

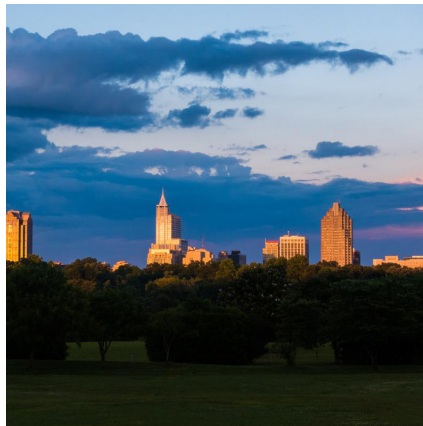
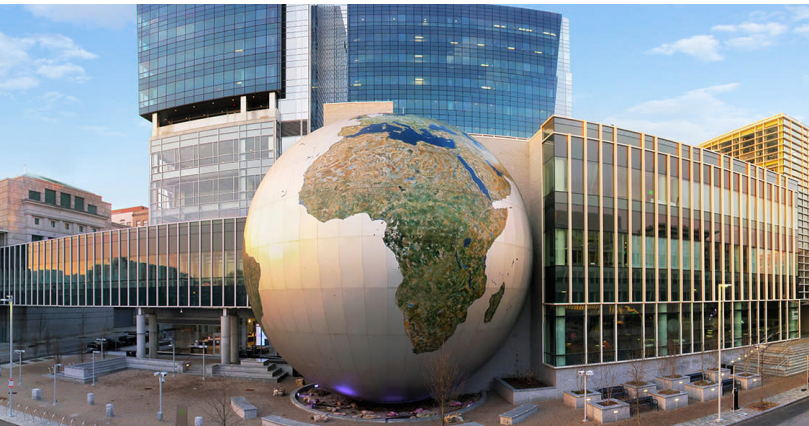
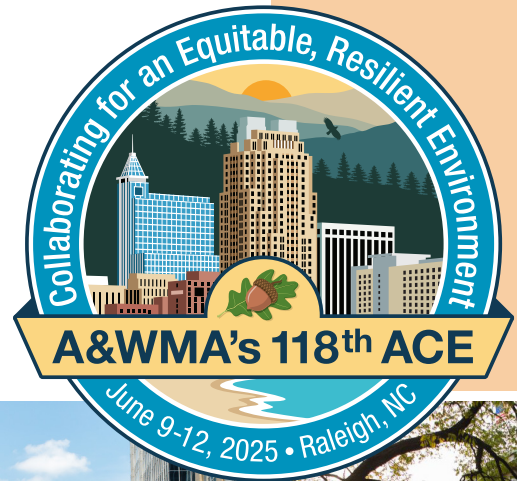
# CONFERENCE PROGRAM

A&WMA's 118<sup>th</sup> Annual Conference & Exhibition

## Collaborating for an Equitable, Resilient Environment

JUNE 9-12, 2025

Raleigh, NC



AIR & WASTE MANAGEMENT  
ASSOCIATION  
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[www.awma.org/ACE2025](http://www.awma.org/ACE2025)  
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# MESSAGE FROM THE A&WMA PRESIDENT



**Leah Blinn**  
2025 A&WMA President

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## Welcome to the 118<sup>th</sup> Air & Waste Management Association Annual Conference & Exhibition in Raleigh

It is my pleasure to welcome you to the Air & Waste Management Association's (A&WMA) 118<sup>th</sup> Annual Conference and Exhibition (ACE) in the lovely city of Raleigh, North Carolina. We have an exciting agenda planned for you this week covering a wide variety of air quality, waste management, environmental, energy, sustainability, health, and other topics that affect us as environmental professionals. The technical content of ACE has been crafted by our Technical Council who has worked hard to make sure our engaging program is full of technical experts and content for all of our attendees. Our Local Host Committee (LHC) is excited to show off their city and has added local topics to the technical sessions as well as planned some exciting and fun networking opportunities. Raleigh, the capital city of North Carolina, is known for its universities and is teeming with museums, natural beauty, and a great foodie scene.

As you wander your way through the halls of the Raleigh Convention Center, I encourage you to take advantage of all that ACE has to offer. Make sure that you attend Tuesday's Keynote Panel featuring industry experts and regulators as we discuss how to best foster collaboration for environmental resilience. Directly after the Keynote Panel, I hope you'll join us as we open the expanded Exhibit Hall where you'll find vendors who can help to make positive impacts to your business. In addition to the technical sessions, you'll find plenty of networking opportunities. One of my favorites is the Young Professionals and Student Reception, which thankfully welcomes participants of all ages (don't forget to purchase your ticket!). I enjoy interacting with the Young Professionals and Students during the programming geared toward these members. Other highlights include the Women's Professional Development Luncheon, the Opening Reception, and Exhibitor Happy Hour.

The Critical Review this year will be on Satellite Data to Support Air Quality Assessment and Management. The authors will examine current science of using satellite data, especially developments in the last 15 years since the 40<sup>th</sup> Annual A&WMA Critical Review on this subject.

This week is always a busy one for the A&WMA President. The best part of ACE and A&WMA for me has been meeting many of our members and nonmembers alike who have become friends. Please be sure to introduce yourself to me – a good place to find me could be at my company's booth in the Exhibit Hall. I'd love to hear about how we can make your ACE experience more worthwhile.

I want to thank everyone who has made this ACE such a success and thank you for attending. In addition to the Local Host Committee and Technical Council, there have been countless other people who have made this conference truly the best. A sincere thank you to our Sponsors and Exhibitors for their overwhelming support. All of you who are sharing your technical knowledge really help to promote the mission of A&WMA and deserve our appreciation. Finally, the A&WMA staff works tirelessly to make this conference as seamless and easy as possible. Please be sure to take a moment and thank them for all their efforts.

I look forward to meeting you, and I hope you enjoy ACE and Raleigh this week!

A handwritten signature in purple ink that reads "Leah E. Blinn".

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Information in this program was correct at time of printing. Changes and additions are reflected in the technical program website ([awmaace25.eventscribe.net](http://awmaace25.eventscribe.net)) and ACE 2025 App.

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Scan the QR Code or go to the Apple App Store or Google Play Store and search for Eventscribe.



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 2025 App.

## 2. Start using the App now!

The most current information on ACE 2025 sessions, times, rooms, authors, and events are on the App and Technical Program website. Make sure you double check details online as the details in the printed program may have changed.

## 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, please create an account using code **AWMA25RAL**.
- **Create** your profile, add your picture, and share your contact information to network with attendees, speakers, and exhibitors.
- **Browse** the event information and create a personal schedule by tapping on the star next to presentations and events.
- **View** the slides and posters in the App and take notes during the session and save them to your library.

# WELCOME FROM THE CONFERENCE CHAIRS



**Khalil Porter**

General Conference Chair  
North Carolina's Electric  
Cooperatives

Welcome to Raleigh and ACE 2025! We're excited to have you join us in one of the country's leading hubs for environmental innovation, research, and collaboration.

This year's conference is packed with opportunities — from cutting-edge technical sessions and keynote panels to a vibrant exhibit hall, and special events for students, young professionals, and women in the environmental field. We've also planned plenty of chances to explore Raleigh's unique energy, culture, and hospitality.

The Local Host Committee, along with A&WMA staff and volunteers, have worked hard to create an unforgettable experience that connects great ideas, important conversations, and the people driving change.

We're glad you're here — let's make ACE 2025 something to remember!



**Tiffany Dillow**

General Conference Chair  
POWER Engineers,  
a Member of WSP



**Stephanie Bolyard**

General Conference Vice-Chair  
North Carolina Department of  
Environmental Quality



## LOCAL HOST COMMITTEE

### General Conference Chairs

Khalil Porter  
North Carolina's Electric Cooperatives

Tiffany Dillow  
POWER Engineers, Inc., a Member of  
WSP

### General Conference Vice-Chair

Stephanie Bolyard  
North Carolina Department of  
Environmental Quality

### Technical Program

Technical Council Chair: Chih Chao,  
Cantech Environmental Services

Vice-Chair: Fernando Garcia Menendez,  
North Carolina State University

Keynote: Khalil Porter, North Carolina's  
Electric Cooperatives

### Student Programs

Stephanie Bolyard, North Carolina  
Department of Environmental Quality  
Aurelie Marcotte, Entanglement  
Technologies  
Lindsay Salvador, ALL4

### ECi Program

Stephanie Bolyard, North Carolina  
Department of Environmental Quality

### Young Professionals Programs

Aurelie Marcotte, Entanglement  
Technologies  
Lindsay Salvador, ALL4

### The Committee for the Professional Development of Women

Asmita Narode, RTI International  
Ashley Thomas, Enthalpy Analytical

### Exhibits and Sponsorship/Exhibits Committee

Tiffany Dillow, POWER Engineers, Inc.,  
a Member of WSP

### Technical Tours

Scott Sholar, ERG  
Golam Sarwar, U.S. EPA

### Equity, Diversity, & Inclusion

Khalil Porter, North Carolina's Electric  
Cooperatives

### Wellness Events

Khalil Porter, North Carolina's Electric  
Cooperatives

Committee: Dr. Chris Frey, Sunhee Park,  
Golam Sarwar, Richard Tropp,  
Kelly Crawford, Clara Poffenberger,  
Taylor Hartsfield, Susan Wierman,  
Bob Hall, Rahul Thaker, Michael Pjetraj,  
Frank Princiotta



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## Gold Sponsors



The Bay Area Air District is the regional agency in California that regulates stationary sources of air pollution in the 9-county Bay Area region which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties. Created in 1955, the Air District was the first regional air pollution control agency in the country. It is governed by a 24-member Board of Directors composed of locally elected officials from each of the nine Bay Area counties. The Air District permits over 10,000 air pollution sources and equipment. The Air District created the Spare the Air Program in 1991 to provide the public with advance notice when air quality is expected to be unhealthy, educate residents about air pollution, and encourage actions to improve air quality in the Bay Area. The Spare the Air Program, asks residents to reduce air pollution by making clean air choices every day such as walking and biking, taking transit, telecommuting or carpooling, driving less, reducing energy consumption at home, and not burning in their fireplaces during the winter months. [www.baaqmd.gov](http://www.baaqmd.gov)



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 air quality and waste management challenges. Visit [www.cecinc.com](http://www.cecinc.com) for info. [www.cecinc.com](http://www.cecinc.com)



The North Carolina Department of Environmental Quality (DEQ) is the lead stewardship agency for the protection of the state's environmental resources. With offices from the mountains to the coast, DEQ administers regulatory programs designed to protect air quality, water quality, and the public's health and administers funding programs for water systems, energy infrastructure, homes, and businesses to create economic opportunities for all and a more resilient North Carolina. DEQ also offers technical assistance to businesses, farmers, local governments, and the public and encourages actions with respect to environmental protection through education programs. DEQ touches the lives of all North Carolinians. [www.deq.nc.gov](http://www.deq.nc.gov)

