technical Program. New ideas will be accepted until 12:00 pm (noon) on Thursday, June 8 through the survey on the desktop of the computers.

Session Chairs

Session chairs are responsible for picking up and dropping off the Continuing Education Attendee Sign-In Sheets for their session and completing the Session Head Count Form. Please go to the Technical Program Resource Center to pick up the sheets to take to the session room and display before the session. After your session, please bring the completed sheets back to the Technical Program Resource Center.

Networking Breaks in the Exhibit Hall

Tuesday, June 6

Technical Session Break: 3:30 pm – 4:00 pm

Wednesday, June 7

Breakfast with the Exhibitors: 9:30 am – 10:30 am

Technical Session Break: 9:40 am – 10:10 am

Technical Session Break: 3:10 pm – 3:30 pm

5:30 pm – 6:30 pm

Career Center, Booth #417

The Career Center is a place where hiring companies can post open positions and those looking for a job can post their resumes. ACE is the perfect place for attendees and companies to connect and discuss employment opportunities.

Please bring 30 copies of your job posting or resume printed on 8 ½ x 11 paper, portrait style, directly to the Career Center and place in an open pocket holder.

ACE 2023 Mobile App

Get the most up-to-date information on the technical program, ACE events, and more via the online mobile app.

Scan the QR code below to install directly on your phone or mobile device.

Use the MyExperience page to set up your networking profile to connect with other ACE attendees and the Q & A feature to ask questions to speakers through the app.



Continuing Education Opportunities

Registered attendees are eligible to request certificates for Professional Development Hours (PDH) or Continuing Education Units (CEU) for participation in technical sessions. Attendees interested in receiving continuing education credit should sign in at every technical session that they attend. The full conference technical sessions can earn you up to 17 hours.

Continuing education requirements vary according to location and profession. Meeting registrants are responsible for verifying whether continuing education credits offered by A&WMA can be used toward maintenance of their license or certification. All final decisions regarding certificate acceptance will be made by the licensing organization to which the certificate is submitted. Please claim Continuing Education credit prior to July 30, 2023. Questions regarding Continuing Education accreditation should be emailed to Gloria Henning at glhenning@awma.org.

Free WiFi

A&WMA has provided for free WiFi throughout the conference, exhibit, and foyer areas.

Network: @Hyatt_Meeting Passcode: AWMAOr123

Carbon Offsets

If you'd like to help offset the carbon emissions associated with this conference, donations can be made at Carbonfund.org. Thank you!



Sponsored by:



THANK YOU TO OUR ORGANIZATIONAL MEMBERS

A&WMA is exceptionally grateful to all of our organizational members for their support of membership and A&WMA conferences, events, and activities this past year as we continue to strive to provide the best products and services for these leaders in the environmental industry.

3M Company
AECOM
Aegis Environmental
AFCO 360 LLC
Air Resource Specialists, Inc.
Air Sciences Inc.
Alabama Power Company
Allegheny County Health Department
Allegion
Altech Environmental Consulting Ltd.
Arcadis
Archer Daniels Midland Company
Arizona Department of Environmental Quality
August Mack Environmental
Babst Calland
Barnes & Thornburg LLP
Barr Engineering Company
Bay Area Air Quality Management District
BGE, Inc.
BH&M Environmental Consultants, Inc
Boreal Environmental Services
Braun Intertec
Burns & McDonnell Engineering Co., Inc.
Cabot
Calpine
Canfor
CEMTEK KVB-Enertec
CITGO Petroleum Corporation
Civil & Environmental Consultants, Inc.
C-K Associates
Clark County
ClearSpan Structures
Consumers Energy
Conversion Technology Inc.
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Department of Energy and Environment
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Eli Lilly & Company
Enerkem Inc.
Epsilon Associates, Inc.
EQT Corporation
ERM

Federal Highway Administration
Florida State University
Flotration Technologies, LLC
Foulweather Consulting
Fredrikson & Byron, P.A.
Georgia-Pacific LLC
Geosyntec Consultants, Inc.
GHD
Government of Alberta
Haley & Aldrich, Inc.
Hankinson Renewable Energy, LLC
Hartree Natural Gas Storage
Hennepin County
Huntington Ingalls Industries
Idaho DEQ
Integrity Environmental LLC
International Paper
Jacobs
Kansas City Board Of Public Utilities
Kleinfelder
KS Dept. of Health & Environment
Los Angeles Dept of Water and Power
Lane Regional Air Protection Agency
LEHDER Environmental Services
Locke Lord LLP
Los Angeles County Sanitation District
Louisiana DEQ
LyondellBasell
Maricopa County
Maryland Dept. of the Environment
McCoy and Associates
Metro Vancouver
Michigan Dept of Environment, Great Lakes, and Energy
Minnesota Pollution Control Agency
Mississippi Dept. Of Environmental Quality
Mojave Desert AQMD
Montrose Environmental Group, Inc.
Mosaic
North Carolina DENR - Division Of Air Quality
Nebraska DEE
Northwest Clean Air Agency
Novel Geo-Environmental, LLC
Nucor Steel Jackson, Inc.
NY State Dept. of Env. Conservation
Occidental Petroleum Corp
Oklahoma Dept. of Environmental Quality
Olympic Region Clean Air Agency
PA DEP / Bureau of Air Quality
PDC Energy

POWER Engineers, Inc.
PPM Consultants, Inc.
Providence
Quebec City
Ramboll US Consulting, Inc.
Range Resources-Appalachia, LLC
Research Triangle Institute
Reuter-Stokes, a Baker Hughes Business
RTP Environmental Associates
RWDI
S&C Electric Company
San Joaquin Valley APCD
Sasol
SCDHEC
Schnitzer Steel, Inc.
SCS Engineers
SLR International Corp
Solvay Chemicals, Inc.
Sonoma Technology, Inc.
South Coast AQMD
Southwest Cheese
St. Paul Park Refinery
Stantec Consulting Ltd.
Strata, LLC
Taiwan Power Company
Tampa Electric Company
Tellurian, Inc.
Tennessee Dept of Environment and Conservation
Tetra Tech
Texas Commission on Environmental Quality
The Westmark Group
Toyota Motor North America
TRC
Tricorntech
Trinity Consultants
TSI
Tucson Electric Power Company
United Consulting
US EPA Region 7 (AWMD)
US EPA (ORD)
Utah Division of Air Quality
WA State Dept. of Ecology
Washoe County Health District - AQMD
Water & Environmental Technologies
Weaver Consultants Group
Westlake Chemical
WSP
Xcel Energy

If you are interested in membership in A&WMA for yourself or your company, visit www.awma.org/join today!

Up to date at time of printing.

COUNCIL AND COMMITTEE MEETINGS

GET INVOLVED! Our meetings are open to all ACE attendees. Stop into one of these meetings to see how the organization works and contribute your time and knowledge.

Education Council

Monday, June 5, 8:00 am – 12:00 pm, Florida Ballroom A

Sections and Chapters Council

Monday, June 5, 8:00 am – 3:30 pm, Florida Ballroom B

Technical Council

Monday, June 5, 9:00 am – 5:00 pm, Florida Ballroom C

Young Professionals Advisory Council

Monday, June 5, 1:00 pm – 4:00 pm, Florida Ballroom A

Publications Committee Meeting

Tuesday, June 6, 11:00 am – 12:30 pm, Silver Spring I/II

Annual Business Meeting of the Membership

Tuesday, June 6, 6:00 pm – 6:45 pm, Barrel Spring I

International Affairs Committee

Wednesday, June 7, 7:00 am – 8:00 am, Silver Spring I/II

Critical Review Committee Meeting

Thursday, June 8, 10:30 am – 11:30 am, Silver Spring I/II

2024 ACE Planning and Technical Council Wrap-Up

Thursday, June 8, 4:00 pm - 5:00 pm, Silver Spring I/II

TECHNICAL COORDINATING COMMITTEE MEETINGS

Date and Time	Division/TCC/ITF	Room Name
Tuesday, June 6 11:55 am – 1:15pm	AAC – Control Technologies	Plaza International J
	AAM – Measurement Techniques & Instrumentation	
	APM – Atmospheric Modeling & Meteorology	Florida C
	EJS – Environmental Justice	Florida A
	ODR* – Odors	Plaza International K
	HEE* – Health Effects and Exposures	
	RAM – Risk Assessment & EHS Management	
	SRC* – Resource Conservation	Blue Spring I/II
Wednesday, June 7 11:55 am – 1:15 pm	SUS* – Sustainability	
	AAE – Measurements, Monitoring, Emission Inventory & Applications	Florida B
	APC* – Atmospheric Chemistry	Florida C
	APV – Visibility & Radiative Transfer	Plaza International J
	CCI – Climate Change Impacts & Adaptation	Plaza International I
	CCP – Climate Change Policy, Strategy & Regulations	
	CNV – Community Noise & Vibration,	Rainbow Spring I/II
	OMS – On- & Off-Road Mobile Sources,	
	PLU – Transportation Policies & Land Use	
	REG – Regulations, Legal Issues & Permitting	Plaza International K
	PUB – Public Participation	
	EPE – Economics, Partnership & Environmental Leadership	
	PWR* – Power Generation & Renewable Energy	Florida A
	PIM – Petroleum, Industry & Mining	
	NAN – Nanotechnology	
	GOV – Government Facilities	
	IEA – Indigenous Environmental Affairs	
	WMB – Waste Resource Recovery, Processing & Bioenergy	Blue Spring I/II
	WMR – Waste Characterization & Site Remediation	

* This TCC will also have a separate virtual meeting; contact the TCC Chair or techprogram@awma.org for additional information.

HOTEL FLOOR PLAN

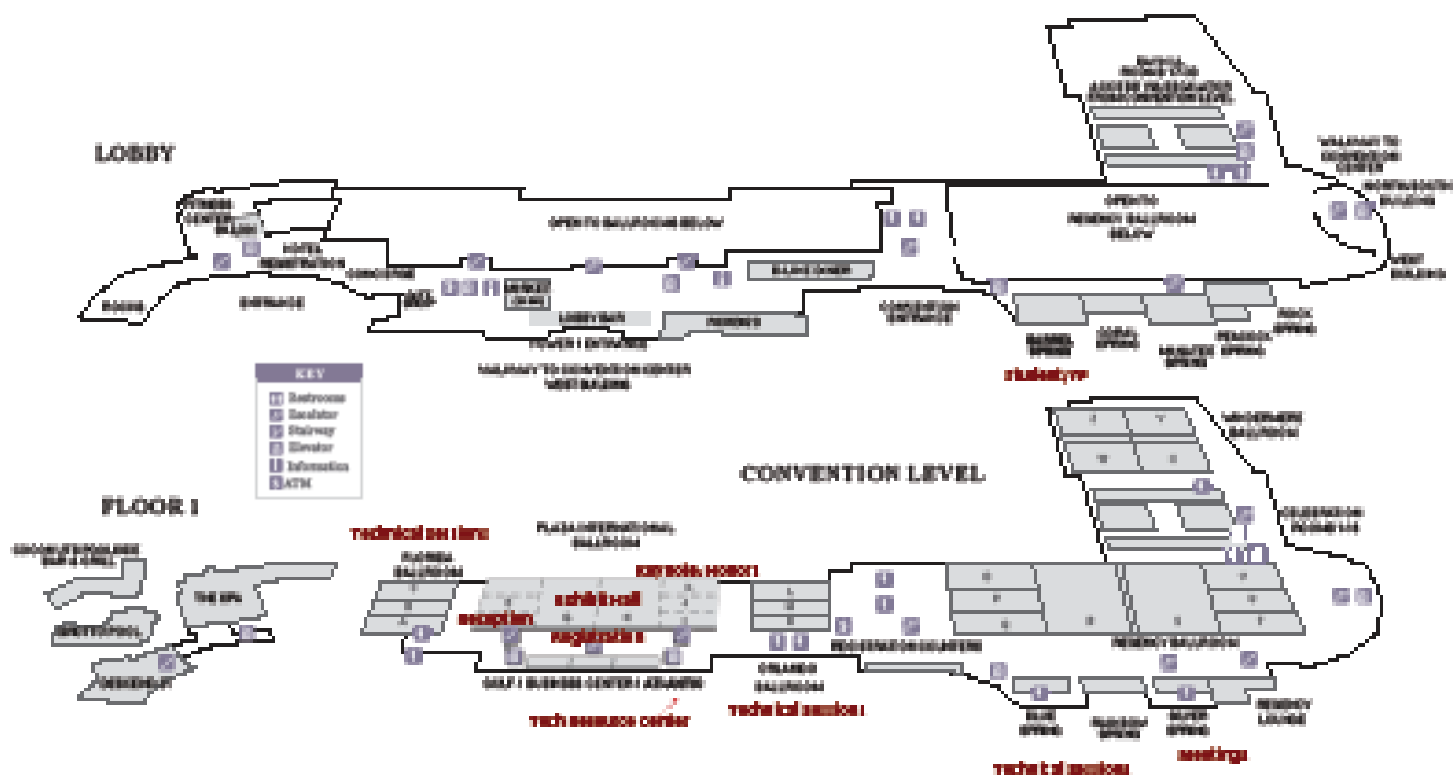
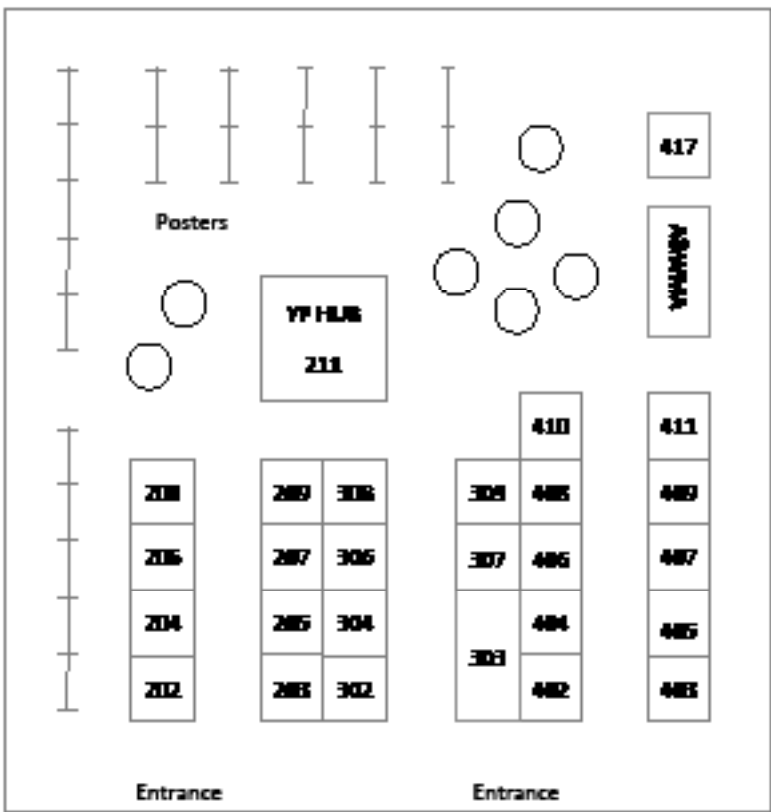


EXHIBIT HALL FLOOR PLAN



EXHIBITORS BY BOOTH

TSI, Inc.	202	Lakes Environmental Software.	303	Geosyntec Consultants	406
Blue Sky Modeling, LLC.	203	Peace Corps.	304	ERM	407
Rochem Americas	204	ECO PHYSICS, INC.	306	Trinity Consultants	408
Entech Instruments.	205	Picarro, Inc.	308	LG Sonic US.	409
Environmental Energy Services	206	URG Corporation	309	Mapistry, Inc.	410
Montrose Environmental Group, Inc.	207	Alliance Technical Group	402	GCI (Grace Consulting Inc.) Emissions Testing	411
CDS Analytical	208	SCS Engineers.	403	A&WMA Sales & Marketing Booth	415
PerkinElmer	209	Nutech Instruments Inc.	404	Career Center	417
YP Hub.	211	Jacobs	405		
Civil & Environmental Consultants	302				

EXHIBITORS BY COMPANY

A&WMA Sales & Marketing 415
www.awma.org

Founded in 1907, A&WMA enhances knowledge and expertise by providing a neutral forum for technology exchange, professional development, networking opportunities, public education, and outreach to more than 5,000 environmental professionals in 65 countries. Stop by to learn about A&WMA membership, upcoming events and publications, book your exhibit booth or sponsorship for ACE 2024 in Calgary, AB.

Alliance Technical Group 402
www.alliancetechgroup.com

Alliance Technical Group is the national leader in air emissions monitoring, testing, and analytical services nationwide. Alliance Technical Group continues to expand its footprint in all air-related services, strengthening the company, providing a career path for its more than 700 employees, and offering its customers unmatched service, quality results, and competitive pricing.