## Silver Sponsors



Lakes Software is a global leader in advanced environmental modeling software and data products. Since 1995, we have been committed to delivering exceptional service and cost-effective IT solutions for industry and regulatory needs. Our products enhance productivity, reduce errors, and offer unique solutions in a regulatory-constrained environment. Our expertise includes Air Dispersion Modeling; Custom IT Solutions; Emissions Inventory; Real-time Forecasting; Ambient Air Monitoring; AI and Neural Net Forecasting; Regulatory Compliance; Meteorological Data Processing; Human Health Risk Assessment; Training. We continuously explore new research areas to provide cutting-edge software solutions and data services to our users. [www.weblakes.com](http://www.weblakes.com)



POWER Engineers, member of WSP, is an engineering and environmental consulting firm helping clients across multiple sectors navigate the energy transition. Together, POWER and WSP's 73,900 experts deliver our clients' most complex projects in the power and energy, transportation and infrastructure, environmental, and property and buildings sectors while creating positive, long-lasting impacts for our clients, our people and the communities we serve. [www.powereng.com](http://www.powereng.com)

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As air, waste and environmental regulations become more stringent and diverse, AECOM is actively partnering with clients to develop and implement compliance solutions - leveraging innovative approaches and state-of-the-art technology. AECOM takes proactive steps to address challenges through strategic insight and collaboration. AECOM is a Fortune 500 firm that had revenue of \$16.1 billion in fiscal year 2024. Learn more at [aecom.com](http://aecom.com).



Duke Energy (NYSE: DUK), a Fortune 150 company headquartered in Charlotte, N.C., is one of America's largest energy holding companies. The company's electric utilities serve 8.4 million customers in NC, SC, TN, OH, and KY, and collectively own 54,800 megawatts of energy capacity. Its natural gas utilities serve 1.7 million customers in NC, SC, TN, OH, and KY. Duke Energy is executing an ambitious clean energy transition, keeping reliability, affordability and accessibility at the forefront as the company works toward net-zero methane emissions from its natural gas business by 2030 and net-zero carbon emissions from electricity generation by 2050. The company is investing in major electric grid upgrades and cleaner generation, including expanded energy storage, renewables, natural gas and nuclear. [www.duke-energy.com/home](http://www.duke-energy.com/home)



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North Carolina's 26 not-for-profit electric cooperatives are powering a brighter future for 2.8 million people statewide by providing reliable, affordable electricity and integrating new energy technologies that support a responsible sustainability goal of net-zero carbon emissions by 2050. [www.ncelectriccooperatives.com](http://www.ncelectriccooperatives.com)



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SCS Engineers' consultants, scientists, engineers, and contractors provide expertise in designing and implementing solid and hazardous waste management, biogas, RNG, carbon capture – reduction, measurement, air quality, and GHG verification solutions, each compliant with the most rigorous regulations and standards. Our teams work with industries, manufacturers, and municipalities to prevent, mitigate, and remediate environmental challenges while applying our knowledge of environmental regulatory systems and technologies. SCS staff works effectively to shorten project timelines, stay on budget, and close gaps between sustainability goals and achievements so our clients can produce and deliver products and services more efficiently. [www.scsengineers.com](http://www.scsengineers.com)



The South Atlantic States Section (SASS) is comprised of A&WMA members that reside in Maryland, Virginia, North and South Carolina and the District of Columbia. Within SASS there are two local chapters: the Chesapeake Chapter and the Research Triangle Park (Raleigh/Durham) Chapter. Additionally, there are student chapters at North Carolina State University and James Madison University. [www.sassawma.org](http://www.sassawma.org)

# GET TO KNOW OUR SPONSORS

## Bronze Sponsors



The RTP Chapter of A&WMA, headquartered in the Raleigh-Durham region of North Carolina, is a non-partisan organization dedicated to fostering a robust environmental profession. Our chapter unites a diverse community of environmental professionals, providing them with invaluable opportunities for networking, professional development, and continuing education. We are committed to advancing the environmental field by promoting sound science, ethical practices, and collaborative solutions to environmental challenges. [www.rtpawma.org](http://www.rtpawma.org)



The Louisiana Section of the Air & Waste Management Association plans, organizes and presents activities that focus on local and regional environmental issues. Connect with us at Section-hosted lunch or dinner meetings, technical seminars, annual conferences, workshops, continuing education courses, and social outings. Information on upcoming events may be found at [www.la-awma.org](http://www.la-awma.org)

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Focus Environmental, Inc., established in 1988, specializes in providing process engineering and regulatory compliance services using our extensive experience in the design, evaluation, and operation of combustion systems and associated air pollution control equipment applied to contaminated soil remediation, hazardous waste thermal treatment, process vent emission control, and hazardous waste management. Focus' objective is to assist clients in implementing solutions that meet regulatory requirements, meet project objectives, and provide maximum operational flexibility. [www.focusenv.com](http://www.focusenv.com)



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We stand ready to meet environmental stewardship challenges for air, land, and water. Using the latest technologies and a multidisciplinary toolbox, our experts help deliver a cleaner, safer planet. We provide customized approaches to every project, whether mine remediation, waste or wastewater management, or PFAS mitigation, and our full-service treatability lab can perform bench- and pilot-scale evaluations of multiple treatment methods. Our PFAS team consists of a network of technical professionals and consultants with expertise in hydrogeology, human health and ecological risk assessment, water and wastewater treatment, remediation, and modeling. This combination of capabilities positions us to mitigate risks and liabilities through an appropriate mix of insight, advocacy, risk assessment, risk communication, mitigation, remediation, and treatment. [www.parsons.com](http://www.parsons.com)



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The Allegheny Mountain Section (AMS) of A&WMA serves western Pennsylvania and West Virginia. In order to meet its mission of promoting a better understanding of environmental issues, the Section remains active in the environmental professional community. This is achieved through outreach to local universities and hosting networking and educational opportunities such as young professional events, an annual golf outing, dinner events, and annual environmental workshop. [www.ams-awma.org/](http://www.ams-awma.org/)



For over 35 years, the Upper Midwest Section (UMS) of A&WMA has provided a forum for Association members who live in Minnesota, Western Wisconsin, and the Dakotas to meet, learn, and network. Approximately 200 environmental professionals representing industry, government, and consultants are members of the UMS. The Mission of A&WMA is to assist in the professional development and critical environmental decision-making of our members to benefit society. [www.awma-ums.org](http://www.awma-ums.org)



The West Coast Section (WCS) was chartered in 1957, and many WCS members have served as Presidents of the Association, including Charter Member, S. Smith Griswold and 2020 Charles W. Gruber Association Leadership Award winner, Sara Head. WCS Chapters include Channel Islands, Mojave Desert, Orange County, and San Diego. Our Student Chapter at Cal Poly San Luis Obispo has won the Environmental Challenge International (ECI) for several years in a row. WCS has adopted international Chapters in India, Singapore, and Thailand, and Student Chapters in Ghana and United Arab Emirates. The WCS has frequently been recognized as one of the Best Performing Sections in Membership Development. [www.wcsawma.org](http://www.wcsawma.org)



# DAILY SCHEDULE AT-A-GLANCE

TIME	EVENT	MEETING ROOM
<b>SUNDAY, JUNE 8</b>		
8:00 am – 5:00 pm	A&WMA Board of Directors' Meeting	304
<b>MONDAY, JUNE 9</b>		
9:00 am – 5:30 pm	A&WMA Technical Council Meeting	302A
9:00 am – 4:00 pm	A&WMA Sections & Chapters Council Meeting	301B
9:00 am – 12:00 pm	A&WMA Education Council Meeting	301A
1:00 pm – 4:30 pm	A&WMA Young Professionals Advisory Council Meeting	301A
2:00 pm – 6:00 pm	Exhibit Hall Set-up/Poster Set-up	Ballroom BC
2:00 pm – 6:00 pm	Registration	Main Lobby
<b>TUESDAY, JUNE 10 – CONFERENCE OPENING DAY</b>		
7:00 am – 6:00 pm	Registration	Main Lobby
7:00 am – 6:00 pm	Technical Program Resource Center	303
7:00 am – 10:00 am	Exhibit Hall Set-up/Poster Set-up	Ballroom BC
7:00 am – 8:15 am	South Atlantic States Section Breakfast	Jimmy V's, Sheraton Raleigh Hotel
7:00 am – 8:00 am	Fun Run/Walk in Nash Square Park	Meet in main lobby at Local Host table
8:30 am – 10:30 am	Opening Keynote Plenary Session	Ballroom A
10:45 am – 5:30 pm	Exhibit Hall Grand Opening	Ballroom BC
10:45 am – 12:15 pm	Technical Poster/Student Poster Session	Ballroom BC
11:30 am – 1:30 pm	Past Presidents' Lunch	Rye Bar and Southern Kitchen, Marriott Hotel
12:00 pm – 12:30 pm	Student Welcome Reception and Program Orientation	304
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings	See page 17
12:30 pm – 1:00 pm	Student Keynote Address	304
1:00 pm – 2:30 pm	Career Panel	304
1:30 pm – 3:30 pm	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
3:00 pm – 5:30 pm	Student/ECi Poster Judging	Exhibit Hall Ballroom BC
3:30 pm – 4:00 pm	Afternoon Networking Break in the Exhibit Hall	Ballroom BC
4:00 pm – 6:00 pm	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
5:00 pm – 6:00 pm	EPA Alumni Reception	The Pit, 328 W. Davie St.
6:00 pm – 6:30 pm	Annual Business Meeting of the Membership	304
6:30 pm – 8:00 pm	Opening Reception: Welcome to Raleigh	Ballroom ABC Lobby

# DAILY SCHEDULE AT-A-GLANCE

TIME	EVENT	MEETING ROOM
<b>WEDNESDAY, JUNE 11</b>		
7:00 am – 5:00 pm	Registration	Main Lobby
7:00 am – 6:00 pm	Technical Program Resource Center	303
8:30 am – 10:00 am	Mentor Breakfast	304
8:00 am – 9:40 am	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
9:00 am – 6:30 pm	Exhibit Hall Open	Ballroom BC
9:30 am – 10:30 am	Breakfast with the Exhibitors	Exhibit Hall Ballroom BC
10:10 am – 11:50 am	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
11:00 am – 1:00 pm	Women's Professional Development Workshop and Luncheon	Marriott Hotel, University Ballroom
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings	See page 17
12:00 pm – 1:00 pm	Rehearsal for Honors & Awards Ceremony	Ballroom A
1:00 pm – 3:30 pm	ECi Presentations	304
1:30 pm – 3:10 pm	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
3:10 pm – 3:30 pm	Afternoon Session Break	Exhibit Hall Ballroom BC
3:30 pm – 5:30 pm	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
5:00 pm – 6:00 pm	Student Awards Ceremony	304
5:30 pm – 6:30 pm	Reception in the Exhibit Hall	Ballroom BC
6:30 pm – 8:00 pm	Exhibit Tear-down	Ballroom BC
7:00 pm – 9:00 pm	YP/Student Reception	The Raleigh Times Alpha/ Bravo Rooms, 14 E Hargett St.
<b>THURSDAY, JUNE 12</b>		
7:00 am – 2:00 pm	Registration	Main Lobby
7:00 am – 3:00 pm	Technical Program Resource Center	303
7:00 am – 8:00 am	International Affairs Committee Meeting	305A
8:00 am – 10:00 am	Annual A&WMA Critical Review	301AB
10:10 am – 11:50 am	Technical Sessions	301AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C
12:00 pm – 1:30 pm	Honors & Awards Ceremony and Luncheon	Ballroom A
1:40 pm – 4:00 pm	Technical Sessions	301 AB, 302A, 302B, 302C, 305A, 305B, 306A, 306B, 306C

# OPENING KEYNOTE PLENARY SESSION

## Fostering Collaboration for Environmental Resilience

Tuesday, June 10, 8:30 am – 10:30 am, Ballroom A

### Keynote Panelists:



**H. Christopher Frey, Futrell Distinguished University Professor of Environmental Engineering, North Carolina State University, and Former Assistant Administrator of Research and Development, U.S. Environmental Protection Agency**

Chris Frey is an engineer, researcher, science advisor, and leader working on energy and environmental issues mostly in academia and government. From 2021-2024 he served in leadership roles, including as Assistant Administrator of Research and Development, at the U.S. Environmental Protection Agency. He has been on the engineering faculty at NC State for over 30 years and is currently associate dean for research in the College of Engineering. His research focuses on improving relevance of scientific and technical information to inform decisions via sensitivity and uncertainty analysis, and on reducing uncertainties via measurement and modeling of vehicle emissions and human exposure to air pollution. He served on numerous national and international expert and advisory panels. He has a Ph.D. in engineering and public policy from Carnegie Mellon University. He has been a member of A&WMA since 1989.



**David Haines, North Carolina Manufacturers Alliance**

David has 18 years of experience leading and managing programs focused on energy, sustainability, and the environment. He has served as senior energy policy expert as a legislative fellow for Brookings Institution. David was a Deputy Assistant Secretary in the Office of Land & Minerals Management during the Obama administration and was Global Sustainability Advisor for Shell Oil, where he developed a cross-functional coalition with environmental groups, government agencies, academics, and industry.



**Sushma Masemore, Deputy Secretary for Environment, North Carolina Department of Environmental Quality**

As the Deputy Secretary for Environment, Sushma guides DEQ's regulatory divisions through the complex issues facing North Carolina, bringing more than 30 years of public and private sector experience to the role. She oversees the development and implementation of major policy initiatives for programs such as permitting of discharges to surface waters; issuance of air emissions permits; grant programs for wastewater and drinking water projects; remediation of contaminated soil and groundwater, permitting of coastal development; and regulation of animal operations, mining operations, and energy development projects.



**Eric Larmore, Environmental Manager, Nucor Corporation**

In his 25 years with Nucor, Eric has worked at steel mills in Indiana, Alabama, Florida, West Virginia and now works at the corporate office in Charlotte. Prior to joining Nucor, Eric spent seven years as a regulator in Indiana working in water quality, hazardous materials, and emergency response. Eric is also Chairman of the Steel Manufacturers Association Environmental Committee.



**Moderated by: Leah Blinn, A&WMA President, and Vice President, Civil & Environmental Consultants, Inc.**

Leah Blinn is a Vice President with Civil & Environmental Consultants, Inc. and is the Corporate and Pittsburgh Office Air Practice Lead. She obtained her Bachelor of Science degree in Chemical Engineering with a minor in Environmental Engineering from The Pennsylvania State University and has over 24 years of experience in managing and executing air quality and sustainability work for various industries. Her primary focus is in air dispersion modeling, emission calculations, permitting, and compliance. Leah is the 2025 President of the A&WMA



# 55<sup>TH</sup> ANNUAL CRITICAL REVIEW

Thursday, June 12, 8:00 am – 10:00 am, Room 301AB

## Satellite Data to Support Air Quality Assessment and Management

### Authors:



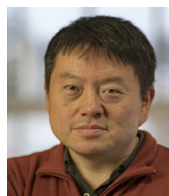
**Tracey Holloway, Lead Author and Presenter,** Jeff Rudd and Jeanne Bissell Professor of Energy Analysis and Policy, University of Wisconsin-Madison



**Gaige Kerr,** Assistant Research Professor and Professorial Lecturer in the Department of Environmental and Occupational Health, George Washington University



**Jenny Bratburd,** Staff Researcher, Climate Solutions for Health; Lab and Outreach Program Manager, NASA Health and Air Quality Applied Sciences Team, University of Wisconsin-Madison



**Jingqiu Mao,** Associate Professor, University of Alaska-Fairbanks



**Arlene Fiore,** Peter H. Stone and Paola Malanotte Stone Professor of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology

Satellite data is increasingly valuable and relevant to air quality management. Satellite data can be used to inform long-range transport and trends, characterizing exceptional events, emissions estimates, model parameterization, environmental justice, and public outreach. Increases in spatial and temporal resolution in new instruments and long-term historical records from earlier instruments enable greater characterization of air pollution. In this 55th Annual A&WMA Critical Review, the authors examine current science of using satellite data, especially developments in the last 15 years since the 40th Annual A&WMA Critical Review on this subject.

This review explores how satellite data can be used in the air quality management cycle, with a focus on the United States, and also discussing advances in regional satellites in Asia and Europe. With a focus on nitrogen dioxide (NO<sub>2</sub>), aerosol optical depth (AOD) for particulate matter (PM), and ozone sensitivity, this review will explore methods for linking satellite measurements corresponding to near surface air quality. The authors also discuss case studies and applications, including environmental justice. This review traces the history and development of satellite data for air quality over the last 15 years, with guidance to help jumpstart new users, as well as discussions on strengths and limitations of satellite data that highlight new areas where satellites could play a larger role and opportunities for improvements.

The full-length paper will appear in the June 2025 issue of the *Journal of the Air & Waste Management Association (JA&WMA)* and its conclusions will be presented live as part of the 2025 A&WMA Annual Conference & Exhibition in Raleigh, North Carolina. Following the review presentation, a panel of

invited experts will critique the presentation and offer their own views on the topic. Comments also will be solicited from the floor during a live question-and-answer sequence to end the session.

### Discussants:



**Tim Canty,** Associate Professor, University of Maryland



**Angela F. Dickens,** Data Scientist, Lake Michigan Air Directors Consortium



**Byeong-Uk Kim,** Manager, Data and Modeling Unit, Georgia Environmental Protection Division

### 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 2025 issue of *JA&WMA*. Comments should be submitted in writing to Susan S.G. Wierman at [susan.wierman@gmail.com](mailto:susan.wierman@gmail.com) by June 30, 2025.

# NETWORKING EVENTS

## Fun Run/Walk

**Tuesday, June 10, 7:00 am – 8:00 am, Nash Square Park**  
Meet in the Convention Center lobby at the Local Host booth.

Grab your running shoes and take a 1-mile tour through Downtown Raleigh. The course takes participants through scenic Nash Square Park. This event is open to runners and walkers of all abilities. Advance registrants can pick up their t-shirts at the Local Host booth in the lobby during registration hours. No refunds will be given if canceled due to weather. Registration is \$20.



## Exhibit Hall Grand Opening\*

**Tuesday, June 10, 10:45 am, Ballroom BC**

Sponsored by:



Immediately following the Keynote Program at 10:45 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 Raleigh\*

**Tuesday, June 10, 6:30 pm – 8:00 pm, Ballroom ABC Foyer**

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

## Exhibitor Reception\*

**Wednesday, June 11, 5:30 pm – 6:30 pm, Ballroom BC**

Sponsored by:  Bay Area Air District

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 11, 7:00 pm – 9:00 pm**

**The Raleigh Times** (Alpha/Bravo Rooms), 114 E. Hargett St.  
Cost: \$35. Tickets must be purchased in advance.

## Annual Honors & Awards Ceremony and Luncheon\*

**Thursday, June 12, 12:00 pm – 1:30 pm, Ballroom A**

Join A&WMA members and conference attendees at this popular luncheon as they recognize the accomplishments of outstanding individuals, organizations, and companies. Ticket required. Additional tickets may be purchased for \$75.



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

# NETWORKING EVENTS

## Breaking Boundaries: Empowering Women to Lead our Workforce

Wednesday, June 11, 11:00 am – 1:00 pm

Marriott Hotel, University Ballroom

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

Sponsored by:



**Lakes**  
Software

### Planned by the Committee for the Professional Development of Women

This year, the Women's Professional Development workshop will feature a diverse and accomplished panel of women leaders who will illustrate how they were able to break through the boundaries many women face as they pursue advancement in their career. All attendees are invited to the discussion!

According to recent reports, women are still decades away from parity, especially women of color. However, the number of women in senior leadership roles has steadily risen over the past 10 years, and we are offering you the opportunity to hear first-hand accounts from such female leaders, inspiring the next generation to break through the glass ceiling and any other boundary they may face.

Our esteemed moderator and panelists have held the titles of Director, Deputy, and Doctor. These intriguing, accomplished individuals will no doubt enrich and empower this year's participants as they detail various challenges and accomplishments encountered on their career journey. You won't want to miss this engaging conversation with our inspiring panelists as they discuss the many boundaries surmounted on their road to success!

#### Moderator:



**Meagan Kittle Autry**, Associate Teaching Professor and Director of Graduate Professional Development, Department of Civil, Construction, and Environmental Engineering, NC State University

Meagan Kittle Autry, Ph.D. is an associate teaching professor and director of graduate professional development in the Department of Civil, Construction, and Environmental Engineering at NC State. She teaches courses in professional engineering communication and research communication. She also serves as the Director of Science Communication for the Science and Technologies for Phosphorus Sustainability (STEPS) Center, an NSF-funded science and technology center.

#### Speakers:



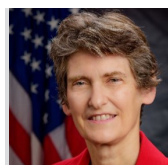
**Meggen DeLollis**, Director of Analytical Services, Keika Ventures

Meggen DeLollis obtained a B.S. in Chemistry from the University of Texas at Austin. She worked as an environmental consultant and source tester for URS/AECOM, managing projects, field efforts, and people. In 2017, she joined Keika Ventures and is now the Director of Analytical Services, managing clients, personnel, and business decisions within the Analytical Services business line.