Blue Sky Modeling 203
www.blueskymodeling.com

Blue Sky Modeling, LLC (BSM) specializes in air quality modeling. Unlike most air dispersion modelers, BSM is not part of a larger consulting firm. Because of that we are exceptionally nimble in how we partner with our clients. Our innovative approach to business combines the reach of a large firm with the flexibility of a small firm, enabling us to provide our clients with decades of experience in the air dispersion modeling world while minimizing costs and maximizing our responsiveness.

CDS Analytical 208
www.cdsanalytical.com

CDS Analytical is a leading global provider of innovative thermal sample preparation instrumentation for the analytical laboratory. For over 50 years our exclusive focus has been on conceiving, designing, manufacturing, and supporting leading edge instruments. CDS offers a complete suite of diverse front-end GC equipment including pyrolyzers, purge and trap, headspace, and thermal desorption systems. These robust, field-tested products provide the entire range of temperature, heating rate, and multiple step manipulations required by today's most demanding analytical laboratories. CDS Analytical has recently acquired the rights to Empore™ products, extending our reach into lab consumables and or ability to provide solutions for Environmental, Food Science and Biopharma customers.

Civil & Environmental Consultants, Inc. 302
www.cecinc.com

Whether gathering field data; preparing plans and permit applications; performing site investigations, feasibility evaluations, and remediation activities; or navigating compliance requirements, CEC seeks to build personal business relationships to better understand our clients' objectives. Let's talk about your most complex air quality and waste management challenges.

ECO PHYSICS, INC. 306
www.ecophysics-us.com

Chemiluminescence NOx, Ammonia, paramagnetic O2 and NDIR CO2 measurements for regulatory compliance. All of our analyzers have onboard computers

for almost unlimited data storage. We are the leading supplier for combustion and atmospheric research. Heated sample inlet systems for measurement of hot, wet gases and dual inlet analyzers for simultaneous measurement of two separate sample sources. We have a solution for you!

Entech Instruments, Inc. 205
www.entechinst.com

Entech Instruments, Inc. is a manufacturer of sample pretreatment systems and accessories designed for the analysis of Volatile Organic Compounds in the gas phase. With over 30 years of experience, we have consistently innovated to become the leading supplier of TO15A systems worldwide, capturing approximately 90% of the market share. Our state-of-the-art technologies currently empower professionals globally in various fields, including Environmental Air Monitoring, Soil & Water Testing, Industrial Hygiene, Food Safety, Flavor & Aroma R&D, Material Emissions Testing, Forensic Investigation, and Clinical Analysis. Extensive validation studies have positioned Entech as the sole system approved by NASA for VOC testing on the ISS, and it is the most widely utilized instrument by EPA and state/regional air labs for ambient air analysis.

Environmental Energy Services, Inc. . . 206
www.eescorp.com

EES, Inc. is a leading provider of innovative solutions to Power and Industry: Anti-slagging/fouling boiler treatment; Engineered burners (LNB, uLNB) and NOx control (SNCR, SCR, TSI); Metals Capture (Hg, +), Wastewater Treatment and Scrubber Enhancement; Extractive Gas Analyzers for Severe Environments (O2, CO, CO2, NOx, etc.)

EXHIBITORS BY COMPANY

ERM407 **www.erm.com**

Environmental Resources Management (ERM) is a leading global provider of environmental, health, safety, and sustainability (EHSS) consulting services. We have more than 160 offices in over 40 countries and territories employing more than 4,700 people who work on projects around the world. ERM is committed to providing a service that is consistent, professional, and of the highest quality to create value for our clients. We have worked with many of the Global Fortune 500 companies delivering innovative solutions for business and selected government clients helping them understand and manage the sustainability challenges that the world is increasingly facing.

GCI (Grace Consulting, Inc.) **Emissions Testing411** **www.gctest.com**

GCI (Grace Consulting, Inc.) is proud of its heritage of forty (40) years of emissions testing experience. Our current operations, incorporated as GCI in 2000, comply with ASTM D 7036-04 Standard Practice for Competence of Air Emissions Testing Bodies (AETB), and full accreditation from the American Association for Laboratory Accreditation (A2LA) in partnership with the Stack Testing Accreditation Council (STAC). Our brick & mortar and mobile monitoring laboratories have achieved National Environmental Laboratory (NELAP) accreditation. With consistent, quality services of approximately fifty (50) test technicians; QSTI (Qualified Stack Testing Individual) certified crew leaders, each with a minimum of 15-20 years of experience; 18 mobile monitoring laboratory trailers; an arsenal of interchangeable and redundant Apex equipment; in-depth QA/QC, safety, and training programs; and multiple nationwide offices; GCI is able to remain flexible and economical for our clients' scheduling and financial constraints.

Geosyntec Consultants406 **www.geosyntec.com**

Geosyntec is a consulting and engineering firm that works with private and public sector clients to address new ventures and complex problems involving our environment, natural resources, and civil infrastructure. Geosyntec provides the specialized expertise necessary for lawyers to counsel their clients and advocate for client interests on a wide range of matters related to business transactions, environmental management, compliance and enforcement, toxic tort, and general

litigation matters. We deliver solutions through Geosyntec and our seamlessly integrated divisions (SiREM, Savron, and Geosyntec Europe) with a combined staff exceeding 1,500 engineers, scientists, and related technical and project support personnel. We serve our clients from more than 80 offices in the United States, Canada, the United Kingdom, Ireland, and Australia.

Jacobs405 **www.jacobs.com**

At Jacobs, we're challenging today to reinvent tomorrow by solving the world's most critical problems for thriving cities, resilient environments, mission-critical outcomes, operational advancement, scientific discovery and cutting-edge manufacturing, turning abstract ideas into realities that transform the world for good. With \$13 billion in revenue and a talent force of approximately 52,000, Jacobs provides a full spectrum of professional services including consulting, technical, scientific and project delivery for the government and private sector. Visit jacobs.com and connect with Jacobs on LinkedIn, Twitter, Facebook and Instagram.

Lakes Software303 **www.weblakes.com**

Lakes Software is internationally recognized for its technologically advanced environmental modeling software and data products. Since 1995 we remain dedicated to providing industry and the regulatory community with exceptional service and cost-effective environmental IT solutions. Our products increase productivity, reduce errors, and provide unique solutions in an ever-increasing regulatory constrained world. Expertise includes: Air Dispersion Modeling; Emissions Inventory; Ambient Air Monitoring; Regulatory Permit and Compliance Solutions; Human Health Risk Assessment; Custom IT Solutions; Real-Time and Forecast Modeling Solutions; Artificial Intelligence and Neural Net Forecasting; Meteorological Data Processing (WRF/MM5); Training. Lakes Software is dedicated to continuously investigating new areas of research to provide our users with superior state-of-the-art software solutions and data services.

LG Sonic US409 **www.lgsonic.com**

LG Sonic manufactures cutting-edge technologies to monitor water quality and control algal blooms. With ultrasonic algae control technology, aquatic ecosystems are recovered without chemicals. LG Sonic works primarily with drinking water utilities, governments and power plants, to remediate large reservoirs and lakes.

Mapistry, Inc410 **www.mapistry.com**

Mapistry is an environmental compliance and data platform for industrial companies looking to centralize, standardize and analyze their sites' environmental compliance. Our platform fixes the operational inefficiency in scattered paper forms and spreadsheets to mitigate financial risks due to violations and lawsuits and enable a proactive compliance culture. For more details, visit www.mapistry.com.

Montrose Environmental Group, Inc. . . .207 **www.montrose-env.com**

Montrose Environmental Group, Inc. is a leading environmental services company with operations across North America, Australia and Europe. Montrose supports government and commercial organizations with a diverse range of services, from comprehensive air measurement and laboratory services to regulatory compliance, permitting, engineering, and remediation.

EXHIBITORS BY COMPANY

Nutech Instruments, Inc.404
www.nutechins.com

Nutech Instruments a World leading supplier of Air VOC testing products headquarters in Dallas, Texas USA. Some of our products are: Preconcentrators (LN2 8910 and LN2 free 6600), Auto Samplers 3610, Direct loop injection 3606, Dynamic and Static Diluters 2203, Canister Clean Systems 2104,2108, Fence Line Systems (TVOC, PAMS, Full Range, Complete Shelters) 6300,6500, 6600,6700, Automatic air sampling timers 2701, 2703, Multifunctional Automatic Air Sampling System 2600ST, Carry-on Automatic Multifunctional Sampling System 2600GT Portable TVOC analyzer 3000, Custom Designs to meet your unique requirements. We also run a full-service air VOC testing laboratory. Contact us for more information at: kevin@nutechins.com.

Peace Corps304
www.peacecorps.gov

Short-term. High-impact. Experience required. Seeking professionals with diverse skills and the know-how to hit the ground ready to serve. Bring your expertise and experience to the projects where you are needed the most.

PerkinElmer.209
www.perkinelmer.com

PerkinElmer is an industry leader in applied markets, providing laboratories globally with analytical instruments, accessories, services, and solutions that they need to succeed. Our solutions accelerate scientists' ability to detect, monitor, and manage contaminants and toxic chemicals impacting our environment through the development of innovative technologies and services – and by helping our customers meet their most complex challenges – we're improving human and environmental health.

Picarro, Inc308
www.picarro.com

Picarro is a leading provider of solutions to measure greenhouse gas (GHG) concentrations, criteria pollutants and hazardous air pollutants (HAPs) in many industrial and research applications. Picarro analyzers and systems are simple to deploy and operate, they deliver parts-per-trillion (ppt) sensitivity in real-time, and are designed for continuous monitoring with minimal maintenance. Visit our Air Quality and Ethylene Oxide Resource Centers to learn more about how our products are used to address indoor and outdoor air quality measurement needs.

Rochem Americas204
www.rochemamericas.com

Rochem is the world's leading supplier of RO based leachate treatment systems with over 30 years of experience and 400 installations worldwide. Rochem uses special membrane modules, specifically developed for landfill leachate. These modules have better performance and longer membrane life with lower pre-treatment requirements. The broad-spectrum capabilities of RO to reduce both organic and inorganic compounds offer the ability to future-proof your leachate treatment against current and emerging contaminants.

SCS Engineers403
www.scsengineers.com

Environmental consultants and contractors with offices nationwide. Specialists in sustainability, greenhouse gas, clean air act compliance, biogas, RNG, landfills, closure, long-term O&M, PCB cleanups, Brownfields, and liquids management. Helping to improve the planet since 1970.

Trinity Consultants.408
www.trinityconsultants.com

Founded in 1974, Trinity Consultants helps organizations overcome complex, mission-critical challenges in EHS, engineering, and science through expertise in consulting, technology, training, and staffing. We support clients in geographies worldwide and across a broad range of sectors including industrial, energy, manufacturing, mining, life sciences, and commercial/institutional.

TSI Incorporated202
www.tsi.com

TSI, a world leader in particle measurements, offers a variety of outdoor air quality monitors for real-time, direct-reading results. The DustTrak™ Environmental Monitor measures PM1, PM2.5, respirable, PM10 and total PM size fractions, providing near-reference quality data. In addition, TSI offers a variety of aerosol and dust monitors, and indoor air quality monitors.

URG Corporation309
www.urgcorp.com

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

YP Hub211
www.awma.org/YP

A&WMA realizes the value of young professionals (YPs) under the age of 35 to the environmental industry. The Association created the Young Professionals Advisory Council (YPAC) to support the learning and networking opportunities needed to help YPs excel in their careers. The YPAC develops programs and activities to effectively engage YPs, recruits and retains YP members by fostering relationships with employers and A&WMA Sections and Chapters, and assists in the recruitment, retention, and development of YP members. Plus, they plan technical and a lot of fun social activities.

TECHNICAL SESSIONS BY TOPIC AREA

Day	Time	Title	Track	Session	Room
Mini Symposium: Smart Growth					
Tues	8:30 – 10:30 am	Opening Keynote Session: Sustainable by Design	MINI/SUST	panel	Orlando Ballroom
Tues	1:30 pm – 3:30 pm	EPA Priorities 2023-2024	MINI/REGU	panel	Florida B
Tues	4:00 pm – 6:00 pm	The Evolving Landscape for Electric Power Generation in the United States	MINI/INDU	panel	Florida B
Weds	8:00 am – 9:40 am	Environmental Justice is Coming to a State Near You	MINI/EJUS	panel	Florida B
Weds	10:10 am – 11:50 am	Circular Economy: Actions and Progress	MINI/SUST	panel	Florida B
Weds	1:30 pm – 3:10 pm	Integrating Satellite Observations into Air Quality Decision Making	MINI/H&EE	panel	Florida B
Weds	3:30 pm – 5:30 pm	Air Regulatory and Policy Developments and Impacts on Permitting Activities	MINI/REGU	panel	Florida B
Thurs	10:10 am – 11:50 am	Science and Policy at the Intersection of Climate Change and Environmental Justice	MINI/CLIM/EJUS	panel	Florida B
Thurs	1:40 pm – 4:00 pm	New Source Review: Issues and Recent Developments	MINI/REGU	panel	Florida B
Air Quality — Control Technology, and Air Quality —Emissions Studies					
Tues	1:30 pm – 3:30 pm	Air Pollution Control: PM, VOCs, NOx, CO, and GHGs	AQCT	platform	Plaza International J
Tues	4:00 pm – 6:00 pm	Emissions and Emission Inventories	AQES	platform	Plaza International I
Tues	4:00 pm – 6:00 pm	Innovation in Air Quality Practices	AQMM/AQCT	platform	Plaza International J
Air Quality — Measurements and Monitoring					
Tues	1:30 pm – 3:30 pm	Air Sensors and Air Quality	AQMM	platform	Plaza International I
Tues	4:00 pm – 6:00 pm	Innovation in Air Quality Practices	AQMM/AQCT	platform	Plaza International J
Weds	8:00 am – 9:40 am	International Air Quality Studies and Challenges	AQMM	platform	Plaza International J
Weds	1:30 pm – 3:10 pm	Enhancing Environmental Justice Analysis through Data Technologies	EJUS/AQMM	platform	Florida A
Weds	3:30 pm – 5:30 pm	Air Quality Studies and Challenges Part 1	AQMM	platform	Plaza International J
Thurs	10:10 am – 11:50 am	Long-Rang Transport/Particulate Methods and Speciation	AQMM	platform	Rainbow Spring I/II
Thurs	1:40 pm – 4:00 pm	Air Quality Studies and Challenges Part 2	AQMM	platform	Rainbow Spring I/II
Thurs	1:40 pm – 4:00 pm	Innovative Air Quality Techniques and Visibility Science	AQMO/AQMM	platform	Florida C
Air Quality — Modeling					
Tues	1:30 pm – 3:30 pm	Air Quality Modeling Case Studies and History	AQMO	platform	Florida C
Tues	4:00 pm – 6:00 pm	International Handbook on Odor Dispersion Modeling	ODOR/AQMO	panel	Rainbow Spring I/II
Tues	4:00 pm – 6:00 pm	How Does it Work - Air Modeling Fundamentals	YPRO/AQMO	panel	Florida C
Weds	8:00 am – 9:40 am	Building Downwash in Air Quality Modeling	AQMO	platform	Florida C
Weds	10:10 am – 11:50 am	Challenges in Modeling Data Centers	AQMO	panel	Florida A
Weds	1:30 pm – 3:10 pm	Implications from the Updated PM2.5 NAAQS	AQMO/REGU	panel	Plaza International J
Weds	3:30 pm – 5:30 pm	How Does It Work? Air Modeling in Action— Case Studies & Real-Life Applications	YPRO/AQMO	panel	Florida C
Thurs	1:40 pm – 4:00 pm	Innovative Air Quality Techniques and Visibility Science	AQMO/AQMM	platform	Florida C
Climate Change					
Weds	10:10 am – 11:50 am	Climate Change: Industrial Reporting and Impacts	CLIM	platform	Plaza International I
Weds	1:30 pm – 3:10 pm	Climate Change: Science to Policy	CLIM	platform	Plaza International I
Weds	3:30 pm – 5:30 pm	Climate Change: Measurement and Analysis	CLIM	platform	Plaza International I
Thurs	10:10 am – 11:50 am	Science and Policy at the Intersection of Climate Change and Environmental Justice	MINI/CLIM/EJUS	panel	Florida B
Education					
Tues	1:30 pm – 3:30 pm	The Diversity of Environmental Training in a Multimedia and Multiprogram World	EDUC/YPRO	platform	Rainbow Spring I/II
Environmental Justice					
Tues	1:30 pm – 3:30 pm	The New World of Environmental Justice in Air Permitting	EJUS/REGU	panel	Florida A
Tues	4:00 pm – 6:00 pm	Understanding Environmental Justice	EJUS	platform	Florida A
Weds	8:00 am – 9:40 am	Environmental Justice is Coming to a State Near You	MINI/EJUS	panel	Florida B
Weds	1:30 pm – 3:10 pm	Enhancing Environmental Justice Analysis through Data Technologies	EJUS/AQMM	platform	Florida A
Weds	3:30 pm – 5:30 pm	Defining Environmental Externalities in a Changing Landscape	EJUS/INDU	panel	Florida A
Thurs	10:10 am – 11:50 am	Science and Policy at the Intersection of Climate Change and Environmental Justice	REGU/CLIM/EJUS	panel	Florida B
Health & Environmental Effects					
Tues	1:30 pm – 3:30 pm	Air Pollution Health Risks and NASA-Enhanced Health Communications	H&EE	platform	Plaza International K
Tues	4:00 pm – 6:00 pm	Risk Evaluation and Assessment Under Different Scenarios	H&EE	platform	Plaza International K
Thurs	8:00 am – 10:00 am	A&WMA 53rd Critical Review: Environmental Sampling for Disease Surveillance	H&EE	panel	Florida B