**Sushma Masemore**, Deputy Secretary for Environment, North Carolina Department of Environmental Quality

Sushma Masemore was named Deputy Secretary for Environment in May of 2021. She guides DEQ's regulatory divisions, bringing more than 35 years of public and private sector experience to the role. She oversees the development and implementation of major policy initiatives related to air, water, solid waste, and hazardous waste permitting, remediation of contaminated soil and groundwater, brownfields redevelopment, dam safety, mining operations and energy projects.



**Janet McCabe**, Former Deputy Administrator, U.S. EPA; Distinguished Scholar, Indiana University Robert H. McKinney School of Law

Janet McCabe is an environmental policy expert with a distinguished career in public service, law, and academia. She has served at the U.S. EPA as Deputy Administrator from 2021-2024 and in the Office of Air and Radiation during the Obama Administration. She has worked at state environmental agencies in Massachusetts and Indiana, focused on air pollution issues, and she taught at Indiana University's McKinney Law School and was Director of IU's Environmental Resilience Institute.



# STUDENT EVENTS

## Student Platform Paper Presentations

**Tuesday, June 10 – Thursday, June 12**

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

## Student and ECi Poster Set-Up

**Ballroom BC**

**Monday, June 9, 2:00 pm – 6:00 pm and Tuesday, June 10, 7:00 am – 10:00 am.** Posters must be set up by 10:30 am on Tuesday and remain on display through Wednesday at 6:00 pm.

## Technical and Student Poster Session

**Ballroom BC**

**Tuesday, June 10, 10:45 am – 12:15 pm**

## Student Welcome Reception and Program Orientation

**Room 304**

**Tuesday, June 10, 12:00 pm – 12:30 pm**

Sponsored by:  **DUKE ENERGY®**

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 10, 12:30 pm – 1:00 pm**  
**Room 304**

**Being Adaptable for a Resilient Career**  
Elizabeth Biser, President,  
Biser Strategies LLC

Elizabeth Biser is the President of Biser Strategies LLC, an environmental policy consulting firm. Biser has served as Secretary of the North Carolina Department of Environmental Quality, DEQ Secretary, President of the Environmental Council of the States (ECOS), Vice President of Policy & Public Affairs at The Recycling Partnership, and the Government Relations & Policy Advisor of Brooks, Pierce, McLendon, Humphrey & Leonard, LLP. She holds a Bachelor of Arts and a Master of Public Administration from the University of North Carolina at Chapel Hill.

## Career Panel: Being Adaptable for a Resilient Career

**Tuesday, June 10, 1:00 pm – 2:30 pm**  
**Room 304**

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:

- **Taylor Hartsfield**, Deputy Director, Division of Air Quality, North Carolina Department of Environmental Quality
- **Jordan M. Haywood**, Environmental Engineer, Siemens Energy
- **Khalil Porter**, Manager, Environmental Affairs, North Carolina's Electric Cooperatives
- **Stephanie Taylor**, Project Manager, SCS Engineers

## Student Poster Competition

**Tuesday, June 10, 3:00 pm – 5:30 pm**  
**Exhibit Hall Ballroom BC**

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 11.

## Environmental Challenge International

Sponsored by: ALL4 Inc.  
A&WMA Louisiana Section  
A&WMA Mother Lode Chapter  
A&WMA Research Triangle Park Chapter  
A&WMA South Atlantic States Section  
A&WMA Upper Midwest Section

## ECi Poster Judging

**Tuesday, June 10, 3:00 pm – 5:30 pm**  
**Exhibit Hall Ballroom BC**

Join the ECi teams as they interact (often in surprising ways) with role players and present their posters to the judges.

ECi Teams  
California Polytechnic State University  
Louisiana State  
Montana Technological University  
University of Cincinnati

## ECi Final Presentations

**Wednesday, June 11, 1:00 pm – 3:30 pm**  
**Room 304**

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 11, 5:00 pm – 6:00 pm**  
**Room 304**

Sponsored by:  **SCS ENGINEERS**  
www.scsengineers.com

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 2025 and get involved in all of these events!

## The YP Hub

Exhibit Hall Ballroom BC, Booth 10

The YP (Young Professional) Hub 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 10

11:00 am – 12:00 pm: Meet YPAC

### Wednesday, June 11

3:10 pm – 3:30 pm: Meet A&WMA President Leah Blinn

6:00 pm – 6:30 pm: YP/Student Meetup

## Mentor Breakfast

Wednesday, June 11, 8:30 am – 10:00 am

Room 304



This annual professional networking breakfast gives students, recent graduates, and young professionals the opportunity to network and be mentored by experienced environmental professionals and each other. 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.



## Young Professional/Student Networking Reception

Wednesday, June 11, 7:00 pm – 9:00 pm

The Raleigh Times (Alpha/Bravo Rooms), 114 E. Hargett St.

Cost: \$35. Tickets must be purchased in advance.

Join A&WMA students and young professionals for a fun evening of networking. This popular event brings together many students, YPs, and seasoned professionals in a fun, casual environment. Located in a 100-year-old building, The Raleigh Times showcases the city's unique culture and history with old press clippings and images on its walls from the newspaper of the same name.

## YP/Introductory Technical Sessions

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

### Recovering from Natural Disasters

Wednesday, June 11, 10:10 am – 11:50 am; Room 305A

### All About Per- and Polyfluoroalkyl Substances (PFAS)

Wednesday, June 11, 1:30 pm – 3:10 pm; Room 305A

### Regulatory Update

Wednesday, June 11, 3:30 pm – 5:30 pm; Room 305A

# EXHIBIT HALL ATTRACTIONS

The Exhibit Hall at the 118<sup>th</sup> 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, Ballroom BC during these hours:

Tuesday, June 10: 10:45 am – 5:30 pm

Wednesday, June 11: 9:00 am – 6:30 pm

## Exhibition Grand Opening

Tuesday, June 10, 10:45 am – 5:30 pm

Sponsored by:



Immediately following the Keynote Program at 10:45 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 10, 10:45 am – 12:15 pm

## Networking Breaks

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

Tuesday, June 10, 3:30 pm – 4:00 pm

Wednesday, June 11, 3:10 pm – 3:30 pm

## Breakfast with the Exhibitors

Wednesday, June 11, 9:30 am – 10:30 am

## Exhibitor Reception

Wednesday, June 11, 5:30 pm – 6:30 pm

Sponsored by:  Bay Area Air District

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

Exhibit Hall, Booth 10

Visit the YP Hub 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 2025 App if you need it. Refer to the App for the most current YP Hub schedule.

## A&WMA Sales & Marketing Booth

Exhibit Hall, Booth 52

Stop by to get information about many A&WMA programs and services including membership, specialty conferences, publications, and explore volunteer opportunities. Learn more about ACE 2026 in Austin, TX.

## Career Center

Exhibit Hall, Booth 56

ACE is the perfect place for attendees to connect on job opportunities. If you're looking to find a new job or quality candidates to fill open positions, take advantage of the Career Center. Post your job description, company flyer with QR code, or resume for others to take and stop back frequently to see new positions and candidates.

Please bring 25 copies of your resume or job posting printed on 8 1/2" x 11" paper, portrait style, directly to the Career Center and place in an open pocket holder.



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.



# GENERAL INFORMATION

## Registration Hours

### Main Lobby

Monday, June 9: 2:00 pm – 6:00 pm  
Tuesday, June 10: 7:00 am – 6:00 pm  
Wednesday, June 11: 7:00 am – 5:00 pm  
Thursday, June 12: 7:00 am – 2:00 pm

## Exhibition Hours

### Ballroom BC

Tuesday, June 10: 10:45 am – 5:30 pm  
Wednesday, June 11: 9:00 am – 6:30 pm

## Technical Program Resource Center

### Room 303

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

The Technical Program Resource Center is available for authors to preview their presentations and for session chairs to pick up CEU and Session Count Sheets and print out presenter bios.

## Session Chairs

Session count and CEU forms will be placed in your session room. Session chairs are responsible for completing the Session Count Form and dropping off the Continuing Education sign in sheets in the Tech Resource Center.

## Authors

All authors should bring their presentation on a flash drive directly to the session room and arrive at least 15 minutes early to load it. If you cannot use a flash drive, please contact your session chair for assistance. Connecting any external equipment to the laptops in the conference is prohibited.

**Share your ideas for the 2026 Technical Program!** New ideas will be accepted until 12:00 pm (noon) on Thursday, June 12 through the survey on the desktop of the computer in the Tech Resource Center.

## Networking Breaks in the Exhibit Hall

### Ballroom BC

#### Tuesday, June 10

Exhibit Hall Grand Opening with Breakfast: 10:45 am – 11:45 am  
Technical Session Break: 3:30 pm – 4:00 pm

#### Wednesday, June 11

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  
Exhibitor Reception: 5:30 pm – 6:30 pm

## ACE 2025 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.



## Free Wi-Fi

Network: Raleigh Convention Center

There is no password.

## 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 and courses. 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 31, 2025. Questions regarding Continuing Education accreditation should be emailed to Gloria Henning at [ghenning@awma.org](mailto:ghenning@awma.org).

## A&WMA Meetings Policy

By registering for this meeting, attendees agree to abide by and accept the terms of the A&WMA Code of Conduct (available at [www.awma.org/governance](http://www.awma.org/governance)). Additionally, A&WMA conference attendees acknowledge that they may be photographed by A&WMA for promotional purposes while at events.

## Carbon Offsets

If you'd like to help offset the carbon emissions associated with this conference, donations can be made at [Carbonfund.org](https://Carbonfund.org). Thank you!

# THANK YOU TO OUR ORGANIZATIONAL MEMBERS

A&WMA is exceptionally grateful for 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 leading companies and professionals in the environmental industry.

A&B Labs	EA Engineering, Science & Technology, Inc., PBC	Orange County Sanitation District
AECOM	Ecosystem Informatics Inc.	PA DEP / Bureau of Air Quality
Aegis Environmental	EES Environmental Consulting, Inc.	Plains
AFCO 360 LLC	Eli Lilly & Company	POWER Engineers, Inc.
Air Resource Specialists, Inc.	Epsilon Associates, Inc.	PPM Consultants, Inc.
Air Sciences Inc.	Florida State University	Providence Engineering
Alabama Power Company	Flotration Technologies, LLC	Ramboll US Consulting, Inc.
Alberta Energy Regulator	Fredrikson & Byron, P.A.	Range Resources – Appalachia, LLC
Alberta Environment and Parks	Georgia-Pacific LLC	Republic Services Alaska
Alliance Source Testing	Geosyntec Consultants	Rock Leaf Water Environmental LLC
Archer Daniels Midland Company	GHD	RTI, International
Ardent Mills, LLC	Haley & Aldrich, Inc.	RTP Environmental Associates
August Mack Environmental	Huntington Ingalls Industries	RWDI
Aurubis Richmond	Idaho DEQ	San Diego County APCD
Axine Water Technologies	Jacobs	San Joaquin Valley APCD
Babst Calland	Kansas City Board Of Public Utilities	Sasol
Barnes & Thornburg LLP	Kleinfelder	SCDHEC
Barr Engineering Company	KS Dept. of Health & Environment	SCS Engineers
BH&M Environmental Consultants, Inc	Los Angeles Dept of Water and Power	SENSIT
Boreal Environmental Services	Landau Associates, Inc.	SLR International Corp
Braun Intertec	Lane Regional Air Protection Agency	Solid Waste Disposal Authority of Baldwin County
BSI Group	Locke Lord LLP	Solvay Chemicals, Inc.
Burns & McDonnell Engineering Co., Inc.	Louisiana DEQ	Sonoma Technology, Inc.
Calpine	LyondellBasell	South Coast AQMD
Cambium Inc.	Maricopa County	Southern California Edison
CEMTEK KVB-Enertec	Metro Vancouver	St. Paul Park Refinery
CITGO Petroleum Corporation	Michigan Department of Environment, Great Lakes, and Energy	Stantec
City of Decatur / Morgan County Regional Landfill	Minnesota Pollution Control Agency	Taiwan Power Company
Civil & Environmental Consultants, Inc.	Mississippi Dept. Of Environmental Quality	Tampa Electric Company
CK Associates	Mojave Desert AQMD	Tennessee Dept of Environment and Conservation
CleanAir Engineering	Montrose Environmental Group, Inc.	Tetra Tech
Colorado Department of Public Health and Environment	Mosaic	Toyota Motor North America
Consumers Energy	North Carolina DENR - Division Of Air Quality	Trinity Consultants
Conversion Technology Inc.	Nebraska DEE	TSI
Cook County	Nelson Environmental Remediation	Tucson Electric Power Company
Cooper Zietz Engineers, Inc. DBA Akana	Northern Nevada Public Health - AQMD	US EPA Region 7 (AWMD)
Cox-Colvin & Associates Inc.	Northwest Clean Air Agency	Utah Division of Air Quality
Denver Metro / North Front Range - Regional Air Quality Council	Novel Geo-Environmental, LLC	Ventura County APCD
Denver Public Health and Environment	NY State Dept. of Env. Conservation	Venture Global
Department of Energy and Environment (DOEE)	Oklahoma Dept. of Environmental Quality	VHB
DR DAS LTD	Olympic Region Clean Air Agency	WA State Dept. of Ecology
DSG Solutions, LLC	Ontario Ministry of the Environment, Conservation and Parks	Water & Environmental Technologies
Duke Energy		Weaver Consultants Group
		Westlake Chemical
		The Wood Buffalo Environmental Association
		Xcel Energy

**If you are interested in membership in A&WMA for yourself or your company, visit [www.awma.org/join](http://www.awma.org/join) today!**

# 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 9, 9:00 am – 12:00 pm, 301A

## Sections and Chapters Council

Monday, June 9, 9:00 am – 4:00 pm, 301B

## Technical Council

Monday, June 9, 9:00 am – 5:30 pm, 302A

## Young Professionals Advisory Council

Monday, June 9, 1:00 pm – 4:30 pm, 301A

## Annual Business Meeting of the Membership

Tuesday, June 10, 6:00 pm – 6:30 pm, 304

The first 50 members receive a complimentary beverage ticket to the Tuesday evening opening reception and will have their name entered into a raffle for a complimentary one-year membership!

## International Affairs Committee

Thursday, June 12, 7:00 am – 8:00 am, 305A

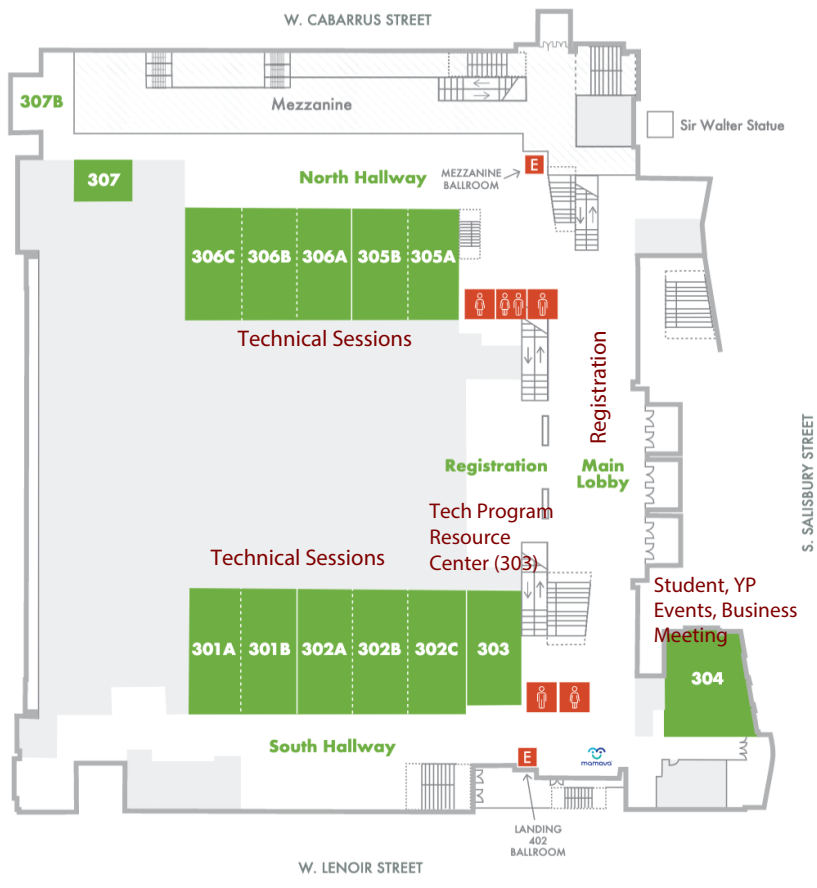
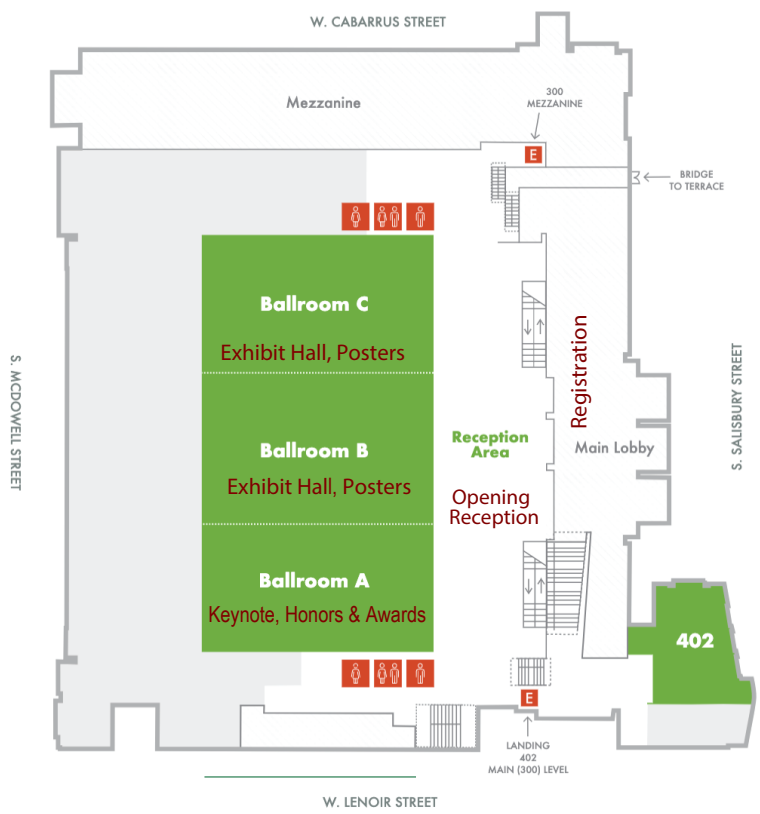
# TECHNICAL COORDINATING COMMITTEE MEETINGS

TUESDAY, JUNE 10, 11:55 am – 1:15 pm		
Division	TCC/ITF	Room Name
AA-Measurements, Monitoring, & Controls	AAE-Measurements, Monitoring, Emission Inventory & Applications	302B
	AAC-Control Technologies	302A
	AAM-Measurement Techniques & Instrumentation	302A
AP-Atmospheric Processes	APM-Atmospheric Modeling & Meteorology APV*-Visibility & Radiative Transfer	306A
GM-Government/Military Facilities & Programs	GOV-Government Facilities MIL-Military Environmental Programs	305B
IN*-Industry (Petroleum, Mining, Power), & Nanotechnology	PIM*-Petroleum, Industry & Mining PWR*-Power Generation & Renewable Energy NAN*-Nanotechnology	305A
SR*-Sustainability & Resource Conservation	SRC*-Resource Conservation SUS*-Sustainability	302C
WM-Waste Management: Processing, Waste-to-Energy, & Bioenergy	WMB-Waste Resource Recovery, Processing & Bioenergy WMR-Waste Characterization & Site Remediation	306C
WEDNESDAY, JUNE 11, 11:55 am – 1:15 pm		
Division	TCC/ITF	Room Name
CC-Climate Change Impacts, Mitigation, & Adaptation	CCI-Climate Change Impacts & Adaptation CCP-Climate Change Policy, Strategy & Regulations	302A
EE*-Effects & Exposure	ODR*-Odors HEE*-Health Effects and Exposure RAM*-Risk Assessment & EHS Management	306A
EP-Program Administration	REG-Regulations, Legal Issues & Permitting PUB-Public Participation EPE-Economics, Partnership & Environmental Leadership	306C
ET-Transportation	CNV-Community Noise & Vibration OMS-On- & Off-Road Mobile Sources PLU-Transportation Policies & Land Use	306B
ITF-Intercommittee Task Force	EJS*-Environmental Justice	302B

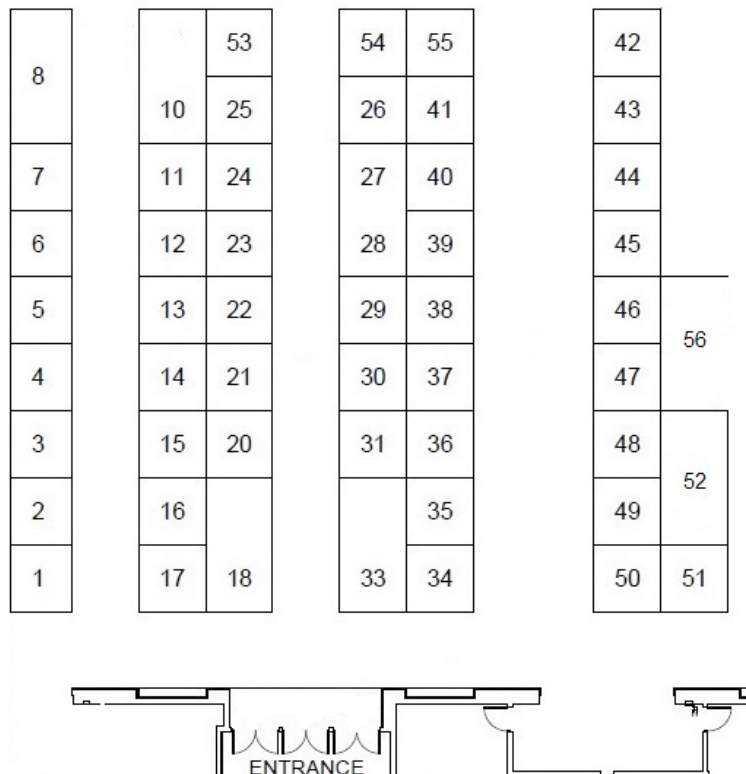
\* These TCCs will also have a separate virtual meeting; contact the TCC Chair or Techprogram@awma.org for additional information.