TECHNICAL SESSIONS BY TOPIC AREA

Day	Time	Title	Track	Session	Room
Power Generation, Heavy Industry, and General Manufacturing					
Tues	4:00 pm – 6:00 pm	The Evolving Landscape for Electric Power Generation in the United States	MINI/INDU	panel	Florida B
Weds	8:00 am – 9:40 am	Advanced Power Generation Options	INDU	platform/ panel	Rainbow Spring I/II
Weds	10:10 am – 11:50 am	Hot Topics in the Chemical and Refining Sector	INDU	platform	Plaza International J
Weds	10:10 am – 11:50 am	How Does it Work? The Hydrogen Rainbow	YPRO/INDU	panel	Florida C
Weds	3:30 pm – 5:30 pm	Defining Environmental Externalities in a Changing Energy Landscape	EJUS/INDU	panel	Florida A
Odor					
Tues	4:00 pm – 6:00 pm	International Handbook on Odor Dispersion Modeling	ODOR/AQMO	panel	Rainbow Spring I/II
Regulatory and Legal					
Tues	1:30 pm – 3:30 pm	The New World of Environmental Justice in Air Permitting	EJUS/REGU	panel	Florida A
Tues	1:30 pm – 3:30 pm	EPA Priorities 2023-2024	MINI/REGU	panel	Florida B
Weds	8:00 am – 9:40 am	What's Happening at the Federal Level?	REGU	platform	Plaza International I
Weds	8:00 am – 9:40 am	PM2.5 and Ozone Implementation Issues	REGU	panel	Plaza International K
Weds	1:30 pm – 3:10 pm	Implications from the Updated PM2.5 NAAQS	AQMO/REGU	panel	Plaza International J
Weds	3:30 pm – 5:30 pm	Air Regulatory and Policy Developments and Impacts on Permitting Activities	MINI/REGU	panel	Florida B
Thurs	10:10 am – 11:50 am	Science and Policy at the Intersection of Climate Change and Environmental Justice	MINI/CLIM/EJUS	panel	Florida B
Thurs	1:40 pm – 4:00 pm	New Source Review: Issues and Recent Developments	MINI/REGU	panel	Florida B
Sustainability and Resource Conservation					
Tues	8:30 – 10:30 am	Opening Keynote Session: Sustainable by Design	MINI/SUST	panel	Orlando Ballroom
Tues	4:00 pm – 6:00 pm	Towards A Sustainable Environmental Governance for an Indigenous Island, Taiwan	SUST	panel	Blue Spring I/II
Weds	8:00 am – 9:40 am	Sustainability and the ESG Tsunami—Metrics, Mandates, and Methods	SUST	panel	Blue Spring I/II
Weds	10:10 am – 11:50 am	Circular Economy: Actions and Progress	MINI/SUST	panel	Florida B
Weds	1:30 pm – 3:10 pm	How Does It Work? Quantifying ESG	YPRO/SUST	panel	Florida C
Weds	3:30 pm – 5:30 pm	Organizational Approaches to Sustainability	SUST	platform	Plaza International K
Weds	3:30 pm – 5:30 pm	Sustainability—Analysis and Case Studies	SUST	platform	Blue Spring I/II
Transportation					
Weds	10:10 am – 11:50 am	Vehicle Emissions	TRAN	platform	Rainbow Spring I/II
Weds	1:30 pm – 3:10 pm	Smart Growth & Transportation Planning	TRAN/LH	platform	Rainbow Spring I/II
Weds	3:30 pm – 5:30 pm	Electric Vehicles and Alternative Fuels	TRAN	platform	Rainbow Spring I/II
Waste Management					
Weds	10:10 am – 11:50 am	Solid Waste Management Systems	WAST	platform	Blue Spring I/II
Weds	1:30 pm – 3:10 pm	Site Assessment, Remediation, and Vapor Intrusion	WAST	platform	Blue Spring I/II
Weds	3:30 pm – 5:30 pm	PFAS in Landfill and Wastewater Systems	WAST	platform	Blue Spring I/II
Thurs	10:10 am – 11:50 am	Landfills and Landfill Gas	WAST	platform	Blue Spring I/II
Thurs	10:10 am – 11:50 am	How Does it Work? Managing Waste and Water Issues Before, During, and After a Natural Disaster	YPRO/WAST	panel	Florida C
Thurs	1:40 pm – 4:00 pm	Biogas Generation	WAST	platform	Blue Spring I/II
Young Professional/Introductory Sessions					
Tues	1:30 pm – 3:30 pm	The Diversity of Environmental Training in a Multimedia and Multiprogram World	EDUC/YPRO	platform	Rainbow Spring I/II
Tues	4:00 pm – 6:00 pm	How Does it Work - Air Modeling Fundamentals	YPRO/AQMO	panel	Florida C
Weds	10:10 am – 11:50 am	How Does it Work? The Hydrogen Rainbow	YPRO/INDU	panel	Florida C
Weds	1:30 pm – 3:10 pm	How Does It Work? Quantifying ESG	YPRO/SUST	panel	Florida C
Weds	3:30 pm – 5:30 pm	How Does It Work? Air Modeling in Action—Case Studies and Real-Life Applications	YPRO/AQMO	panel	Florida C
Thurs	10:10 am – 11:50 am	How Does it Work? Managing Waste and Water Issues Before, During, and After a Natural Disaster	YPRO/WAST	panel	Florida C

TECHNICAL AND STUDENT POSTERS

Attend the Technical and Student Poster Session
Tuesday, June 6, 10:45 am – 12:15 pm in the Exhibit Hall,
Plaza International GH

Sponsored by:  **ARCADIS**

Air Emission Control Technologies and Programs

Development and Evaluation of High Gravity Technology for Control of Cooking Oil Fume Emissions (Student Poster #11)

Paper # 1433796

Shuwen Han, Hong Kong Polytechnic University

Development and Application of Nanotechnology for Air Pollution Control in Hong Kong (Student Poster #13)

Paper # 1434503

Li Xinwei, Hong Kong Polytechnic University

Air Pollutant Emission Sources: Quantification, Monitoring, and Reporting

Hyperspectral Infrared Imaging of Fugitive Methane Emissions from Flare Stacks (Technical Poster)

Paper # 1493351

Mark Norman, Telops, Inc.

Contribution of Non-Exhaust Vehicle Emissions to Near-Road PM_{2.5} and PM₁₀: A Chemical Mass Balance Study (Technical Poster)

Paper # 1390189

Lung-Wen Antony Chen, University of Nevada; J. Chow, X. Wang, J. Watson, Desert Research Institute; H. Jung, B. Lopez, University of California – Riverside; Q. Yao, S. Yoon

Performance of the Alphasense N3 Optical Particle Counters for Measuring Dispersed Emissions at an Integrated Steel Plant (Technical Poster)

Paper # 1447419

Erick Lopes, A. Burnabe, W. Andreao, H. Antunes, Acelor Mittal Tubarao; J. Chow, J. Watson, X. Wang, Desert Research Institute

The Impacts of Atmospheric Aging on Physicochemical Properties of Aerosol Emitted from Biomass Burning (Student Poster #9)

Paper # 1415113

Ryan Drover, University of California–Riverside

Characteristics of Particulate Matter Levels in Classrooms of Elementary Schools in South Korea by Indoor and Outdoor Influencing Factors (Student Poster #25)

Paper # 1402755

Dae-Hyeon Kim, Pukyong National University

Identification of Hazardous Air Pollution Hotspots and Sources in Large Urban-Industrial Complex by Utilizing Data from Routine Air Monitoring Stations (Student Poster #33)

Paper # 1395623

Jui Huan Lee, Industrial Technology Research Institute

Effect of Regeneration Parameters on Heel Formation During Adsorption-Desorption of VOCs on Honeycomb Zeolite (Student Poster #38)

Paper # 1396622

Sina Esfandiar Pour, University of Alberta

Air Pollutant Exposure, Impacts, and Health Risks

Analysis of Air Pollutant Emission Reductions in Near-Residential Workplace – Impacts on Ozone Concentration in Seoul Metropolitan Area (Technical Poster)

Paper # 1395730

Young Sunwoo, J. Kim, J. Lee, C Chae, D Park, M. Kang, B. Ho, Konkuk University

Analysis of Air Quality Impact of Power Mix Shift Due to Increase in Electric Vehicle Supply in Seoul Metropolitan Area (Technical Poster)

Paper # 1396426

Young Sunwoo, J. Kim, Y. Cho, D. Park, Konkuk University

Impact of Covid-19 on Air Quality of Pennsylvania (Student Poster #14)

Paper # 1434882

Alexander Schweitzer, Wilkes University

Apportioning Children's Exposure to Polycyclic Aromatic Hydrocarbons (PAHs) from Soil and Air in Memphis, Tennessee (Student Poster #17)

Paper # 1401869

Namuun Batbaatar, University of Memphis

Human Risk Assessment of Harmful Chemicals in the Beauty Industry (Student Poster #30)

Paper # 1394858

Hyunjung Kim, Korea University

Swansea Ambient Air Monitoring Station Traffic and Air Pollutant Analysis (Student Poster #34)

Paper # 1396308

Tehya Stockman, University of Colorado Boulder

Air Quality Modeling and Impact Assessment

Automated Generation of Dispersion Factor Lookup Tables for Air Toxics Risk Screening Using R and AERMOD (Technical Poster)

Paper # 1401610

Amrisha Shambra, J. Dorn, L. Shenaut, C. Watson, Abt Associates, Inc.

Modeling the Contributions of Major Sources to Atmospheric Nitrogen Deposition in the United States (Student Poster #15)

Paper # 1395029

Sharmin Akter, University of Connecticut

TECHNICAL AND STUDENT POSTERS

Climate Change — Drivers and Mitigation

Evaluating the Potential of Amine-Impregnated Silica Materials for Direct CO₂ Capture from the Ambient Air (Student Poster #5)

Paper # 1432703

Amirjavad Ahmadian Hosseini, Florida Atlantic University

Simultaneous Adsorption and Catalytic Conversion of CO₂ Using Low-Cost Waste Based Material (Student Poster #19)

Paper # 1433655

Manisha Kothari, United Arab Emirates University

A Novel Single-Process Synthesis of Ammonialized Biochar for CO₂ Capture (Student Poster #20)

Paper # 1394487

I-Lin Kuo, National Taiwan University

Dynamical Downscaling Methods Accurately Predict Heat Wave Risk in a Changing Climate (Student Poster #21)

Paper # 1401660

Leyuan Zhang, University of Tennessee

Residuals and Waste: Treatment, Reclamation, Beneficial Use, and Recycling

Per- and Polyfluoroalkyl Substances (PFAS) in Landfill Leachates: State, Factors, and Treatment (Technical Poster)

Paper # 1384615

Qiuyan Yuan, University of Manitoba

Can We Use Food Packaging Waste to Tackle Harmful Algal Blooms? (Student Poster #12)

Paper # 1434446

Ronald Desbrunes, City of Lauderdale Lakes

Selective Recovery of Gold from PCBs by Using Calcium Alginate Iron-based Metal-Organic Framework (Student Poster #22)

Paper # 1395936

Nien-Chu Wu, National Taiwan University

Optimizing Process Conditions to Maximize Organics Removal Using Activated Granular Sludge for Pulp and Paper Wastes (Student Poster #24)

Paper # 1412622

Doreen Ntiemoah-Asare, University of Texas – Arlington

Termite Hindgut Bacteria TAV5: Key to Lignocellulose Waste Decomposition (Student Poster #27)

Paper # 1435966

Hussain Ali, University of Texas – Arlington

Developing an Eco-Friendly Real-Time Food Freshness Indicator Derived from Fruit Peel Waste Extracts (Student Poster #29)

Paper # 1427693

Ying-Chen Chen, National Chung Hsing University

The Fate of PFAS in Biosolids and Biosolid Amended Compost from Two Wastewater Treatment Plants in Utah (Student Poster #35)

Paper # 1393537

Victoria Krull, Utah State University

Bioenergy

Assessing the Efficacy and Barriers to Adoption of Use of Biodiesel in Snowplow Fleets (Technical Poster)

Paper # 1387688

Shauna Hallmark, J. Dong-O'Brien, Iowa State University

Investigating the Adsorption Performance and Stability Attributes of Amine-Impregnated Silica Materials for Biogas Purification (Student Poster #7)

Paper # 1432930

Brandyn Nutter, Florida Atlantic University

Communication

TeEMs (Telecommuting Expectation Models): Predicting Post-Pandemic Telecommuting Choice and Frequency Using Machine Learning Models (Student Poster #18)

Paper # 1435886

Aiswarya Acharath Mohanakrishnan, University of Texas - Arlington

Sustainability and Resource Conservation

The Potential for Zero Solid Waste in Apparel Production (Student Poster #8)

Paper # 1394183

Maeen Md. Khairul Akter, Stony Brook University

Environmental Justice

Development of Community-Based Low-Cost Monitoring to Reduce Traffic-Related Air Pollution and Improve Environmental Justice in Tampa, Florida (Student Poster #16)

Paper # 1390524

Yonghong Luo, University of South Florida

Modeling and Analysis of Air Pollution and Environmental Justice: The Case for North Carolina's Hog Concentrated Animal Feeding Operations (Student Poster #26)

Paper # 1421311

Brandon Lewis, Yale University

Community-Based Assessment of Air Pollution in Childs Park, FL: An Exploratory Study to Investigate Persistent Odors (Student Poster #36)

Paper # 1392047

Gennaro Saliceto, University of South Florida

Holding State Agencies Accountable: The Creation of an Environmental Justice Scorecard for Maryland State Agencies (Student Poster #37)

Paper # 1376850

Vivek Ravichandran, University of Maryland School of Public Health

TECHNICAL PROGRAM HIGHLIGHTS



David Long
Technical Council Chair,
American Electric Power
Service Corporation

The technical program is the heart of every A&WMA Annual Conference and we pride ourselves on offering one of the most comprehensive conferences on environmental science. Doing this is no easy feat. It takes nearly a year of planning by the Technical Council and Technical Coordinating Committees, led this year by David Long with support from Byron Burrows, Kevin Holbrooks, and the Local Host Committee.



Byron Burrows
Technical Program
Vice Chair, TECO Energy

Each year, the program is unique and valuable, presenting new information and innovative solutions. The ACE 2023 conference theme, “Smart Growth: Balancing Development, Restoration, and Resiliency,” could not be timelier. Sessions and panels at ACE 2023 will embrace the conference theme, starting with the Opening Keynote Panel: “Sustainable By Design.” Following the Keynote, various session tracks throughout the technical program will be supportive of the conference theme, including the Mini-Symposium, plus tracks for Environmental Justice, Climate Change, Waste Management, and Sustainability. In addition, the 53rd Annual Critical Review “Environmental Sampling for Disease Surveillance:” further enhances the conference theme.

Now that you’re at ACE, take advantage of the opportunities on site to increase your knowledge with hundreds of presentations on the latest topics. Here’s a few tips to get the most out of ACE this year.

- Learn what regulations are new or being developed— Attend sessions focusing on EPA Priorities, Environmental Justice, Sustainability, Air Legislation, and Permitting.
- Learn new techniques to improve your analysis— Find information on new and developing modeling techniques, the latest updates on climate change issues, and on numerous Waste Management topics including PFAS and Biogas.
- Learn the important people in the various environmental sectors—Don’t hesitate to introduce yourselves to speakers, exhibitors, and other attendees, either in-person or through the networking feature in the App.