# RALEIGH CONVENTION CENTER FLOOR PLAN



# EXHIBIT HALL FLOOR PLAN



## EXHIBITORS BY BOOTH

Trinity Consultants . . . . .	1	NCASI . . . . .	21	QuantAQ, Inc. . . . .	40
B3 Systems Inc. . . . .	2	C3 Environmental . . . . .	22	Thermo Fisher Scientific . . . . .	41
Alliance Technical Group . . . . .	3	Global Analyzer Systems Ltd. . . . .	23	Board for Global EHS Credentialing (BGC) . . . . .	42
2B Technologies . . . . .	4	Vasthi Instruments . . . . .	24	EPA Alumni Association . . . . .	43
ECO PHYSICS, INC. . . . .	5	Wilbur Technical Services . . . . .	25	Pine Environmental . . . . .	44
A. Team . . . . .	6	TSI Incorporated . . . . .	26	Atmosfir Optics, USA . . . . .	45
Loureiro Engineering Associates, Inc. . . . .	7	Montrose Environmental . . . . .	27	TRC Companies . . . . .	46
ALS Environmental . . . . .	8	Enthalpy Analytical . . . . .	28	SC&A, Inc. . . . .	47
YP Hub. . . . .	10	NC DEQ . . . . .	29	SCS Engineers . . . . .	48
Aeroqual . . . . .	11	Geosyntec Consultants, Inc. . . . .	30	Opgal Optronix Industries LTD . . . . .	49
Entech Instruments . . . . .	12	JustAir . . . . .	31	Apex Instruments . . . . .	50
Entanglement Technologies, Inc. . . . .	13	Lakes Environmental Software . . . . .	33	Metiri Group . . . . .	51
URG Corporation . . . . .	14	Blue Sky Modeling . . . . .	34	A&WMA Sales & Marketing . . . . .	52
CHWMEG, Inc. . . . .	15	Air Hygiene International . . . . .	35	SGS North America, Inc. . . . .	53
Field Environmental Instruments, Inc. . . . .	16	AMP - Cherokee . . . . .	36	Compliance Assurance Associates, Inc. . . . .	54
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## **2B Technologies. . . . . 4** **2btech.io**

We are dedicated to the development of new analytical instruments for atmospheric and environmental measurements. While our specialization has always been in miniaturized instruments for measurements of ozone (O<sub>3</sub>), nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), mercury (Hg), and numerous other chemical species in air. Our goal has always been to use sound science and innovative technology to provide our customers with cutting-edge instrumentation. All the instruments we manufacture utilize absorbance-based monitoring techniques to measure and characterize various air pollutants with high precision and accuracy.

## **Aeroqual . . . . . 11** **www.aeroqual.com**

Aeroqual delivers innovative air quality monitoring solutions that empower environmental professionals with real-time, accurate, near-reference data. Our integrated hardware and software solutions are used worldwide to manage air quality and meet regulatory compliance across industries, without the cost and complexity of reference equipment. At AWMA ACE 2025, discover how Aeroqual is transforming environmental monitoring with cost-effective, near-reference grade solutions.

## **Air Hygiene International. . . . . 35** **www.airhygiene.com**

Air Hygiene is committed to the highest quality of stack testing services. Our efforts are to ensure continuous compliance with testing requirements that provide exceptional expertise for the benefit of our customers.

## **Alliance Technical Group . . . . . 3** **www.alliancetg.com**

Alliance Technical Group, LLC (Alliance), headquartered in Decatur, AL, is the premier environmental services and solutions company dedicated to helping clients achieve their environmental goals and navigate regulatory changes. With more than 1,700 employees located in 50-plus offices across the U.S. and Canada, Alliance specializes in Environmental Compliance, On-site Testing and Monitoring, and Laboratory Testing and Analysis. Driven by innovation, committed to service, and focused on client success, Alliance delivers on the promise of reliability, results, and responsiveness. Learn more about how we help clients maximize their environmental opportunities at [www.alliancetg.com](http://www.alliancetg.com).

## **ALS Environmental . . . . . 8** **www.alsglobal.com/en/air-monitoring**

ALS has been a leader in testing solutions for over 40 years, specializing in environmental monitoring among other sectors. With 15+ environmental locations in the U.S., we offer comprehensive air, water, and soil testing services. Air services include common methods such as TO-15 as well as unique analyses like MA APH and Sulfur speciation for everything from indoor

air to renewable natural gas. Our extensive inventory of sampling media, ultra-low reporting limits, and nationwide certifications make us your one stop solution. ALS Environmental is your trusted partner for all your air quality testing needs. Visit us at booth 8 and 9!

## **Ambilabs . . . . . 17** **www.ambilabs.com**

Ambilabs specializes in innovative air pollutant monitoring technology solutions to obtain accurate, valid data. We offer instrumentation with regulatory approval designations and are committed to applying cutting edge science and technology to help customers achieve the most precise air measurement information to assist in areas of defense, environment, research, and regulatory monitoring. Our solutions are utilized in applications including construction/demolition, coatings/components analysis, industrial process monitoring, smoke/dust analysis, human health studies, environmental research, and regulatory measurements. We offer expertise, engineering, software, instrumentation service, and turn-key solutions to assist government agencies, laboratories, industrial facilities, and research centers with their air monitoring needs.

## **AMP - Cherokee . . . . . 36** **www.ampcherokee.com**

From consultation and design, to manufacturing and commissioning, AMP-Cherokee provides turnkey CEMS, PEMS and FTIR air monitoring solutions for emissions and process monitoring. AMP-Cherokee will maintain your CEMS with monthly, quarterly and annual scheduled maintenance and repairs, analyzer replacement or upgrades for the highest level of performance and reliability.

## **Apex Instruments . . . . . 50** **apexinst.com**

Founded in 1988, Apex Instruments has grown from a single-source provider of EPA-compliant stack-testing kits into a global leader in air monitoring technology. From our manufacturing facility in Fuquay-Varina, NC—just 23 miles from the U.S. EPA's Research Triangle Park campus—we design, machine, and assemble more than 3,000 distinct parts and instruments in-house, shipping to customers in 80-plus countries on six continents. Our portfolio now spans digital and manual isokinetic source samplers, ambient air sensor networks, VOC analyzers, heated sample lines, calibration systems, and specialty probes. Dedicated divisions build turn-key mobile laboratories and rugged custom trailers, while our cloud-based data workflows deliver real-time insight for regulators, researchers, and industry operators alike. What sets us apart is deep field experience: many of our engineers, trainers, and technical service representatives are former stack testers who understand the realities of compliance monitoring. Their expertise drives continuous innovation and fuels the comprehensive training workshops we host throughout the year. Whether you need a single impinger or a fully integrated mobile emissions lab, Apex Instruments combines American

craftsmanship, rapid lead times, and decades of technical know-how to keep your projects on schedule and your data defensible—today and for the next generation.

## **A.Team. . . . . 6** **www.a.team**

A.Team builds AI systems that streamline labor-intensive workflows in civil and environmental engineering—like Environmental Site Assessments and regulatory reporting—without disrupting your team or toolset. Our solutions integrate directly with tools like GIS platforms and Microsoft Word to reduce manual data handling, improve consistency, and ease compliance review. Built by domain experts and aligned to industry standards, our approach augments your experts and preserves quality. Whether you're scaling operations or reducing non-billable effort, A.Team helps you modernize with confidence—on your terms.

## **Atmosfir Optics, USA. . . . . 45** **www.atmosfir.net**

Atmosfir Optics US, Inc. is an innovative air monitoring technology integrator, comprised of some of the world's most recognized and respected air measurement scientists specializing in cost-effective automated continuous fenceline monitoring solutions. Atmosfir leads the industry in fenceline monitoring applications with extensive expertise in automated technologies. Atmosfir maintains ISO/IEC 17025 accreditation.

## **B3 Systems, Inc. . . . . 2** **www.b3systems.com**

Since 1991, B3 Systems has been providing Particulate Matter (PM) Spiking and Chemical Spiking to support compliance and process needs throughout the US. In addition to field testing services, B3 Systems offers a range of in-process dust monitoring equipment, control systems, settled dust monitors and ambient monitoring solutions.

## **Blue Sky Modeling . . . . . 34** **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.

## **Board for Global EHS Credentialing (BGC). . . . . 42** **gobgc.org**

The Board for Global EHS Credentialing (BGC) is the premier global credentialing body for professionals who protect and enhance the health, safety, and environment of people at work and



# EXHIBITORS BY COMPANY

in their communities. Our rigorous, reliable, and valid credentialing process elevates the expectations of professionals who work in the environment, health, and safety (EHS) fields and allows them to demonstrate their commitment and ability to work at the highest level.

## **C3 Environmental . . . . . 22** **[www.c3env.com](http://www.c3env.com)**

C3 Environmental Limited and Ecosystem Informatics Inc. (ESI) are excited to be partnering on bringing ESI's cutting-edge Air Quality Monitoring System to the market. Renowned for its precision and adaptability, ESI's state-of-the-art technology is powered by advanced AI algorithms, ensuring real-time data analysis and calibration for unmatched accuracy. Designed for versatility, these monitoring units can be deployed on drones and vehicles or installed in fixed locations, catering to both public and private sector needs. Join us at our booth to see firsthand how our collaborative innovations are setting new standards in environmental monitoring and management. Discover how we're dedicated to enhancing air quality solutions for everyone.

## **Carbon Activated Corporation . . . . . 39** **[activatedcarbon.com](http://activatedcarbon.com)**

Carbon Activated is a global leader in high-quality activated carbon and filtration media, certified to NSF 61 and compliant with AWWA standards. We specialize in supporting municipal, potable water, and wastewater treatment facilities with reliable, efficient, and proven solutions. Our offerings include custom-designed liquid and vapor filtration systems, complete installation services, and performance guarantees. With a commitment to excellence, we ensure fast lead times and seamless filter change-outs using advanced material-handling equipment. On-site laboratory testing and rigorous quality control practices help us deliver consistent, high-performance results you can count on. Contact us to learn how Carbon Activated can help you optimize your water treatment processes with dependable, cost-effective filtration solutions.

## **CHWMEG, Inc. . . . . 15** **[www.chwmeq.org](http://www.chwmeq.org)**

CHWMEG has emerged as the leader in providing support to global organizations relating to downstream due diligence. CHWMEG's facility review reports provide information critical to supply chain due diligence evaluation efforts and vital aspects of sustainability programs and ESG reporting. Through a unique cost sharing approach, cumulative CHWMEG member savings through 2024 exceeded US\$84 million. CHWMEG's 315+ member organizations (representing over 980 individual entities worldwide) have benefitted from more than 6,680 facility reviews conducted at over 2,290 unique facilities situated in 58 countries.

## **Civil & Environmental Consultants, Inc. . . 18** **[www.cecinc.com](http://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 air quality and waste management challenges. Visit [www.cecinc.com](http://www.cecinc.com) for info.

## **Compliance Assurance Associates, Inc. . . 54** **<https://compliance-assurance.com>**

Compliance Assurance Associates, Inc. (CAA) provides comprehensive visible emission evaluator training and certification programs (smoke school) in accordance with 40 CFR 60 Appendix A, Method 9, Method 22, 203A, 203B, and 203C. We train your employees to properly determine and document compliance with visible emission requirements. Only CAA offers in-person smoke schools led by experienced instructors, as well as 100% online Method 9 field certification using virtual reality in accordance with ALT-152A.

## **ECO PHYSICS, INC. . . . . 5** **[www.ecophysics-us.com](http://www.ecophysics-us.com)**

Chemiluminescence NOx and Ammonia measurements for regulatory compliance. All 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!

## **EHS Support . . . . . 38** **<https://ehs-support.com>**

EHS Support is a specialist environmental consulting firm that provides solutions to complex environmental, health, and safety issues across a broad facet of market sectors and industries. With locations throughout the United States, Canada, Australia, New Zealand, the United Kingdom, and South Africa, we form long-lasting partnerships with our clients through a culture of excellence, innovation, work ethic, and integrity.

## **Entanglement Technologies, Inc. . . . . 13** **[www.entanglementtech.com](http://www.entanglementtech.com)**

Entanglement Technologies, Inc. Entanglement Technologies manufactures thermal desorption, cavity ringdown spectroscopy (TD-CRDS) analyzers used to measure VOCs in ambient air and other complex matrices. Our flagship product, AROMA-VOC, measures BTEX, ethylene oxide, trichloroethylene, and more at part-per-trillion detection limits from the back of any vehicle or at long-term unattended monitoring sites.

## **Entech Instruments . . . . . 12** **[www.entechnst.com](http://www.entechnst.com)**

Entech Instruments is a leading developer and manufacturer of analytical instrumentation that supports professionals around the world in Environmental Air Monitoring, Soil & Water Testing, Industrial Hygiene, Food Safety, Flavor & Aroma R&D, Material Emissions Testing, Forensic

Investigation, and Clinical Analysis. We specialize in the creation of inert air and gas sample collection equipment, chemical extraction and preconcentration technology, as well as GCMS sample preparation and introduction technologies. Over the years Entech has continued to perfect the science and art of collecting, storing, and analyzing volatile and semi-volatile chemicals by GC and GCMS. At the heart of this development is Entech's proprietary Silonite™ surface treatment. Silonite™ renders sampling devices and GCMS sample handling systems as inert as a GC column, providing better recovery of a wider range of compounds than ever before. Silonite™ can be applied to any stainless steel or glass surface, virtually eliminating the adsorption and reactions that can occur on metal and untreated glass surfaces.

## **Enthalpy Analytical . . . . . 28** **<https://enthalpy.com>**

Our laboratory service experts provide clients with precision testing support, innovative scientific approaches, and high-quality data that delivers a sense of certainty. Our knowledge of federal, state, and local regulations enables us to provide clients with best-in-class air, soil, water, sediment, toxicology, Ultratrace, PFAS, and nicotine laboratory testing solutions. With decades of analytical chemistry experience, we analyze thousands of samples monthly and have the expertise to address unique projects. We work with stakeholders to ensure we meet data-quality objectives—and address project-specific questions in advance of sample analysis. We strictly conform with all applicable guidelines and additional internal QA/QC criteria.

## **EPA Alumni Association . . . . . 43** **[www.epaalumni.org](http://www.epaalumni.org)**

The EPA Alumni Association's mission is to promote both social and professional interaction among members, support EPA staff, and educate the public, and serve as a source of institutional history regarding EPA's mission, in furtherance of environmental protection.

## **Field Environmental Instruments, Inc. . . . 16** **[www.fieldenvironmental.com](http://www.fieldenvironmental.com)**

Field Environmental Instruments, Inc. (FEI) specializes in the rental, sales and service of portable monitoring equipment and supplies. For 30 years, FEI's consistency in providing reliable instruments, responsive service and application expertise has fostered the company's growth to 13 strategically located, full-service offices nationwide. Together with its sister company, Field Data Solutions (FDS), FEI and FDS offer an extensive fleet of the industry's most well-known and technologically current instruments utilized in various environmental management, consulting, incident response and safety services and the ability to enhance these devices for wireless data monitoring and reporting through real-time telemetry transmission.

# EXHIBITORS BY COMPANY

## **Geosyntec Consultants, Inc. . . . . 30** **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 to assist our clients on a wide range of matters related to business transactions, environmental management, compliance and enforcement, emerging contaminants (including PFAS compounds), and litigation matters. We deliver solutions through Geosyntec and our seamlessly integrated divisions with a combined staff exceeding 2,800 engineers, scientists, and related technical and project support personnel. We serve our clients from more than 100 offices in the United States, Canada, the United Kingdom, Ireland, Sweden, Spain, the UAE, and Australia.

## **Global Analyzer Systems Ltd . . . . . 23** **www.direct-optics.com**

The Direct Optics product line has been designed to overcome market limitations by offering enhanced techniques for more precise trace gas measurements. It includes our Dual-Channel CRDS NO<sub>2</sub>-NO<sub>x</sub>-NO Analyzer, Photolytic Converter, and Automated Air Sampler. We continue to innovate with new measurement techniques, and additional cutting-edge products. Global Analyzer Systems Ltd. has been a leader in emissions monitoring for 25 years, ensuring safe and sustainable air by providing certainty in emissions measurement. We offer a wide range of air monitoring solutions, including multi-component CEMS, Alternate CEMS, Data Acquisition and Control Systems, CEMS Online Reporting Services, On-Site Services, Regulatory Compliance Support, Annual Evaluations, and Documentation and Training.

## **JustAir. . . . . 31** **www.justair.co**

JustAir is a comprehensive air quality management platform that provides accessible tools for both public and administrative use. The platform features a public dashboard with real-time air quality information and subscription-based text alerts to keep communities informed. JustAir also includes an administrator dashboard allowing seamless management of all monitor types with automated quality assurance, data sharing, reporting, and analysis tools. JustAir collaborates with partners to enhance community engagement, support monitor deployment, and use data to drive change. By delivering actionable air quality insights, JustAir empowers partners to protect public health, ensure compliance, and promote a healthier environment.

## **Lakes Environmental Software . . . . . 33** **www.weblakes.com**

Lakes Software is a global leader in advanced environmental modeling software and data products. Since 1995, we have been committed to delivering exceptional service and cost-effective IT solutions for industry and regulatory needs. Our products enhance productivity, reduce

errors, and offer unique solutions in a regulatory-constrained environment. Our expertise includes Air Dispersion Modeling; Custom IT Solutions; Emissions Inventory; Real-time Forecasting; Ambient Air Monitoring; AI and Neural Net Forecasting; Regulatory Compliance; Meteorological Data Processing; Human Health Risk Assessment; Training. We continuously explore new research areas to provide cutting-edge software solutions and data services to our users.

## **Loureiro Engineering Associates, Inc. . . . . 7** **www.loureiro.com**

Founded in 1975, Loureiro Engineering Associates, Inc. is a full-service, multidisciplinary consulting firm with a network of offices along the East Coast, offering integrated solutions in EHS, Facility and Land Engineering, Environmental Assessment, and Industrial Services. Loureiro understands that regulatory compliance, employee health and safety, environmental preservation, and risk management are critical to your organization. Our Environmental, Health, and Safety (EHS) services deliver expert support in compliance, best practices, and risk mitigation across a wide range of disciplines.

## **Metiri Group . . . . . 51** **www.metirigroup.com**

Metiri Group is a nationally-recognized environmental testing laboratory specializing in air, water and soil analysis. We offer expertise in PFAS, TO-15, Incremental Sampling and wastewater treatment facilities analysis, maintenance and operations. Our accredited labs and expert team deliver actionable data to guide critical environmental decisions.

## **Montrose Environmental . . . . . 27** **montrose-env.com**

Our experts provide a full range of consulting services for industrial, commercial, and governmental facilities — from planning and site selection to compliance, permitting, engineering, and remediation. With experts in all markets served and technologies that deliver the fastest, most cost-effective solutions to meet your data quality objectives. Our teams have extensive experience in ambient monitoring and leak detection monitoring applications. We've invested in state-of-the-art technology and developed a custom LDAR reporting software. Regulatory compliance is crucial. That's why Montrose takes a big-picture view, adding value by combining an understanding of regulations with practical and cost-effective methods for meeting them.

## **NCASI . . . . . 21** **www.ncasi.org**

The National Council for Air and Stream Improvement, Inc. (NCASI) is a nonprofit organization supporting the forest products industry. It provides science-based research and technical resources to help its Member companies achieve their environmental and sustainability goals. NCASI provides essential support to Members in their efforts to ensure the availability of a sustainably managed fiber supply, to

characterize and improve the effectiveness of pollution control measures at their manufacturing facilities, and to assist Members in the manufacture of sustainable forest products. Through its 80+ years of expertise, NCASI plays a key role in enhancing the industry's environmental performance and driving sustainability efforts.