Kevin Holbrooks
Technical Program
Vice Chair, JEA

TECHNICAL PROGRAM TRACKS

Legend			
Tracks		Tracks	
AQCT	Air Quality - Control Technology	INDU	Power Generation, Heavy Industry, and General Manufacturing
AQES	Air Quality - Emissions Studies	MINI	Mini-Symposium: Smart Growth
AQMM	Air Quality - Measurements and Monitoring	ODOR	Odor
AQMO	Air Quality - Modeling	REGU	Regulatory and Legal
EDUC	Education	SUST	Sustainability and Resource Conservation
CLIM	Climate Change	TRAN	Transportation
EJUS	Environmental Justice	WAST	Waste Management
H&EE	Health and Environmental Effects	YPRO	Young Professionals

TECHNICAL SESSIONS – TUESDAY

Tuesday, June 6, 2023				
Time	Title	Track	Session	Room
8:30 – 10:30 am	Opening Keynote Session: Sustainable by Design		panel	Orlando Ballroom
10:30 am – 5:30 pm	Exhibit Hall Grand Opening and viewing			Exhibit Hall
10:45 am – 12:15 pm	Technical and Student Poster Session		posters	Exhibit Hall
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings			See page 19
Tuesday PM 1				
1:30 pm – 3:30 pm	EPA Priorities 2023-2024	MINI/REGU	panel	Florida B
1:30 pm – 3:30 pm	Air Pollution Control: PM, VOCs, NOx, CO, and GHGs	AQCT	platform	Plaza International J
1:30 pm – 3:30 pm	Air Sensors and Air Quality	AQMM	platform	Plaza International I
1:30 pm – 3:30 pm	Air Quality Modeling Case Studies and History	AQMO	platform	Florida C
1:30 pm – 3:30 pm	The Diversity of Environmental Training in a Multimedia and Multiprogram World	EDUC/YPRO	platform	Rainbow Spring I/II
1:30 pm – 3:30 pm	The New World of Environmental Justice in Air Permitting	EJUS/REGU	panel	Florida A
1:30 pm – 3:30 pm	Air Pollution Health Risks and NASA-Enhanced Health Communications	H&EE	platform	Plaza International K
1:30 pm – 3:30 pm	Sustainability—Analysis and Case Studies	SUST	platform	Blue Spring I/II
3:30 pm – 4:00 pm	Session Break			Exhibit Hall
Tuesday PM 2				
4:00 pm – 6:00 pm	The Evolving Landscape for Electric Power Generation in the United States	MINI/INDU	panel	Florida B
4:00 pm – 6:00 pm	Emissions and Emission Inventories	AQES	platform	Plaza International I
4:00 pm – 6:00 pm	Innovation in Air Quality Practices	AQMM/AQCT	platform	Plaza International J
4:00 pm – 6:00 pm	Understanding Environmental Justice	EJUS	platform	Florida A
4:00 pm – 6:00 pm	Risk Evaluation and Assessment Under Different Scenarios	H&EE	platform	Plaza International K
4:00 pm – 6:00 pm	International Handbook on Odor Dispersion Modeling	ODOR/AQMO	panel	Rainbow Spring I/II
4:00 pm – 6:00 pm	Towards a Sustainable Environmental Governance for an Indigenous Island, Taiwan	SUST	panel	Blue Spring I/II
4:00 pm – 6:00 pm	How Does it Work – Air Modeling Fundamentals	YPRO/AQMO	panel	Florida C

EPA Priorities 2023-2024

Track: MINI/REGU

6/6/2023, 1:30 PM

Room: Florida B

Panel – TCC: REG

Chair: Amal Agharkar, ERM

Vice Chair: Julie Hall, Weaver Consultants Group

Sponsored by:



As we pass the midpoint of the Biden administration, EPA is continuing to address regulatory and policy objectives of the administration. Stated goals include measures to address climate change, action to advance environmental justice, and continued emphasis on establishing and meeting National Ambient Air Quality Standards. Senior level EPA officials have been invited to this long-time ACE panel to present comments on EPA's current and future priorities. Other invited panel members invited include state and/or local air directors, representatives from industry, and NGOs to provide comments on these priorities.

Panelist:

- Joseph Goffman, Principal Deputy Assistant Administrator, US EPA Office of Air and Radiation
- Byron T. Burrows, Director, Environmental Services, Tampa Electric Company
- Jason Sloan, Executive Director, Association of Air Pollution Control Agencies

Air Pollution Control: PM, VOCs, NOx, CO, and GHGs

Track: AQCT

6/6/2023, 1:30 PM

Room: Plaza International J

Platform – TCC: AAC

Chair: Masoud Jahandar Lashaki, Florida Atlantic University

Vice Chair: Chuck Baukal, Oklahoma Baptist University

1:30 PM

CO₂ Capture from Ambient Air Using Amine-Impregnated Silica Materials

Paper #1394326

Amirjavad Ahmadian Hosseini, Masoud Jahandar Lashaki, Florida Atlantic University

1:50 PM

Experimental and Computational Investigations on the Mitigation of Air Pollutants Using Pulsed Radio Waves

Paper #1394850

G S N V K S N Swamy Undi, Radhica Kanniganti, Kiran Shinde, Rohit Kantikar, Devic-Earth Pvt. Ltd.

2:10 PM

Modeling the Effect of Structural Parameters of Honeycomb Adsorbents on VOC Adsorption

Paper #1396351

Sina Esfandiari Pour, Alireza Haghighat Mamaghani, Zaher Hashisho, University of Alberta; David Crompton, Hilda Arellano, James E. Anderson, Ford Motor Company

TECHNICAL SESSIONS – TUESDAY

2:30 PM

NOx and CO Reduction Through Targeted Steam Injection (PM, VOC, NOx Control Technologies)

Paper #1396013

Robert Santangeli, Jay Richardson. EES, Inc.

2:50 PM

Waste-Derived Activated Carbon Adsorbent Materials for Landfill Gas Purification

Paper #1393115

Ryan Thomas, Mitch Guirard, Masoud Jahandar Lashaki, Florida Atlantic University

3:10 PM

Tailoring Electrical Conductivity of HKUST-1 to Enhance Adsorption and Electrothermal Desorption

Paper #1394640

Sina Neshati, Zaher Hashisho, University of Alberta

Air Sensors and Air Quality

Track: AQMM

6/6/2023, 1:30 PM

Room: Plaza International I

Platform – TCC: AAM

Chair: Patrick Clark, Montrose Air Quality Services, LLC

Vice Chair: Charles Odame-Ankrah, AAM

1:30 PM

A Preliminary Monitoring Study of a University Rapid Prototyping Center

Paper #1396462

Mingming Lu, Jun Wang, Reshmesari Deevi, Alyssa Yerkeson, University of Cincinnati

1:50 PM

Analysis of Denver's Low-Cost PM_{2.5} Sensor Network

Paper #1396332

Tehya M. Stockman, Shelly Miller, University of Colorado Boulder; Brendan Lawlor, Mark McMillan, Ephraim Milton, Bill Obermann, Gregg W. Thomas, Denver Department of Public Health and Environment

2:10 PM

Continuous Sensing and Response to Fugitive Dust Emissions at an Integrated Steel Plant

Paper #1393919

Erick G. Lopes, José G. Costa, Harison Antunes, Ana C A. Bernabe, William L. Andreao, ArcelorMittal Tubarão; Luiz D. Santolim, Luiz A. Radaeli, Adalberto J. Mathias, Luiz A. Kohler, EcoSoft Solucoes Ambientais; Judith C. Chow, Xiaoliang Wang, John G. Watson, Desert Research Institute

2:30 PM

Data Review and Validation of Continuous Non-FEM Particulate Data

Paper #1393699

Jodi Lee, Jacobs Engineering

2:50 PM

Application of Continuous Monitoring Technologies in the Detection, Localization, and Quantification of Methane Emissions

Paper #1395332

Ali Lashgari, Project Canary, PBC

3:10 PM

On Line Monitoring of Odor Unit Emissions and Odor Sources Identification by Using a New Generation of Analyzers

Paper #1391775

Jean-Christophe E. Mifsud, Horacio E. Werner, Ellona

Air Quality Modeling Case Studies and History

Track: AQMO

6/6/2023, 1:30 PM

Room: Florida C

Platform – TCC: APM

Chair: David J. Long, American Electric Power Service Corp.

Vice Chair: Abhishek Bhat, Ramboll

1:30 PM

Lessons Learned in Presenting Modeling Results to Non-Modelers

Paper #1394890

William Jones, Blue Sky Modeling

1:50 PM

Case Study: Modeling Source Culpability to Ambient Monitored Concentrations Without Actual Emissions

Paper #1394893

William Jones, Blue Sky Modeling

2:10 PM

Comparison of Modeled Design Concentrations by Using Prognostic Meteorological Data versus NWS Meteorological Data in Arizona

Paper #1395532

Feng Mao, Balaji Vaidyanathan, Jeff Christensen, Arizona Department of Environmental Quality

2:30 PM

AERMOD GRSM Beta Option Case Study

Paper #1396028

Tony Schroeder, Brian Otten, Trinity Consultants

2:50 PM

Case Study on Flare Emissions Event Modeling with AERMOD – Different Levels of Efforts and an AERMOD Improvement Idea

Paper #1396143

Qi Zhang, GHD

3:10 PM

Permit Dispersion Modeling: Today vs. the Early 1980's

Paper #1396964

George J. Schewe, Trinity Consultants

TECHNICAL SESSIONS – TUESDAY

The Diversity of Environmental Training in a Multimedia and Multiprogram World

Track: EDUC/YPRO

6/6/2023, 1:30 PM

Room: Rainbow Spring I/II

Platform – TCC: EDC

Chair: Jennifer Tullier, Spirit Environmental

Vice Chair: Karen Brignac, Deltech Monomers OpCo, LLC

Vice Chair: R. Ryan Dupont, Utah State University

1:30 PM

A Model Water Desalination Course for Environmental Scientists and Engineers

Paper #1390196

R. Ryan Dupont, Utah State University; Kumar Ganesan, Montana Tech, The University of Montana; Lou Theodore, Theodore Tutorials

1:50 PM

How to Read a Reg

Paper #1402445

Karen Brignac, Deltech Monomers OpCo, LLC

2:35 PM

Toxic Release Inventory (TRI) Basic Reporting Elements

Paper #1375937

Jennifer Tullier, Spirit Environmental

The New World of Environmental Justice in Air Permitting

Track: EJUS/REGU

6/6/2023, 1:30 PM

Room: Florida A

Panel – TCC: EJS/REG

Chair: Sergio Guerra, Colorado Department of Public Health and Environment

Vice Chair: Nicholas Dummer, Colorado Department of Public Health and Environment

There is a new lens on Environmental Justice considerations related to air permitting. The US EPA Office of External Civil Rights Compliance (OECRC) will be reviewing whether state agencies are implementing the procedural safeguards that all recipients of federal assistance must have in place, in accordance with 40 C.F.R. Parts 5 and 7, to comply with their general nondiscrimination obligations. These obligations also include specific policies and procedures to ensure meaningful access to CDPHE's services, programs, and activities for individuals with limited English proficiency (LEP) and individuals with disabilities, and a public participation policy and process that is consistent, including as implemented, with the federal civil rights laws. This panel will explore the different ways in which Title VI considerations are impacting the air permitting process.

Panelists:

- *Michael Ogletree, Colorado Department of Public Health and Environment*
- *Frank Steitz, New Jersey Department of Environmental Protection*
- *Chris Whitehead, Enviro-Sciences*
- *John D. Kinsman, Edison Electric Institute*

Air Pollution Health Risks and NASA-Enhanced Health Communications

Track: H&EE

6/6/2023, 1:30 PM

Room: Plaza International K

Platform – TCC: HEE

Chair: James Morrow, J.W. Morrow Consulting

Vice Chair: David McCready, EnviroCalc Consulting

1:30 PM

Analysis of Tropospheric Ozone Levels in Chile and Its Possible Origin

Paper #1392645

Valeria P. Campos, Luis A. Díaz-Robles, Isidora Gonzalez, Fidel E. Vallejo, Universidad de Santiago de Chile; Francisco Cereceda-Balic, Ximena Fadic, Tomás Bolaño, Universidad Técnica Federico Santa María

1:50 PM

Passive Air Sampling of Gaseous Elemental Mercury in Ulsan, South Korea: Spatial-Seasonal Variations, Source Identification, and Health Risk

Paper #1391059

In-Gyu Cho, Min-Jae Jo, Sung-Deuk Choi, Ulsan National Institute of Science and Technology; Sae Yun Kwon, Pohang University of Science and Technology; Dong-Woon Hwang, Jae-Hyun Lim, National Institute of Fisheries Science

2:10 PM

Worst Wildfire Smoke Impacts Ever on Oregon Communities in September 2020

Paper #1402583

Merlyn L. Hough, University of Portland; Margaret Miller, Oregon Department of Environmental Quality

2:30 PM

Using NASA Satellite Data to Enhance Environmental Health Communication and Collaborations

Paper #2327379

Helena J. Chapman, Laura M. Judd, John A. Haynes, NASA

Sustainability—Analysis and Case Studies

Track: SUST

6/6/2023, 1:30 PM

Room: Blue Spring I/II

Platform – TCC: SRC

Chair: Ketan Shah, SCS Engineers

Vice Chair: Georges Bou-Saab, Texas A&M Transportation Institute

1:30 PM

Value of Life Cycle Assessments for Establishing Net Environmental Benefits

Paper #1461001

Paresh Thanawala, 2020 Environmental Solutions

TECHNICAL SESSIONS – TUESDAY

1:50 PM

A Transition from Monocropping to 14 Different Ecologically Sustainable Agriculture Systems with the Most Useful Secondary Uses and Resource Conservations

Paper #1395597

Sera Lee, Stony Brook University

2:10 PM

Single Use Plastic Bottle Emissions Using Life Cycle Assessment for the States: Challenges, Impact, and Recommendations

Paper #1381346

Ketan Shah, SCS Engineers

2:30 PM

Systems Thinking for Smart Growth at the San Diego International Airport

Paper #1396251

Ben Chandler, Haley & Aldrich, Inc.

2:50 PM

Absorption of Phosphate Using Spent Coffee Grounds Biochar

Paper #1396448

Mingming Lu, Omer Aloraimi, University of Cincinnati; Maggie Zhu, Ecosil

3:10 PM

Will the Marriage of Portland Limestone Cement with Calcined Clay Foster Sustainable Concrete, Less CO₂, and Require Less Energy?

Paper #1391601

Alvaro A. Linero, Linero Concrete Concepts; Sofia Sanchez-Berriel, Central University of Las Villas

The Evolving Landscape for Electric Power Generation in the United States

Track: MINI/INDU

6/6/2023, 4:00 PM

Room: Florida B

Panel – TCC: PWR

Chair: John D. Kinsman, Edison Electric Institute

Vice Chair: Byron T. Burrows, Tampa Electric Company

The U.S. electric energy industry is leading the way on clean energy. Nearly 40 percent of the energy mix in 2020 was carbon-free. Most electric energy companies have greenhouse gas reduction goals of 50 percent by 2030 and 80 percent by 2050 (compared to 2005). National electric power emissions of sulfur dioxide and mercury have been reduced by 95 percent since 1990 and nitrogen oxides almost 90 percent. The cleaner electric fleet provides the opportunity for electric transportation to improve air quality and reduce emissions related to climate change. The industry is working toward cleaner use of natural gas, zero-carbon fuels, such as hydrogen or ammonia, as well as advanced renewables, nuclear energy (both fission and fusion), carbon capture, demand efficiency and long-duration storage, as well as modernizing the grid to make it more dynamic, resilient, and secure. This panel will address national and company-specific accomplishments, plans, and trends.

Panelists:

- *Kevin Holbrooks, JEA*
- *James Walker, Consumers Energy*

Emissions and Emission Inventories

Track: AQES

6/6/2023, 4:00 PM

Room: Plaza International I

Platform – TCC: AAE

Chair: Shamia Hoque, University of South Carolina

Vice Chair: Chun Yi Wu, Minnesota Public Control Agency, retired

4:00 PM

New Method for Measuring Toxic Metals in Ambient Air and Emissions

Paper #1377318

Jonathan Cross, Ohio Lumex Co., Inc.

4:20 PM

Tracking Volatile Organic Compound Emissions from Volatile Chemical Products as Part of Canada's Air Pollutant Emission Inventory

Paper #1400688

Brittany G. Sullivan, Duane Smith, ECCC

4:40 PM

An Investigation of the Temporal Variability in Methane Emission Rate from Orphaned Oil and Gas Wells

Paper #1396180

Natalie J. Pekney, National Energy Technology Laboratory; Matthew D. Reeder, V. Raghava Gorantla, Leidos - NETL

5:00 PM

Global Trends in Research on Air Contaminants Emissions from Agricultural Activities

Paper #1456721

Angela Trivino, Vijaya Raghavan, McGill University; Joahnn Palacios; Patrick Brassard; Stéphane Godbout. Research and Development Institute for the Agri-Environment

5:20 PM

Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the U.S.

Paper #1490569

Luke Hellgren, ERM

Innovation in Air Quality Practices

Track: AQMM/AQCT

6/6/2023, 4:00 PM

Room: Plaza International J

Platform – TCC: AAC/AAM

Chair: Praveen Srirama, NMED

Vice Chair: Juan Carlos C. Ramirez-Dorronsoro, Marietta College

TECHNICAL SESSIONS – TUESDAY

4:00 PM

A Novel Breath-Taking Hood for COVID-19

Paper #1388680

Chih-Chieh Chen, Hsiao-Chi Cheng, Chih-Wei Lin, Sheng-Hsiu Huang, Chih-Chieh Chen, National Taiwan University; Yu-mei Kuo, Chung Hwa University of Medical Technology

4:20 PM

Conversion of Plastic Waste to Activated Carbon Materials for Biogas Purification

Paper #1394290

Mitch Guirard, Ryan Thomas, Masoud Jahandar Lashaki, Florida Atlantic University

4:40 PM

Development of Passive Sampler for Monitoring Ozone Exposure in Workplaces

Paper #1395552

Ji Hoon Seo, Jong Ryeul Sohn, Korea University

5:00 PM

Air Cleaning Performance Evaluation of Cleaning Robots

Paper #1395696

Siang-Kai Jhan, Chih-Wei Lin, Sheng-Hsiu Huang, Chih-Chieh Chen, National Taiwan University

5:20 PM

Monitoring of Ethylene Oxide Levels in Indoor and Ambient Air

Paper #1395362

Gregor Lucic, Karsten Baumann, Jonathan Bent, Picarro Inc.

5:40 PM

The Research of Alternative Technology for Mercury Capture in Flue Gas After Fossil and Alternative Fuels Combustion

Paper #1394468

Lukas Pilar, Czech Technical University in Prague; Oldrich Suldoovsky, ACS International s. r. o.; Karel Borovec, Zdenek Neufinger, VSB – Technical University of Ostrava

Understanding Environmental Justice

Track: EJUS

6/6/2023, 4:00 PM

Room: Florida A

Platform – TCC: EJS

Chair: David J. Long, American Electric Power Service Corp.

Vice Chair: Andrew Horwath, Civil & Environmental Consultants, Inc.

4:00 PM

Environmental Justice: A Practitioner's Perspective

Paper #1397977

Leo Lentsch, Civil & Environmental Consultants, Inc.

4:20 PM

Environmental Justice —Impact on Permitting Across the United States

Paper #1401479

Julie Hall, Weaver Consultants Group; Dale Papajcik, Squire Patton Boggs, LLP

4:40 PM

Integrating Environmental Justice Considerations into Business Strategy

Paper #1414224

Dawn Santoianni, Joanna Sebik, Samantha Fisher, Michaela Bevilard, Katie Haskins, Haley & Aldrich, Inc.

5:00 PM

Industrial Odors in the Age of Environmental Justice

Paper #1395945

Jarod Gregory, Angie Wanger, Trinity Consultants

5:20 PM

Incorporating Environmental Justice into Business Practices

Paper #1490849

Renee Hoyos, Liz Valsamidis, ERM

Risk Evaluation and Assessment Under Different Scenarios

Track: H&EE

6/6/2023, 4:00 PM

Room: Plaza International K

Platform – TCC: RAM

Chair: Harish G. Rao, RCS

4:00 PM

A Climate Change Risk Assessment Case Study

Paper #1399884

Kristian A. Macoskey, Adam T. Conti, Civil & Environmental Consultants, Inc.

4:20 PM

Evaluating Exposure and Risk in Communities with EJ Concerns: Uses and Limitations of Publicly Available Geographic Information System (GIS)-Based Tools

Paper #1396253

Naomi Slagowski, Julie Lemay, Ari Lewis, Gradient

4:40 PM

The Challenges in Assessing Health Risks in Data Center Permitting

Paper #1396484

Heidi Rous, Noemi Wyss, Kimley-Horn and Associates

5:00 PM

Assessment of PFAS Vapor Intrusion Risk – Site Assessment Techniques and Strategies

Paper #1393949

Elsy A. Escobar, Christopher C. Lutes, Jacobs; Heidi Hayes, Eurofins Air Toxics, LLC; Brian Schumacher, Alan Williams, John H. Zimmerman, Jr., US EPA ORD; Rohit Warrier, RTI

5:20 PM

Finding a Needle in a Haystack: Analysis of Volatile PFAS in Air Samples Using TD-GC-MS/MS

Paper #1395793

Hannah Calder, Ericka Hackmeister, Laura Miles, Markes International Ltd.

TECHNICAL SESSIONS – TUESDAY

5:40 PM

The Challenges of Enacting Ethylene Oxide Regulations

Paper #1434822

Tingting Jiang, Geosyntec Consultants

International Handbook on Odor Dispersion Modeling

Track: ODOR/AQMO

6/6/2023, 4:00 PM

Room: Rainbow Spring I/II

Panel – TCC: ODR/APM

Chair: Raymond C. Porter, Porter Odor Science

Vice Chair: Phyllis G. Diosey, Hazen and Sawyer

The first draft of the International Handbook on Odour Dispersion Modelling has been prepared and is under technical review. By the time of ACE, it is expected that all the technical edits will be complete and preparation for publication will be underway. This publication is the combined work of more than 60 international odour experts from 19 countries. The handbook covers 6 major topics including definitions and references, meteorology, emissions and source characterization, dispersion models and algorithms, dose response, and reporting. Authors contributing to this publication will discuss the preparation of the handbook and the consensus that led to the handbook production.

Panelist:

- *Angie Wagner, Trinity Consultants*

Towards a Sustainable Environmental Governance for an Indigenous Island, Taiwan

Track: SUST

6/6/2023, 4:00 PM

Room: Blue Spring I/II

Panel – TCC: SUS

Chair: Ming-Chien Su, National Dong Hwa University

Vice Chair: Awi Mona, National Dong Hwa University

Pananadengan is the “backrest stone” in front of the main house in the traditional home of the Tao people. “Backrest Stone” is a symbol of “good living, healthy ecology” on the island, and “sit down and talk first” is the spirit. In the past, Orchid Island was concerned about nuclear waste storage; however, fast-growing tourism has brought excessive consumption of resources, environmental and ecological pressure, water pollution, garbage, and land justice situations. This research aims to promote the SDGs in Orchid Island by making environmental governance networks through the ecological, environmental, and social aspects to develop Taiwan’s commitment to sustainable development goals. This project is the first trans-disciplinary research (TDR) toward sustainability on a small island. As such, the panel presents the preliminary results of joint research projects on establishing environmental governance networks focusing on carbon neutrality, resource circulation, environmental and ecological preservation, land governance, and communication strategy.

Panelists:

- *Ming-Chien Su, National Dong Hwa University*
- *Richard C. Kammayani, National Dong Hwa University*
- *Yu-Chao Huang, National Dong Hwa University*
- *Awi Mona, National Dong Hwa University*

How Does it Work? Air Modeling Fundamentals

Track: YPRO/AQMO

6/6/2023, 4:00 PM

Room: Florida C

Panel – TCC: YPAC/APM

Chair: Maria (Gaby) Saavedra, Montrose Environmental Solutions

Atmospheric dispersion modeling is a useful skill for understanding how air pollutants disperse in the atmosphere in different environments and atmospheres. This panel will provide students and young professionals with a basic knowledge of air dispersion modeling, the different models available, and tips and best practices to help determine how and when modeling can be useful and necessary. This panel is Part 1 of the “How Does It Work? Air Modeling” session. The panelists will include representatives from industries who use modeling at their workplace for various projects. The panel will conclude with open discussions and Q&A which will provide students and YPs the opportunity to interact with the panel members. This is a great introductory panel presentation for all attendees but is focused on reaching the student/young professional attendee.

Panelists:

- *Qi Zhang, GHD*
- *Sam Najmolhoda, Trinity Consultants*
- *Stephanie Taylor, SCS Engineers*
- *Abhishek Bhat, Ramboll*
- *Robynn Andracssek, Providence Engineering and Environmental Group LLC*

TECHNICAL SESSIONS – WEDNESDAY

Wednesday, June 7, 2023				
Time	Title	Track	Session	Room
Wednesday AM1				
8:00 am – 9:40 am	Environmental Justice Is Coming to a State Near You	MINI/EJUS	panel	Florida B
8:00 am – 9:40 am	International Air Quality Studies and Challenges	AQMM	platform	Plaza International J
8:00 am – 9:40 am	Building Downwash in Air Quality Modeling	AQMO	platform	Florida C
8:00 am – 9:40 am	Advanced Power Generation Options	INDU	platform/ panel	Rainbow Spring I/II
8:00 am – 9:40 am	What's Happening at the Federal Level?	REGU	platform	Plaza International I
8:00 am – 9:40 am	PM2.5 and Ozone Implementation Issues	REGU	panel	Plaza International K
8:00 am – 9:40 am	Sustainability and the ESG Tsunami - Metrics, Mandates, and Methods	SUST	panel	Blue Spring I/II
9:40 am – 10:10 am	Session Break			Exhibit Hall
Wednesday AM 2				
10:10 am – 11:50 am	Circular Economy: Actions and Progress	MINI/SUST	panel	Florida B
10:10 am – 11:50 am	Challenges in Modeling Data Centers	AQMO	panel	Florida A
10:10 am – 11:50 am	Climate Change: Industrial Reporting and Impacts	CLIM	platform	Plaza International I
10:10 am – 11:50 am	Hot Topics in the Chemical and Refining Sector	INDU	platform	Plaza International J
10:10 am – 11:50 am	Vehicle Emissions	TRAN	platform	Rainbow Spring I/II
10:10 am – 11:50 am	Solid Waste Management Systems	WAST	platform	Blue Spring I/II
10:10 am – 11:50 am	How Does it Work? The Hydrogen Rainbow	YPRO/INDU	panel	Florida C
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings			See page 19
Wednesday PM 1				
1:30 pm – 3:10 pm	Integrating Satellite Observations into Air Quality Decision Making	MINI/H&EE	panel	Florida B
1:30 pm – 3:10 pm	Implications from the Updated PM2.5 NAAQS	AQMO/REGU	panel	Plaza International J
1:30 pm – 3:10 pm	Climate Change: Science to Policy	CLIM	platform	Plaza International I
1:30 pm – 3:10 pm	Enhancing Environmental Justice Analysis through Data Technologies	EJUS/AQMM	platform	Florida A
1:30 pm – 3:10 pm	Smart Growth & Transportation Planning	TRAN/LH	platform	Rainbow Spring I/II
1:30 pm – 3:10 pm	Site Assessment, Remediation, and Vapor Intrusion	WAST	platform	Blue Spring I/II
1:30 pm – 3:10 pm	How Does It Work? Quantifying ESG	YPRO/SUST	panel	Florida C
Wednesday PM 2				
3:30 pm – 5:30 pm	Air Regulatory and Policy Developments and Impacts on Permitting Activities	MINI/REGU	panel	Florida B
3:30 pm – 5:30 pm	Air Quality Studies and Challenges Part 1	AQMM	platform	Plaza International J
3:30 pm – 5:30 pm	Climate Change: Measurement and Analysis	CLIM	platform	Plaza International I
3:30 pm – 5:30 pm	Defining Environmental Externalities in a Changing Energy Landscape	EJUS/INDU	panel	Florida A
3:30 pm – 5:30 pm	Organizational Approaches to Sustainability	SUST	platform	Plaza International K
3:30 pm – 5:30 pm	Electric Vehicles and Alternative Fuels	TRAN	platform	Rainbow Spring I/II
3:30 pm – 5:30 pm	PFAS in Landfill and Wastewater Systems	WAST	platform	Blue Spring I/II
3:30 pm – 5:30 pm	How Does It Work? Air Modeling in Action—Case Studies and Real-Life Applications	YPRO/AQMO	panel	Florida C

TECHNICAL PROGRAM TRACKS

Legend			
Tracks		Tracks	
AQCT	Air Quality - Control Technology	INDU	Power Generation, Heavy Industry, and General Manufacturing
AQES	Air Quality - Emissions Studies	MINI	Mini-Symposium: Smart Growth
AQMM	Air Quality - Measurements and Monitoring	ODOR	Odor
AQMO	Air Quality - Modeling	REGU	Regulatory and Legal
EDUC	Education	SUST	Sustainability and Resource Conservation
CLIM	Climate Change	TRAN	Transportation
EJUS	Environmental Justice	WAST	Waste Management
H&EE	Health and Environmental Effects	YPRO	Young Professionals

TECHNICAL SESSIONS – WEDNESDAY

Environmental Justice Is Coming to a State Near You

Track: MINI/EJUS
6/7/2023, 8:00 AM
Room: Florida B

Panel– TCC: CCP

Chair: Tiffany Medley, Tetra Tech

Vice Chair: Lysa G. Modica, Tetra Tech

Ensuring Environmental Justice (EJ) in low-income, minority, and other vulnerable communities has become a top priority concern of federal and state governments. Many states, especially in the Northeast and Midwest, are developing their own EJ frameworks, have proposed regulations incorporating EJ into permitting programs, or have already established policies concerning environmental justice review. Panel speakers include consultants, legal, and industry professionals who will present their individual knowledge and experience in the development of and compliance with EJ rules, policies, or regulations in various states. The latest developments, differences, and commonalities found in state EJ initiatives, rules, and regulations presented will be discussed, along with best practices for community engagement and the impacts EJ rules have on the process for obtaining environmental permits.

Panelists:

- Lysa G. Modica, Tetra Tech
- Jack Bernardino, Covanta
- Kendra Sherman, Squire Patton Boggs
- Jeffrey R. Harrington, Tetra Tech

International Air Quality Studies and Challenges

Track: AQMM
6/7/2023, 8:00 AM
Room: Plaza International J

Platform – TCC: AAM

Chair: Charles Odame-Ankrah, AAM

Vice Chair: Patrick Clark, Montrose Air Quality Services, LLC

8:00 AM

Chemical Characteristics and Source Resolution of PM_{2.5} in an East Asian Industrial Harbor Based on Regular Measurement Data

Paper #1392667

Yu-Lun Tsenng, I-Chieh Du, Kwok-Wai Wong, Po-Hsuan Yen, Chung-Shin Yuan, National Sun Yat-sen University; Chitsan Lin, National Kaohsiung University of Science and Technology

8:20 AM

Evaluation and Variation of Water-Soluble Ions Present in PM_{2.5} Particles from Two Sites in Mexico City

Paper #1396425

Fernando Millán Vázquez, Sr., José de Jesús Figueroa Lara, Brenda Liz Valle-Hernandez, Violeta Mugica Álvarez, Universidad Autónoma Metropolitana Azcapotzalco; Rodolfo Sosa-Echeverria, Ana Luisa Alarcón Jiménez, Universidad Nacional Autónoma de México

8:40 AM

Determination of Polycyclic Aromatic Hydrocarbons and Organic Carbon, Elemental Carbon in PM_{2.5} Collected in Mexico City

Paper #1396418

Fernando Millán Vázquez, Sr., Brenda Liz Valle-Hernández, Violeta Mugica Álvarez, Miguel Torres Rodríguez, Mirella Gutiérrez Arsaluz, Universidad Autónoma Metropolitana Azcapotzalco

9:00 AM

Wet Atmospheric Deposition Ratios as Indicators of Atmospheric Pollution in Different Regions of México

Paper #1393754

Rodolfo Sosa-Echeverria, Ana Luisa Alarcón Jiménez, Pablo Sanchez Alvarez, Gilberto Fuentes Garcia, Elizabeth Vega, Universidad Nacional Autónoma de México (UNAM); Monica Jaimes Palomera, Secretaría de Medioambiente de la Ciudad de México; David Gay, National Atmospheric Deposition Program; John Walker, US EPA

9:20 AM

Air Compliance Issues in Latin America: Preliminary Results

Paper # 1418589

Juan Carlos Ramirez-Dorronsoro, Marietta College

Building Downwash in Air Quality Modeling

Track: AQMO
6/7/2023, 8:00 AM
Room: Florida C

Platform – TCC: APM

Chair: George J. Schewe, Trinity Consultants

Vice Chair: Tony Schroeder, Trinity Consultants

8:00 AM

Building Downwash Case Study with EPA's Draft BPIPPRM Tool

Paper #1396260

Brian Otten, Tony Schroeder, Trinity Consultants

8:20 AM

Changes in AERMOD Concentrations Due to Different Building Downwash Representations in BPIPPRM

Paper #1371342

Leslie Fifita, Providence Engineering

8:40 AM

Equivalent Building Dimensions of a Tall Narrow and Porous Structure

Paper #1396395

Michelle Seguin, Martin Gauthier, Brian Sulley, Mike Craig, RWDI; Niko Veriotes, Lafarge Canada

9:00 AM

Evaluation of AERMOD Dispersion and Wake Computations Versus Wind Tunnel and Balco, OK Field Observations

Paper #1398865

Ron L. Petersen, Petersen Research and Consulting; James Paumier, Consultant; John J. Carter, CPP, Inc.

TECHNICAL SESSIONS – WEDNESDAY

9:20 AM

Upgrading Air Quality Regulatory Models Using Wind Tunnel Experiments

Paper #1398788

Ron L. Petersen, Petersen Research and Consulting; James Paumier, Consultant; John J. Carter, CPP, Inc.

Advanced Power Generation Options

Track: INDU

6/7/2023, 8:00 AM

Room: Rainbow Spring I/II

Platform – TCC: PWR

Chair: Kaitlyn Watkins, NextEra Energy Resources

Vice Chair: John D. Kinsman, Edison Electric Institute

This session will begin with two presentations followed by a panel discussion with the two presenters joined by additional panelists shown below, and the session Chair and Vice Chair as panel moderators. The panelists will discuss current advances in power generation options and projects that are in the works related to the introduction of hydrogen as a fuel.

8:00 AM

Hydrogen Combustion: An Alternative Fuel Overview and System Design Considerations

Paper #1395977

Robert Santangeli, Justin Patrick, EES, Inc.

8:20 AM

Path to Net Zero: Comparing Renewable Natural Gas, Hydrogen, and Carbon Capture Technologies for Cogeneration Plants

Paper #1394165

Jeff P. Baldino, Connor Carroll, Jenna McCaffrey, EcoCira, Inc.

8:40 AM

Panel Discussion on Advanced Power Generation Options

Panelists:

- Jordan Haywood, Siemens Energy
- Bobby Noble, Electric Power Research Institute
- Sara Head, Yorke Engineering, LLC

PM2.5 and Ozone Implementation Issues

Track: REGU

6/7/2023, 8:00 AM

Room: Plaza International K

Panel – TCC: GOV

Chair: Sean Alteri, Nucor Corporation

Recently, EPA proposed revisions to the PM2.5 National Ambient Air Quality Standards (NAAQS) and is considering revising the Ozone NAAQS. Revising the standards will have significant impacts on state air quality agencies and regulated industries. State agencies must develop State Implementation Plans, which include the permitting and air quality modeling analyses to demonstrate compliance with the NAAQS. Technical challenges remain regarding determining the best available control technologies (BACT) and ambient air quality modeling for PM2.5 emissions evaluations. The panel experts will detail recent policy and regulatory developments regarding PM2.5 and ozone modeling impacts, area designations, and New Source Review issues related to the revised standards.

Panelists:

- Eric L. Hiser, Hiser Joy
- Dave M. Flannery, Steptoe & Johnson PLLC
- Gregory Stella, Alpine Geophysics, LLC

What's Happening at the Federal Level?

Track: REGU

6/7/2023, 8:00 AM

Room: Plaza International I

Platform – TCC: GOV

Chair: Roger L. Wayson, AECOM

Vice Chair: Melissa Cary, Jacobs Engineering Group

8:00 AM

Assessing the Impact of Agricultural Emission on U.S. National Park Air Quality

Paper #1402520

Bret A. Schichtel, Michael Barna, John Vimont, National Park Service; Gustavo Cuchiara, Jennifer L. Hand, Colorado State University

8:20 AM

The Presence of PFAS within the Fire Suppression System – A Case Study at Air Force Industrial Plant

Paper #1394880

Morris E. Demitry, US Air Force

8:40 AM

Clean Air Act: Major Successes & Shortcomings in Its First 50 Years, including Oregon Implementation Examples

Paper #1402495

Merlyn L. Hough, University of Portland, Environmental Engineering & Science

9:00 AM

A Tiered Option Approach to Preparing a Best Available Control Technology (BACT) Analysis for NSR Air Quality Permitting

Paper #1379475

Gary Huitsing, Washington State Department of Ecology Air Quality Program

Sustainability and the ESG Tsunami – Metrics, Mandates, and Methods

Track: SUST

6/7/2023, 8:00 AM

Room: Blue Spring I/II

Panel – TCC: SUS

Chair: Raghavan (Ram) Ramanan, Copperwire Inc.

Vice Chair: Kerry A. Weichsel, Iconic Air

This panel will present an in-depth discussion of the key elements of ESG, the metrics, mandates, and methods.

Panelists:

- Raghavan (Ram) Ramanan, Copperwire Inc.
- Kerry A. Weichsel, Iconic Air
- Ana G. Ossers, AECOM

TECHNICAL SESSIONS – WEDNESDAY

Circular Economy: Actions and Progress

Track: MINI/SUST
6/7/2023, 10:10 AM
Room: Florida B

Panel – TCC: SRC

Chair: Chih C. Chao, Cantech Environmental Services

Vice Chair: Mingming Lu, University of Cincinnati

To achieve sustainability and net zero goals, industries and municipalities worldwide are actively planning and implementing circular economy systems. Successful cases and associated benefits are many, particularly with respect to reducing carbon emissions, conserving materials and energy, and stimulating green business. Nevertheless, challenges exist which require a concerted effort among partners to tackle, such as resolving regulatory barriers, solidifying beneficial partnerships, creating high values, and enhancing market acceptability. This panel will showcase exemplary practices of various sectors where actions have been taken and progress has been made. Panelists will share their approaches and experiences in plans and programs and illustrate the benefits of economic gains and carbon emission reductions. Barriers, challenges, and ways of resolution will also be discussed. Presentations will be followed by interactive discussions among panelists and participants, to stimulate further thoughts on circular economy advancements, aiming to help achieve carbon neutrality goals.

Panelists:

- Heidi Sanborn, National Stewardship Actions
- Cissy Ma, US EPA
- Jo-Shu Chang, Tunghai University
- Jean Lavoie, Rio Tinto Aluminum

Challenges in Modeling Data Centers

Track: AQMO
6/7/2023, 10:10 AM
Room: Florida A

Panel – TCC: APM

Chair: Abhishek Bhat, Ramboll

Vice Chair: Tony Schroeder, Trinity Consultants

As demand for data storage and web services grows, there has been an exponential increase in the number of data centers being built across the country. These data centers pose unique modeling challenges due to the many emergency generators that are necessary for backup power in case of power disruptions. This is compounded with current conservative assumptions in AERMOD used to evaluate NO₂ impacts. This panel will illustrate the unique challenges posed by these types of facilities and the way that different states address these sources.

Panelists:

- Michael Ring, Ramboll
- Robynn Andracssek, Providence Engineering and Environmental Group LLC
- Sam Najmolhoda, Trinity Consultants

Climate Change: Industrial Reporting and Impacts

Track: CLIM
6/7/2023, 10:10 AM
Room: Plaza International I

Platform – TCC: CCP

Chair: Michael Conrardy, ERM

Vice Chair: Joshua S. Fu, University of Tennessee

10:10 AM

Role of Enterprise Resource Planning (ERP) Systems in Carbon Data Management

Paper #1395891

Amal Agharkar, ERM; Julie Hall, Weaver Consultants Group

10:30 AM

Fitting Environmental Response Actions Into Sustainability Reporting Frameworks

Paper #1403750

Andrew Horwath, Civil & Environmental Consultants, Inc.

10:50 AM

JBLE-Langley Case Study: Increasing Adaptive Capacity Through Natural and Engineered Solutions

Paper #1396086

Brian Wellington, NewFields

11:10 AM

Small Changes - Big Impacts: Sustainability and Climate Change in the Solid Waste Industry

Paper #1395367

Julie Hall, Kate Howe, Weaver Consultants Group

11:30 AM

Using AI to Optimize Operations & Minimize GHG Emissions

Paper #1490343

Chris Ayres, OPEX (an ERM Group Company); Aykut Yanik, ERM

Hot Topics in the Chemical and Refining Sector

Track: INDU
6/7/2023, 10:10 AM
Room: Plaza International J

Platform – TCC: PIM

Chair: Karen Brignac, Deltech Monomers OpCo, LLC

10:10 AM

Preparing for an EPA RCRA Inspection

Paper #1402478

Karen Brignac, Deltech Monomers OpCo, LLC

10:30 AM

Taking the Leap – Chemical Data Reporting for 2024

Paper #1392843

Loree J. Fields, Agatha Sajo, AECOM

TECHNICAL SESSIONS – WEDNESDAY

10:50 AM

Know Your River

Paper #1395428

Lindsay Wallace, Rosco Peters, NewFields; Tonya Bonitabus, Savannah Riverkeeper

11:10 AM

Mineralization of Glyphosate by Pd@BiVO₄/BiOBr Nanocomposite Heterojunction Photocatalyst

Paper #1393790

Gbemisola J. Bamiduro, Elsayed M. Zahran, Ball State University

11:30 AM

The Use of Ultrasonics to Control Algae in Industrial Wastewater

Paper #1461002

Greg Eiffert, LG Sonic B.V.

Vehicle Emissions

Track: TRAN

6/7/2023, 10:10 AM

Room: Rainbow Spring I/II

Platform – TCC: OMS

Chair: George Noel, Federal Highway Administration Resource Center

Vice Chair: Robert C. Mentzer, Jr., HMMH

10:10 AM

Evaluating the Effects of Crashes by Severity on Carbon Emissions by Different Roadway Types

Paper #1411459

Georges Bou-Saab, Ben Ettelman, Rohit Jaikumar, Texas A&M Transportation Institute

10:30 AM

Whose Emissions Are You Breathing? Evaluating the Contributions of Urban, Suburban and Rural Households to Mobile Source Emission Exposure

Paper #1396205

Mitchell Robinson, Gregory Rowangould, University of Vermont; Mohammad Tayarani, CARB/Cornell University

10:50 AM

Development and Application of TELECOM (Telecommuting Effects on Levels of Emission and Community Mobility) Framework

Paper #1395588

Aiswarya Acharath Mohanakrishnan, Victoria C. P Chen, Kate Hyun, Melanie L. Sattler, The University of Texas at Arlington

11:10 AM

Identification of Best Practices for Calibrating Portable Devices for Simultaneous In-Vehicle and Out-Vehicle Measurements

Paper #1398128

Sailaja Eluri, North Carolina State University; Christopher H. Frey, US EPA

11:30 AM

Carbon Dioxide Emissions from Four Real World Inter-City Passenger Trips: A Comparison of Rail, Air, and Road Travel Modes

Paper #1399479

Matthew Simon, Anjulee Mittelman, Gina Solman, Scott Gilman, Olivia Henning, Abigail Raymond, Rebecca Blatnica, U.S. Department of Transportation, Volpe National Transportation Systems Center; Andrea Martin, Michael Johnsen, U.S. Federal Railroad Administration

Solid Waste Management Systems

Track: WAST

6/7/2023, 10:10 AM

Room: Blue Spring I/II

Platform – TCC: WMB

Chair: David Greene, SCS Engineers

Vice Chair: Christopher C. Lutes, Jacobs

10:10 AM

Solar Panel Recycling: How Do You Provide Environmental Compliance Services for a New Industry?

Paper #1375122

Jon W. Greene, David Robinson, Civil & Environmental Consultants, Inc.

10:30 AM

A New Insight into the Selective Platinum and Palladium Adsorption Behavior of Polyamide 6

Paper #1392608

Che-Jung Hsu, Yi-An Chiang, Adrienne Chung, Hsing-Cheng His, National Taiwan University

10:50 AM

Decision Support Tool Process Module for Municipal Solid Waste Collection and Transportation for Developing Countries

Paper #1381344

Ketan Shah, SCS Engineers; Melanie L. Sattler, The University of Texas at Arlington

11:10 AM

Developing Solar Power on Closed Disposal Facilities

Paper #1393868

Abigail Pollack, BQ Energy, Rick J. Bufalini, Civil & Environmental Consultants, Inc.

11:30 AM

Life Cycle Assessment of Greenhouse Gas Emissions from Waste Management Alternatives: Burn It or Bury It?

Paper #1402385

Chandler P. Taylor, Matt Metzger, Allison Serakos, Barr Engineering Co.

TECHNICAL SESSIONS – WEDNESDAY

How Does It Work? The Hydrogen Rainbow

Track: YPRO/INDU

6/7/2023, 10:10 AM

Room: Florida C

Panel – TCC: YPAC/PWR

Chair: Kaitlyn Watkins, NextEra Energy Resources

Vice Chair: Lindsay Salvador, EDGE Engineering and Science

This panel will provide a general overview of the hydrogen industry from a variety of perspectives. This session will feature speakers who can explain the several different colors of hydrogen and the technology used to create it. Panelists will also provide an overview of end uses and discuss common air and waste considerations for each type. The panel will be geared towards young professionals and will highlight air, water, and waste topics across a multitude of local, state, and federal regulations. The panel will conclude with open discussions and Q&A which will provide students and YPs with the opportunity to interact with the panel members. This is a great introductory panel presentation for all attendees but is focused on reaching the student/young professional attendee. Attendees will gain a general understanding of each color of hydrogen discussed and the environmental challenges each faces.

Panelists:

- *Jeffrey Wilbur, NextEra Energy*
- *Arijit Pakrasi, Edge Engineering and Science LLC*
- *Brian Petermann, POWER Engineers, Inc.*
- *Mark L. Peak, Mitsubishi Power Americas*

Integrating Satellite Observations into Air Quality Decision Making

Track: MINI/H&EE

6/7/2023, 1:30 PM

Room: Florida B

Panel – TCC: HEE

Chair: Laura M. Judd, NASA Langley Research Center

Vice Chair: Helena J. Chapman, NASA

To protect the health of humans and our environment, managing air pollution requires the evaluation and identification of solutions to comply with regulations. This panel session will highlight how satellite-based perspectives can help close some data gaps present in the current air quality decision making process. Panelists will present research conducted in partnership with air quality managing agencies, with topics covering improved model accuracy used within SIPs, high-resolution air quality satellite data, and connections with on-the-ground sampling to better understand exposure to agricultural burning in Kansas and Florida. They will share their challenges and successes in using satellite data to better understand air pollution as well as describe training opportunities for audience members to gain insight on using satellite data.

Panelists:

- *John A. Haynes, NASA*
- *Kelly Crawford, DC Department of Energy & Environment*
- *Sheryl Magzamen, Colorado State University*
- *Aaron Naeger, NASA/University of Alabama in Huntsville*

Implications from the Updated PM_{2.5} NAAQS

Track: AQMO/REGU

6/7/2023, 1:30 PM

Room: Plaza International J

Panel – TCC: APM/REG

Chair: Sergio Guerra, Colorado Department of Public Health and Environment (CDPHE)

Vice Chair: Qi Zhang, GHD

The US EPA has proposed more stringent PM_{2.5} National Ambient Air Quality Standards (NAAQS). This is an impactful update that will have significant air permitting consequences once adopted. This new standard will aggravate the already challenging task of modeling compliance. The panel will explore the permitting and modeling implications.

Panelists:

- *Qi Zhang, GHD*
- *Michael W. Hult, 3M*
- *Ryan Gesser, Georgia-Pacific LLC*
- *Michael Cooke, GreenbergTraurig*

Climate Change Science to Policy

Track: CLIM

6/7/2023, 1:30 PM

Room: Plaza International I

Platform – TCC: CCP

Chair: Michael Conrardy, ERM

Vice Chair: Joshua S. Fu, University of Tennessee

1:30 PM

Climate Change, Wildfires, and Air Quality Exceptional Events: At the Intersection of Science and Policy

Paper #1372425

Yousaf Hameed, Clark County Department of Environment and Sustainability

1:50 PM

New Name of the Game: The Quest for High-Integrity Carbon Credits in a Low-Carbon World

Paper #1396134

Selina Lee-Andersen, Miller Thomson LLP

2:10 PM

Building Industrial Resilience Against Top Climate-Related Risks

Paper #1396316

Linda M. Kemp, Ketan Maroo, Arcadis, Inc.

2:30 PM

Data-Driven Climate Risk Assessments

Paper #1492380

Kristina Colbert, ERM

TECHNICAL SESSIONS – WEDNESDAY

Enhancing Environmental Justice Analysis through Data Technologies

Track: EJUS/AQMM

6/7/2023, 1:30 PM

Room: Florida A

Platform – TCC: EJS

Chair: Thomas Morahan, egroupp/nygeology

1:30 PM

Case Studies of Environmental Justice on Air Permitting

Paper #1396163

Qi Zhang, GHD

1:50 PM

An Updated Census of the US Near Roadway Population and Multiscale Equity Analysis Using Novel Mobile Source Emission Exposure Surrogates

Paper #1395765

Gregory Rowangould, Brittany Antonczak, University of Vermont;

Tammy Thompson, Mindi W. DePaola, Environmental Defense Fund

2:10 PM

A Practical Approach to Community-Based Monitoring

Paper #1395966

Scott Adamson, Trinity Consultants

2:30 PM

Health Risk Assessment for Environmental Justice

Paper #1490179

Josh J. Hemperly, ERM

Smart Growth & Transportation Planning

Track: TRAN/LH

6/7/2023, 1:30 PM

Room: Rainbow Spring I/II

Platform – TCC: PLU

Chair: Roger L. Wayson, AECOM

Vice Chair: Helen Ginzburg, VHB, Inc.

1:30 PM

The Value of Integrating Climate Vulnerability Assessments in Long-Term Transportation, Land Use, and Infrastructure Planning

Paper #1396466

Heidi Rous, Ryan E. Callahan, Kimley-Horn and Associates

1:50 PM

Brownfield Redevelopment Supports Smart Growth

Paper #1396467

Heidi Rous, Jessie Fan, Kimley-Horn and Associates

2:10 PM

A Deeper Look into the Relationships between Travel Behavior and the Built Environment Using Data on Relocated Households in Vermont

Paper #1396322

Clare A. Nelson, Gregory Rowangould, University of Vermont

2:30 PM

Can Smart Growth Reduce Vehicle Travel in Rural Communities?

Paper #1396345

Harry Schukei, Dana Rowangould, University of Vermont

2:50 PM

Reduction of Atmospheric Emissions by the Use of Low-Emission Technologies in Mobile Sources at the Mexico City Metropolitan Area

Paper #1394095

Rodolfo Sosa-Echeverria, Graciela Velasco Herrera, Pablo Sanchez Alvarez, Elias Granados Hernandez, Gilberto Fuentes Garcia, Rogelio Gonzalez Oropeza, William Vicente Rodriguez, Mario Carbono de la Rosa, Universidad Nacional Autonoma de Mexico (UNAM)

Site Assessment, Remediation, and Vapor Intrusion

Track: WAST

6/7/2023, 1:30 PM

Room: Blue Spring I/II

Platform – TCC: WMR

Chair: Andrew Horwath, Civil & Environmental Consultants, Inc.

Vice Chair: Paul Ruehl, LafargeHolcim

1:30 PM

In-Situ Remediation Program Enables a Billion Dollar Redevelopment Project on the San Diego Bayfront

Paper #1395248

John Freim, Regenesys Bioremediation

1:50 PM

Mitigation Efforts During CDV Assessment

Paper #1375349

Leslie Smith, Karinne Brown, SCS Engineers

2:10 PM

State and Regional Vapor Intrusion Sampling Guidance: Differences in Sampling Frequency, Timing, and Decision-Making

Paper #1425699

Christopher C. Lutes, Leslie Baechler, Mike Bedan, Sophie Collins, Elsy A. Escobar, Kerri Hallberg, Jessica Kastanek, Laurent C. Levy, Ben Thompson, Jacobs

2:30 PM

In-Situ Encapsulation of PFAS in Soil – Leave It in Place!

Paper #1376253

Paul Ruehl, LafargeHolcim

How Does It Work? Quantifying ESG

Track: YPRO/SUST

6/7/2023, 1:30 PM

Room: Florida C

Panel – TCC: YPAC/SUS

Chair: Kerry A. Weichsel, Iconic Air

This panel will provide a general overview of the methods for calculating metrics related to ESG. This session will feature speakers who will explain quantification processes and share some of the nuances and roadblocks they encounter. The panel will be geared towards young professionals and will highlight air, water, and waste topics

TECHNICAL SESSIONS – WEDNESDAY

across a multitude of local, state, and federal regulations, industries, and best practices. The panel will conclude with open discussions and Q&A which will provide students and YPs with the opportunity to interact with the panel members. This is a great introductory panel presentation for all attendees but is focused on reaching the student/young professional attendee. Attendees should gain a general understanding of each industry discussed and the environmental challenges each faces.

Panelists:

- Adam T. Conti, Civil & Environmental Consultants, Inc.
- Raghavan (Ram) Ramanan, Copperwire Inc.
- Kerry A. Weichsel, Iconic Air
- Chandler P. Taylor, Barr Engineering Co.

Air Regulatory and Policy Developments and Impacts on Permitting Activities

Track: MINI/REGU

6/7/2023, 3:30 pm

Room: Florida B

Panel – TCC: REG

Chair: Tiffany L. Dillow, POWER Engineers, Inc.

Vice Chair: Paul C. Siebert, Weston Solutions, Inc.

Recent and ongoing changes in regulations and policy at both the state and federal levels are having significant impacts on air permitting for both new and existing facilities. This panel will discuss the ongoing regulatory and policy changes and impacts on current permitting activities and permit applications that will be filed soon. In examining these impacts, potential mitigation techniques will be discussed that can help smooth the permitting process and make the permit the best permit that can be obtained. Related policy such as the Infrastructure/Inflation Reduction Act may also be discussed. The panel may also address the progress and problems with implementation of standards and the status and results of court decisions.

Panelist:

- Randy Abbuhl, Weston Solutions, Inc.
- Brian Bunger, Holland & Knight
- Brian Petermann, POWER Engineers, Inc.
- Tiffany Dillow, POWER Engineers, Inc.

Air Quality Studies and Challenges Part 1

Track: AQMM

6/7/2023, 3:30 PM

Room: Plaza International J

Platform – TCC: AAM

Chair: Doug Dziubla, ERM

Vice Chair: Patrick Clark, Montrose Air Quality Services, LLC

3:30 PM

Measurement of BTEX in Ambient Air at the Waste Isolation Pilot Plant

Paper #1394442

Praveen Srirama, NMED

3:50 PM

The NASA TEMPO Mission: A New Era of Satellite Air Quality Data for Enhancing Regulatory Science Applications

Paper #1405921

Aaron Naeger, NASA/University of Alabama in Huntsville

4:10 PM

Resolving Pitfalls in Nitrogen Dioxide Measurements

Paper #1406768

Charles Odame-Ankrah, AAM; Harry Benders, Fort Air Partnership; Dieter Kita, Kita Consultations LLC, USA; Kelly N. Pickrell, Brian W. Rosentreter, Sanjay A. Vaswani, Global Analyzer Systems Ltd.

4:30 PM

Comparison of Tenax and Proprietary Tubes for Monitoring Polycyclic Aromatic Hydrocarbons in the Ambient Air

Paper #1401638

Chunrong Jia, Xianqiang Fu, Adam Nored, Namuun Batbaatar, University of Memphis; Larry Smith, Shelby County Health Department

4:50 PM

Unmanned Aerial Systems for Landfill Design, Volume Calculations, and Methane Detection

Paper #1394089

Scott D. Miller, Renee Walmsley, Tetra Tech

Climate Change: Measurement and Analysis

Track: CLIM

6/7/2023, 3:30 PM

Room: Plaza International I

Platform – TCC: CCI

Chair: Joshua S. Fu, University of Tennessee

Vice Chair: Michael Conrardy, ERM

3:30 PM

Impacts of Atmospheric Deposition due to Climate Intervention

Paper #1401190

Joshua S. Fu, Hannah Rubin, Cheng-En Yang, University of Tennessee

3:50 PM

US Department of Energy Identifies Blue Hydrogen as the Most Practical Way to Reduce GHG Emissions and Plans Massive Energy Conversion: What is the Consensus with this Plan?

Paper #1396286

Kevin Held, John D. Kirby, Arcadis, Inc.

4:10 PM

Investigation of CO₂ Capture Capacity of Adsorbents Prepared from an Industrial Waste

Paper #1395822

Manisha sukhraj Kothari, Ashraf Aly Hassan, Hilal El Hassan, Amr Eldieb, United Arab Emirates University

4:30 PM

A Spatial Analysis of the Fuel Economy Rebound Effect Focusing on Small and Rural Communities

Paper #1396333

Narges Ahmadnia, Gregory Rowangould, University of Vermont

TECHNICAL SESSIONS – WEDNESDAY

4:50 PM

Navigating the Selectivity toward a Single C2 Product in CO₂ Electroreduction

Paper #1431036

Molly Rizkallah, Jingjie Wu, Vale Technologies/University of Cincinnati

5:10 PM

Impact of Drought Stress on Traits Relating to Water Cycling and Energy Balance of Tillandsia Usneoides in Eastern Maritime Forests

Paper #1436574

Jalayna N. Antoine, Drexel University

Defining Environmental Externalities in a Changing Energy Landscape

Track: EJUS/INDU

6/7/2023, 3:30 PM

Room: Florida A

Panel – TCC: EJS/PWR

Chair: Chris Whitehead, Enviro-Sciences

This project focuses on NO₂ and PM_{2.5}, which are co-pollutants from fossil fuel consumption. We'll discuss current regulatory models for addressing these pollutants, whether there's an imbalance when factoring in associated health and environmental impacts, and look at 2023-2035. Will the heightened activity from large regional projects in the power and transportation sectors mean increased ambient concentrations on NO₂ and PM_{2.5}? What will the spatial breakdown of this look like in OBCs vs Non-OBCs? Does a (hypothetical) 10-15% increase in concentration necessarily equate to increased health impact risks? The EPA recently published prices for the social cost of one ton of emissions from many of the criteria pollutants, but that is not meant for the hyperlocal analysis we are performing. These don't fit neatly into our sectors, but they can be used as a good starting point. We will develop policy options to encourage remedies to any potential imbalance that our modeling may find.

Panelists:

- *Laura Betts, The CLEO Institute*
- *Alyssa Wilds, Covanta*
- *Joseph R. Peré, INTERA Inc.*

Organizational Approaches to Sustainability

Track: SUST

6/7/2023, 3:30 PM

Room: Plaza International K

Platform – TCC: SUS

Chair: Thomas Morahan, egroun/nygeology

Vice Chair: Mingming Lu, University of Cincinnati

3:30 PM

Challenges in Capturing and Managing Sustainability and ESG Data: Building a Digital Roadmap to Achieve Sustainability Goals

Paper #1396380

Mona Hazur, Patrick C. Moquin, Arcadis

3:50 PM

Landfills – Part of the Sustainability Solution

Paper #1406074

Kate Howe, Matt Stutz, Julie Hall, Weaver Consultants Group

4:10 PM

Food Waste Crisis in the United States of America: The Known, the Overlooked, and the Undisclosed

Paper #1396037

Sagarika Srivastava, Stony Brook University

Electric Vehicles and Alternative Fuels

Track: TRAN

6/7/2023, 3:30 PM

Room: Rainbow Spring I/II

Platform – TCC: PLU

Chair: Georges Bou-Saab, Texas A&M Transportation Institute

Vice Chair: Robert C. Mentzer, HMMH

3:30 PM

Electric Vehicle Trends and Useful Resources for Keeping Current

Paper #1402606

Merlyn L. Hough, University of Portland, Environmental Engineering & Science

3:50 PM

Assessment of the Consumer Reasons for Selection of Ethanol Fuel

Paper #1394314

Shauna L. Hallmark, Jing Dong-O'Brien, Iowa State University; Georges Bou-Saab, Texas A&M Transportation Institute

4:10 PM

FuelFix Fuel Additive Research Program

Paper #1401626

Asma Akter Rony, Hussain Ali, Doreen Ntiamoah-Asare, Melanie L. Sattler, The University of Texas at Arlington; Ron Kent, Curtis Dumas, Frank Elsik, Cindy Elsik, FuelFix

4:30 PM

The Road to More Sustainable Freight and Logistics

Paper #1395467

Heidi Rous, Noemi Wyss, Kimley-Horn and Associates

4:50 PM

Impacts of Vehicle Electrification on Air Quality and Health Outcomes within EJ and Disadvantaged Communities in Maryland

Paper #1490539

Luke Hellgren, ERM

TECHNICAL SESSIONS – WEDNESDAY

PFAS in Landfill and Wastewater Systems

Track: WAST

6/7/2023, 3:30 PM

Room: Blue Spring I/II

Platform – TCC: WMR

Chair: Christopher C. Lutes, Jacobs

Vice Chair: Paul Ruehl, LafargeHolcim

3:30 PM

Encapsulation of PFAS in Landfill Leachate-Forming an

Alternate Daily Cover

Paper #1376249

Paul Ruehl, LafargeHolcim

3:50 PM

Impact of Substrate Makeup on PFAS Elimination Rates from Sludge, IX Resin and AFFF Using Supercritical Water Oxidation

Paper #1394485

Sudhakar Viswanathan, 374Water Inc.; Marc A. Deshusses, Duke University and 374Water Inc.

4:10 PM

Waste-Made Multisorber: A Solution to PFAS, PPCP, and Heavy Metals in Leachate

Paper #1394216

Mithila Chakraborty, Department of Housing, State of Connecticut; Arpita Bhatt, Melanie L. Sattler, The University of Texas at Arlington

4:30 PM

PFAS Identification and Removal Plan – One Community's Approach

Paper #1394271

Ivan A. Cooper, Jon Kitchen, Civil & Environmental Consultants, Inc.

4:50 PM

2023 Update – PFAS Multimedia Regulatory Developments

Paper #1401000

Adam Driscoll, Andrea Collier, Barr Engineering Company

How Does It Work? Air Modeling in Action – Case Studies and Real-Life Applications

Track: YPRO/AQMO

6/7/2023, 3:30 PM

Room: Florida C

Panel – TCC: YPAC/APM

Chair: Lindsay Salvador, EDGE Engineering and Science

Atmospheric dispersion modeling is a useful skill for understanding how air pollutants disperse in the atmosphere in different environments and atmospheres. Many students and young professionals have participated in various air modeling training sessions, but this panel will give them an opportunity to see how air modeling is used in the real world. The panelists will demonstrate how to take their training to real world projects and applications. The panelists will include representatives from several industries who have used modeling as part of a project they completed at their workplace. The panel will conclude with open discussions and Q&A which will provide students and YPs the opportunity to interact with the panel members. This is a great introductory panel presentation for all attendees but is focused on reaching the student/young professional attendee.

Panelists:

- *Sunhee Park, PBC*
- *William Jones, Blue Sky Modeling*
- *Gale F. Hoffnagle, TRC Environmental Corporation*
- *Maria (Gaby) Saavedra, Montrose Environmental Solutions*
- *Jelena Popovic, Ramboll*

TECHNICAL SESSIONS – THURSDAY

Thursday, June 8, 2023				
Time	Title	Track	Session	Room
8:00 am – 10:00 am	A&WMA 53rd Critical Review: Environmental Sampling for Disease Surveillance	H&EE	panel	Florida B
Thursday AM 1				
10:10 am – 11:50 am	Science and Policy at the Intersection of Climate Change and Environmental Justice	MINI/CLIM/EJUS	panel	Florida B
10:10 am – 11:50 am	Long-Range Transport/Particulate Methods and Speciation	AQMM	platform	Rainbow Spring I/II
10:10 am – 11:50 am	Landfills and Landfill Gas	WAST	platform	Blue Spring I/II
10:10 am – 11:50 am	How Does it Work? Managing Waste and Water Issues Before, During, and After a Natural Disaster	YPRO/WAST	panel	Florida C
12:00 pm – 1:30 pm	Honors & Awards Ceremony and Luncheon			
Thursday PM 1				
1:40 pm – 4:00 pm	New Source Review: Issues and Recent Developments	MINI/REGU	panel	Florida B
1:40 pm – 4:00 pm	Air Quality Studies and Challenges Part 2	AQMM	platform	Rainbow Spring I/II
1:40 pm – 4:00 pm	Innovative Air Quality Techniques and Visibility Science	AQMO/AQMM	platform	Florida C
1:40 pm – 4:00 pm	Biogas Generation	WAST	platform	Blue Spring I/II

Science and Policy at the Intersection of Climate Change and Environmental Justice

Track: MINI/CLIM/EJUS

6/8/2023, 10:10 AM

Room: Florida B

Panel – TCC: EJS/CCP

Chair: Chris Frey, USEPA ORD

Addressing challenges at the intersection of climate change and environmental justice requires the development of new methods and data for understanding these risks, and application of these methods and data to inform equitable policies to mitigate these risks. Development of actionable science to inform decisions requires a one environment-one health systems approach and an interdisciplinary approach involving physical, chemical, biological, computational, and social sciences as well as engineering. A key scientific challenge is the assessment of cumulative impacts from multiple chemical and non-chemical stressors, exacerbated by climate change, to identify, select, and evaluate interventions aimed at improving the health, well-being, and quality of overburdened communities. Development and translation of science to inform decisions will also require a multi-sector approach involving government, non-profit organizations, industry, and academia, as well as community-based efforts aimed at climate mitigation, adaptation, and resilience. This panel includes experts and senior leaders from a cross-section of the environmental field, including from federal and state government, private industry, and academia who will share their perspectives and experiences working with overburdened communities to understand and address cumulative impacts, as well as to plan for the long-term risks posed by climate change.

Panelists:

- Chris Frey, Assistant Administrator, US EPA ORD (Moderator)
- Tequila Smith, Chief Sustainability Officer, Covanta
- Shawn LaTourette, Commissioner, New Jersey Department of Environmental Protection
- Christian Wells, Professor and Director of the Center for Brownfields Research & Redevelopment, University of South Florida

Long-Range Transport / Particulate Methods and Speciation

Track: AQMM

6/8/2023, 10:10 AM

Room: Rainbow Spring I/II

Platform – TCC: APV/APC

Chair: Bret A. Schichtel, National Park Service

Vice Chair: Jennifer L. Hand, Colorado State University

10:10 AM

Water Soluble Organic Nitrogen Characterization Study

Paper #1406270

Christopher Rogers, Nathaniel Topie, Kevin Mishoe, WSP USA Environment & Infrastructure, Inc.; John Walker, Ryan Fulgham, Melissa Puchalski, US EPA

10:30 AM

Chemical Fingerprints and Spatiotemporal Variation of Marine Fine Particles at Three Remote Sites in East Asia During the Northeastern Monsoon Periods

Paper #1390547

Po-Hsuan Yen, Chung-Shin Yuan, Jun-Hao Ceng, Kuan-Chen Chiang, Zi-You Huang, Yu-Lun Tseng, Institute of Environmental Engineering, National Sun Yat-sen University; Ker-Yea Soong, Institute of Marine Biology, National Sun Yat-sen University; Ming-Shiou Jeng, Biodiversity Research Center, Academia Sinica

10:50 AM

Evaluation of Long-Range Atmospheric Transport of PM_{2.5} at a Background Site in South Korea Using Receptor Models and Organic Markers

Paper #1391054

Ho-Young Lee, Sang-Jin Lee, Ji-Min Son, Sung-Deuk Choi, Ulsan National Institute of Science and Technology (UNIST); Jihee Ban, Taehyung Lee, Hankuk University of Foreign Studies; Ki Ae Kim, Ji Yi Lee, Ewha Womans University

11:10 AM

Updating Global Atmospheric Deposition by a Measurement-Model Fusion Approach

Paper #1401192

Joshua S. Fu, Hannah Rubin, University of Tennessee

TECHNICAL SESSIONS – THURSDAY

11:30 AM

Arizona's Novel Approach to Controlling Area Sources for Regional Haze Planning

Paper #1402095

Alex Ponikvar, Bruce Friedl, Jessica Wood, Arizona Department of Environmental Quality; Ryan Templeton, Salt River Project; Elias Toon, Maricopa Association of Governments

Landfills and Landfill Gas

Track: WAST

6/8/2023, 10:10 AM

Room: Blue Spring I/II

Platform – TCC: WMB

Chair: Julie Hall, Weaver Consultants

Vice Chair: David Greene, SCS Engineers

10:10 AM

Complying With the New Landfill Gas Regulations – OOO, XXX, AAAA, and Beyond

Paper #1395014

Julie Hall, Weaver Consultants Group

10:30 AM

What to do With Collected Landfill Gas? An Overview of the Environmental/Sustainability Impacts of Control Device Options and Alternatives

Paper #1395005

Julie Hall, Matt Stutz, Weaver Consultants Group

10:50 AM

Effectiveness of Non-Thermal Plasma on the Removal of Volatile Methyl Siloxanes from Mixed Gas Stream of Carbon Dioxide and Methane

Paper #1401420

Raziya Sultana Chowdhury, Tavien Giles, Shamia Hoque, Akira Touch, University of South Carolina

11:10 AM

Investigating the Situation of Methane Emission from Landfills in Iran (Case Study: Karaj City)

Paper #1409607

Sayyed Hossein Khazaei, Melanie L. Sattler, The University of Texas at Arlington; Mazaher Moeinaddini, Reza Rafiee, Nematollah Khorasani, Azad Mollaei, University of Tehran; Mohammad Moein Yaghoubi, New York Institute of Technology, Vancouver, Canada

11:30 AM

Increasing Renewable Energy Potential of Landfill Gas by Electrocatalytic Conversion of Carbon Dioxide to Methane at Low Temperature

Paper #1397371

Asma Akter Rony, Melanie L. Sattler, James Ma, The University of Texas at Arlington

How Does It Work? Managing Waste and Water Issues Before, During, and After a Natural Disaster

Track: YPRO/WAST

6/8/2023, 10:10 AM

Room: Florida C

Panel – TCC: YPAC/SRC

Chair: Lindsay Salvador, EDGE Engineering and Science

This panel will provide a general overview of the current initiatives regarding Florida's coastal resiliency and preparedness to natural disasters, specifically related to managing waste and water before, during, and after a hurricane/flooding. This session will feature speakers who work to protect Florida's vulnerable coastlines from the impacts of hurricanes and tropical storms that occur every year. The panel will be geared towards young professionals and will give insight into air, water, and waste topics and challenges associated with protecting Florida's coastlines. The panel will conclude with open discussion and Q&A, providing students and young professionals with the opportunity to interact with the panel members. This is a great introductory panel presentation for all attendees but is focused on reaching the student/young professional attendee. Attendees should gain a general understanding of water and waste management challenges associated with natural disasters.

Panelists:

- *Craig Hill, Kleinfelder*
- *Billie Jo Huddelston, Florida Power and Light Co.*
- *Kyle Lopic, Montrose Environmental Solutions*
- *Liz Foeller, Waste Management Inc. of Florida*
- *Karen Brignac, Deltech Monomers OpCo, LLC*

New Source Review (NSR): Issues and Recent Developments

Track: MINI/REGU

6/8/2023, 1:40 PM

Room: Florida B

Panel – TCC: REG

Chair: Sean Alteri, Nucor Corporation

New Source Review (NSR) is one of the most litigated Clean Air Act programs and is the subject of several recent developments. These developments include policy changes that affect or will affect program elements and court challenges. In addition, state agencies primarily implement the NSR permitting program, which includes nonattainment major NSR permitting, Prevention of Significant Deterioration (PSD) permitting, and minor NSR permitting. The NSR program continues to be affected by US EPA policy guidance and court decisions. As noted in EPA's regulatory agenda, several major NSR policy and regulatory changes are scheduled to be issued in the near future. A panel of nationally recognized NSR experts will discuss major developments in NSR, identify how facility operations could be affected by these developments, and highlight issues that remain unsettled.

Panelists:

- *Eric L. Hiser, Hiser Joy*
- *Rochelle King, US EPA*
- *Shannon Broome, Hunton, Andrews Kurth LLP*

TECHNICAL SESSIONS – THURSDAY

Air Quality Studies and Challenges Part 2

Track: AQMM

6/8/2023, 1:40 PM

Room: Rainbow Spring I/II

Platform – TCC: AAM

Chair: Patrick Clark, Montrose Air Quality Services, LLC

Vice Chair: Doug Dziubla, ERM

1:40 PM

Application of Organic Molecular Tracers for Source Apportionment of PM_{2.5} Using Positive Matrix Factorization with Multiple Time Resolution Data

Paper #1383039

Chun-Sheng Huang, Ho-Tang Liao, Chia-Yang Chen, Ta-Chih Hsiao, Tsung-I Chou, Jyun-Min Chang, Kuan-Lin Lai, Chang-Fu Wu, National Taiwan University; Li-Hao Young, China Medical University

2:00 PM

Ambient Ammonia in Utah's Cache Valley – Assessing the Impact of the Temporary Shut Down of a Large Poultry Facility

Paper #1402621

Randy Martin, Megan Lambright, Megan Wilson, Ian Parvin, Utah State University

2:20 PM

Long-Term Trends in Ozone Concentrations Measured by CASTNET

Paper #1406251

Christopher Rogers, Kevin Mishoe, Marcus Stewart, WSP USA Environment & Infrastructure, Inc.; Timothy Sharac, Melissa Puchalski, US EPA; Nathan McGinnis, University of Florida

2:40 PM

Keeping the Dust Tame in the Mojave Desert

Paper #1398252

Rob J. Farber, Atmospheric Clarity

3:00 PM

Establishment and Operation of a Simulation Stack for Proficiency Test of Particulate Matter Emissions

Paper #1394861

Chung-Yuan Liu, Chih-Wei Lin, Sheng-Hsiu Huang, Chih-Chieh Chen, National Taiwan University

3:20 PM

A Sampling Line for PM_{2.5} Continuous Emission Monitoring

Paper #1383248

Shibo Wang, Chih-Wei Lin, Sheng-Hsiu Huang, Chih-Chieh Chen, National Taiwan University; Yu-mei Kuo, Chung Hwa University of Medical Technology

3:40 PM

Emission of Fine and Ultrafine Aerosol Particles from Electric Blowers of Air Purifiers

Paper #1418107

Yevgen Nazarenko, Elliot Zolfaghar, Devendra Pal, Parisa A. Ariya, McGill University

Innovative Air Quality Techniques and Visibility Science

Track: AQMO/AQMM

6/8/2023, 1:40 PM

Room: Florida C

Platform – TCC: APM/APV

Chair: Bret A. Schichtel, National Park Service

Vice Chair: Jennifer L. Hand, Colorado State University

1:40 PM

Reconstructed Visibility Estimates at Urban and Rural Sites Across the U.S. Using Aerosol Data from Large Scale Monitoring Networks

Paper #1398940

Jenny L. Hand, Colorado State University; Sean Raffuse, University of California - Davis; Bret A. Schichtel, National Park Service

2:00 PM

User-Driven Air Quality Management Using future NASA PACE Mission Data

Paper #1396299

Natasha K. Sadoff, Erin Urquhart, NASA Goddard Space Flight Center

2:20 PM

Impact Analysis of PM_{2.5} Concentrations in Port Areas Due to Reduction of Ship and Ship-Related Emissions in Korea.

Paper #1395653

Young Sunwoo, Moon-seok Kang, Yu-Jin Jung, Junhyeop Lee, Ho Bae, Ye-Jin Choi, Konkuk University

2:40 PM

Mapping the Spatial Distribution of Primary and Secondary PM_{2.5} by Combining Monitoring and Modeling Results in an Industrial City

Paper #1392167

Sang-Jin Lee, Ho-Young Lee, Seong-Joon Kim, Sung-Deuk Choi, Ulsan National Institute of Science and Technology (UNIST)

3:00 PM

Automation, AI, and Machine Learning for Air Dispersion Modeling Practices – Attempts and Challenges

Paper #1402490

Qi Zhang, GHD

3:20 PM

Evaluating the Role of Meteorological Variables on the Precision of Purple Air Sensor

Paper #1402833

William Malm, Derek Day, Colorado State University; Bret A. Schichtel, Anthony Prenni, National Park Service; Mark Tigges, Air Resource Specialist

TECHNICAL SESSIONS – THURSDAY

Biogas Generation

Track: WAST

6/8/2023, 1:40 PM

Room: Blue Spring I/II

Platform – TCC: WMB

Chair: David Greene, SCS Engineers

Vice Chair: Hussain Ali, The University of Texas at Arlington

1:40 PM

Increasing Renewable Biomass Fuel Capacity through Fuel Treatment (EES AddChem)

Paper #1396040

Robert Santangeli, Justin Patrick, EES, Inc.

2:00 PM

Enhanced Biomethane Utilization for Deeper Net Negative Operations While Maximizing Returns

Paper #1393587

Ed Weinberg, ESSRE Consulting, Inc.; Robert Mroz, HY-TEK Bio, LLC

2:20 PM

Low Energy Wastewater Treatment Using Novel Cloth Filter Anaerobic Membrane Design

Paper #1396217

Bryan M. Maxwell, Neri Martins-West, Scott Prause, Lance Schideman, University of Illinois Urbana-Champaign; Christian Alvarez, Ozhan Gecgel, Texas Tech University; Garrett Cole, Jason Quinn, Colorado State University; Michael Cutbirth, Mainstream Engineering

2:40 PM

Termite Hindgut Bacteria TAV5: Key to Lignocellulose Waste Decomposition

Paper #1390671

Hussain Ali, Kimberly Bowles, Hoda Rahimi, Melanie L. Sattler, The University of Texas at Arlington; Jorge Rodrigues, University of California Davis

3:00 PM

Methane Production with Anaerobic Digestion of Paper Waste and Rice Husk Using Guinea Pig Manure

Paper #1395596

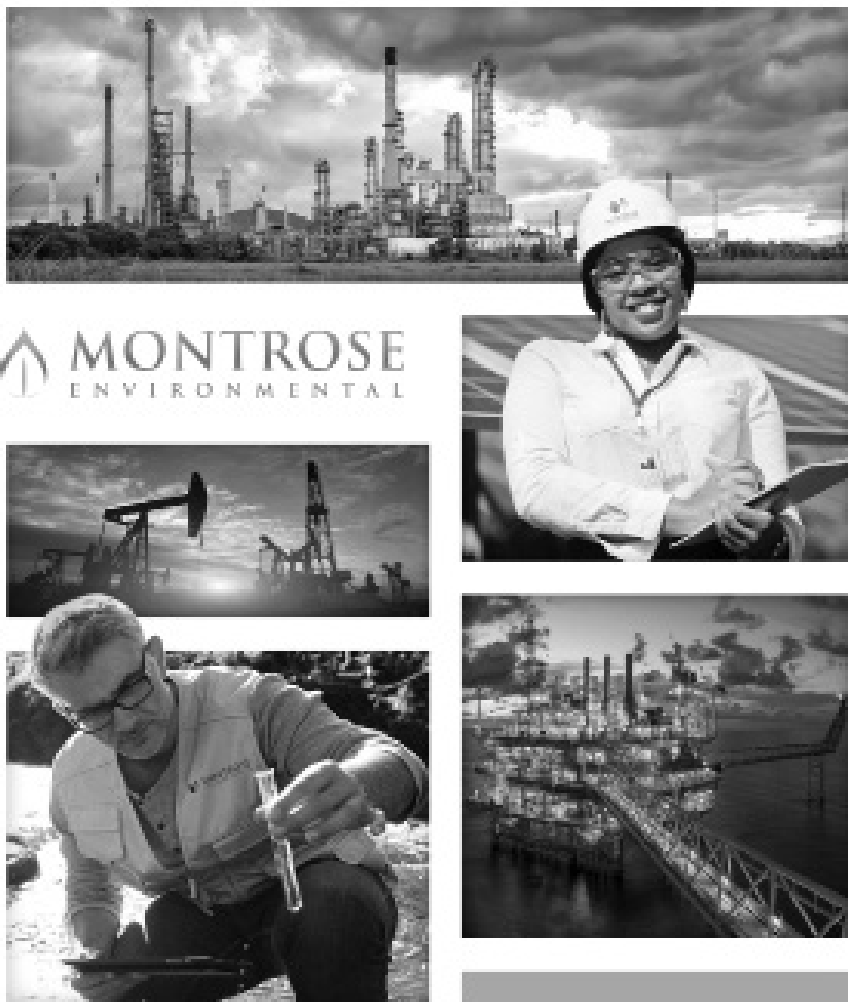
Hussain Ali, Melanie L. Sattler, The University of Texas at Arlington



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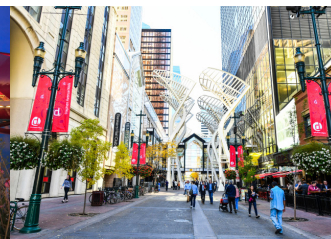


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MEGA Symposium on
Energy, Environment,
Policy, Technology
September 26-27, 2023 • Pittsburgh, PA

Advancements in Vapor
Intrusion and Emerging
Contaminant Air Quality Issues
October 3-4, 2023 • Chicago, IL

Environmental Justice:
From Policy to Practice
October 23-24, 2023 • Arlington, VA

Air Quality Measurement
Methods and Technology
November 14-16, 2023 • Durham, NC

48th Annual A&WMA
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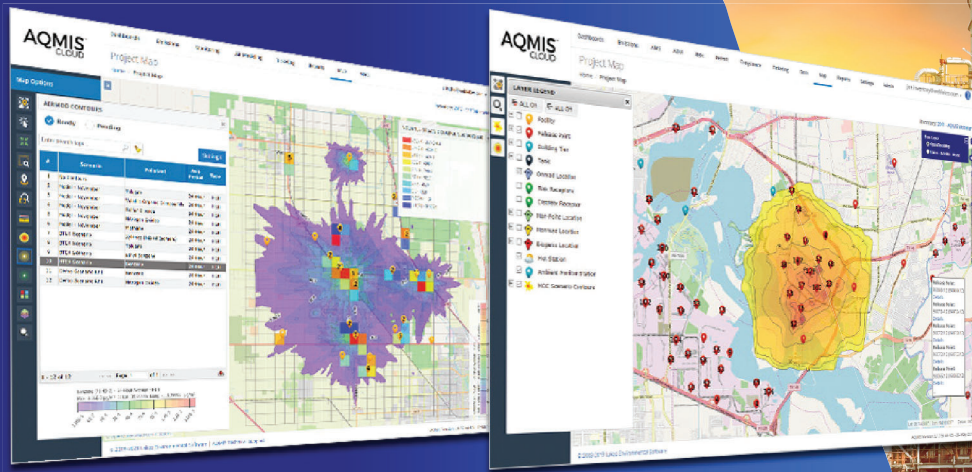
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