## **North Carolina DEQ . . . . . 29** **www.deq.nc.gov**

The NC Department of Environmental Quality (DEQ) is the lead stewardship agency for the protection of the state's environmental resources. With offices from the mountains to the coast, DEQ administers regulatory programs designed to protect air quality, water quality, and the public's health and administers funding programs for water systems, energy infrastructure, homes, and businesses to create economic opportunities for all and a more resilient North Carolina. DEQ also offers technical assistance to businesses, farmers, local governments, and the public and encourages actions with respect to environmental protection through education programs. DEQ touches the lives of all North Carolinians.

## **Nutech Instruments Inc.. . . . . 20** **www.nutechinst.com**

Nutech Instruments for decades has been at the leading edge of development of instrumentation, and methods of sample collection. Pre-concentration, pretreatment, online monitoring, and related technologies of volatile organic compounds in ambient air. We have a New Triggered Air Sampling Device which is triggered by PID, or Text, or wired to another device filling a canister. Nutech is committed to providing our customers with the highest quality products and support in the industry.

## **Opgal Optronic Industries LTD . . . . . 49** **www.opgal.com**

For over 40 years of experience in the field of electro-optics, Opgal is a global producer of ground-breaking industrial thermal imaging cameras for various applications in the oil & gas industry. Opgal's technology gives you the ability see beyond the visible to test, measure, and inspect large areas and identify hidden problems fast, saving valuable resources and increasing productivity across a multitude of industrial applications. Our industrial product line includes a range of Optical Gas Imaging solutions for finding fugitive emissions gas leaks, and gas quantification software. Enabling companies to increase productivity while reducing emissions.

## **Pine Environmental . . . . . 44** **www.pine-environmental.com**

Pine Environmental is the industry leader providing environmental, non-destructive evaluation, continuous emissions monitoring equipment and services. Pine has built capabilities & resources we call The Pine Advantage to service customers over 37 + branches across North America; broad equipment availability; complimentary delivery pickup and local technical support & training.

# EXHIBITORS BY COMPANY

## QuantAQ, Inc. .... 40 www.quant-aq.com

QuantAQ helps communities, companies and governments build air quality networks that are accurate, reliable and easy to scale.

## SC&A, Inc. .... 47 www.scainc.com

For over forty years, SC&A has provided support to government and industry clients alike, and our expertise is now a trusted resource for Resiliency and Emergency Management Services, Air Quality & Water Quality, Radiological Remediation, Radiation and Nuclear Sciences, Environmental Health and Safety, and Public Health services. Our contract management and financial systems consistently meet stringent regulatory and audit standards, and our commitment to cybersecurity and data protection aligns with both federal and industry benchmarks. We recognize the immense trust our clients place in us, and we take our responsibility to safeguard not only their critical data, but also their reputation and success, very seriously.

## SCS Engineers .... 48 www.scsengineers.com

SCS Engineers' consultants, scientists, engineers, and contractors provide expertise in designing and implementing solid and hazardous waste management, biogas, RNG, carbon capture – reduction, measurement, air quality, and GHG verification solutions, each compliant with the most rigorous regulations and standards.

Our teams work with industries, manufacturers, and municipalities to prevent, mitigate, and remediate environmental challenges while applying our knowledge of environmental regulatory systems and technologies. SCS staff works effectively to shorten project timelines, stay on budget, and close gaps between sustainability goals and achievements so our clients can produce and deliver products and services more efficiently.

## SENSIT. .... 55 gasleaksensors.com/product-category/ environmental\_monitors

SENSIT Technologies designs and manufactures gas leak detectors, confined space monitors, and environmental monitoring instruments. For over 40 years, we've protected life, property, and the environment from hazardous gases. We're ISO 9001:2015 certified and trusted for reliable, innovative gas detection solutions.

## SGS North America, Inc. .... 53 www.sgs-ehsusa.com

SGS is the world's leading Testing, Inspection and Certification company. We operate a network of over 2,500 laboratories and business facilities across 115 countries, supported by a team of 99,500 dedicated professionals.

## SR&R Environmental, Inc. .... 37 www.srrenviro.com

SR&R has over 30 years of experience in handling environmental remedies such as asbestos abatement, vapor mitigation systems, soil and groundwater remediation, we are also a permitted CWT, which allows us to treat/dispose of non-haz waste at our facility, as well as provide the transportation of haz and non-haz waste throughout many states. Our clients understand that a mishandled remediation only exposes the responsible party to more liability further down the line. That's why they rely on SR&R's turn-key remediation services to ensure that every site is safely and efficiently handled in accordance with all local, state, and federal regulations.

## Thermo Fisher Scientific .... 41 www.thermofisher.com

At Thermo Fisher Scientific, we are committed to enabling our customers to create a healthier, cleaner, and safer future through our innovative technologies. We offer an extensive range of proven gas and particulate analysis technologies and monitoring solutions that deliver precise, dependable air quality data in user-friendly formats. Visit our booth to explore how our solutions can help achieve compliance with governmental regulations and improve air quality for all. Learn more at [www.thermofisher.com/ambientair](http://www.thermofisher.com/ambientair)

## TRC Companies .... 46 www.trccompanies.com

TRC stands for adaptability. With direction setting perspectives and partnerships, our 8,000+ tested practitioners in advisory, consulting, construction, engineering and management services deliver unique resolutions that answer any built or natural imperative. By creating new pathways for the world to thrive, we help our clients adapt to change and achieve long-lasting results while solving the challenges of making the Earth a better place to live — community by community and project by project. TRC is ranked #16 on ENR's list of the Top 500 Design Firms, #5 for Power and #3 for Transmission & Distribution.

## Trinity Consultants. .... 1 www.trinityconsultants.com

Trinity Consultants, a leading global environmental consulting firm, provides services and solutions in the EHS Regulatory Compliance, Built Environment, Life Sciences and Water & Ecology markets. Founded in 1974, Trinity has the technical expertise, industry depth and capabilities to help clients achieve their goals across the natural and built environments.

## TSI Incorporated. .... 26 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 that are suited for ambient monitoring and work area monitoring.

## URG Corporation .... 14 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.

## Vasthi Instruments .... 24 www.vasthi.com

Vasthi Instruments, established in 2009, is a globally recognized leader in advanced air quality monitoring solutions, with a strong presence across Asia, the Middle East, and the Americas. As a company rooted in indigenous manufacturing and in-house R&D, Vasthi has built deep, and VOCs. Renowned for its precision, reliability, and technological innovation, Vasthi's instruments are trusted by government bodies, industrial giants, and environmental agencies worldwide. The company is at the forefront of integrating AI-driven data analysis and weather prediction, helping clients proactively manage pollution risks and regulatory compliance. What sets Vasthi apart is its proprietary software platform that enables real-time data transfer from client sites to state and central pollution control boards, ensuring transparency and accountability. With a vision to drive sustainable change through cutting-edge innovation, Vasthi Instruments continues to lead the way in building a cleaner, smarter, and safer environment for the future.

## Wilbur Technical Services .... 25 www.jjwilbur.com

WTS specializes in instrumentation sales, systems integration, field service, and instrument repair. WTS has provided several custom-built mobile monitoring systems. Utilizing vans, SUVs, and cargo trailers. WTS has offices in New Hampshire, Connecticut, and Raleigh North Carolina. Clients include government regulatory agencies, tribal environmental organizations, university researchers, and private industry in combustion, scrubbing and mitigation systems for pollution control. WTS team is 13-people and we have over 100 years' combined experience operating and servicing ambient air quality monitoring equipment.



# TECHNICAL SESSIONS BY TOPIC AREA

Day	Time	Title	Track	Session	Room
<b>Mini Symposium: Achieving an Equitable, Resilient Environment</b>					
Tues	8:30 am – 10:30 am	Opening Keynote Plenary Session: Fostering Collaboration for Environmental Resilience	MINI	panel	Ballroom A
Tues	1:30 pm – 3:30 pm	Corporate Sustainability: Plans, Programs, Ethics, and Performance Tracking	MINI/SUST	platform	301AB
Tues	4:00 pm – 6:00 pm	Air Permitting Programs – Federal and State Implementation Perspectives	MINI/REGU	panel	301AB
Weds	8:00 am – 9:40 am	Roadmap to Achieving Carbon Neutrality: Major Economies' Perspectives	MINI/CLIM	panel	301AB
Weds	10:10 am – 11:50 am	State-Led Environmental Equity Initiatives	MINI/EEQT	panel	301AB
Weds	1:30 pm – 3:10 pm	The Next Generation of NASA Air Quality Satellite Observations for Decision Making	MINI/AQES/ AQMM/H&EE	panel	301AB
Weds	3:30 pm – 5:30 pm	Clearing the Air: Navigating Changes in GHG Landfill Air Regulations, Sustainability, and Compliance Reporting, and the Impacts of Satellite Technology	MINI/CLIM	panel	301AB
Thurs	10:10 am – 11:50 am	Advancements in Community-Led Air Quality Monitoring: Fostering Environmental Justice, Ensuring Quality Assurance & Using Data for Change	MINI/AQMM/EEQT	panel	306A
Thurs	1:40 pm – 3:40 pm	Decarbonizing Aviation: Advancements in Greenhouse Gas Mitigation for Airports & Airlines	MINI/TRAN/CLIM	panel	306A
<b>Air Quality Control Technology and Emissions Studies</b>					
Tues	1:30 pm – 3:30 pm	Air Pollution Control: General	AQCT	platform	302A
Tues	4:00 pm – 6:00 pm	Air Pollution Control: GHGs	AQCT/CLIM	platform	302A
Tues	4:00 pm – 6:00 pm	Mobile Source Emissions Trends and Analysis Methods	TRAN/AQES	platform	306B
Weds	8:00 am – 9:40 am	Air Emission Estimates and Inventories	AQES	platform	302A
Weds	1:30 pm – 3:10 pm	The Next Generation of NASA Air Quality Satellite Observations for Decision Making	MINI/AQES/ AQMM/H&EE	panel	301AB
<b>Air Quality Measurements and Monitoring</b>					
Tues	1:30 pm – 3:30 pm	Case Studies in Air Monitoring	AQMM/INDU	platform	302B
Tues	4:00 pm – 6:00 pm	Methane Measurements: In Place to In Space	AQMM/CLIM	platform	302B
Weds	10:10 am – 11:50 am	Air Monitoring Instrumentation Advances	AQMM	platform	302B
Weds	1:30 pm – 3:10 pm	The Next Generation of NASA Air Quality Satellite Observations for Decision Making	MINI/AQES/ AQMM/H&EE	panel	301AB
Weds	1:30 pm – 3:10 pm	Emissions Measurements for Point and Non-Point Sources	AQMM	platform	302A
Weds	3:30 pm – 5:30 pm	Next Generation Air Monitoring Tools and Techniques	AQMM	platform	302B
Thurs	8:00 am – 10:00 am	55th Annual Critical Review: Satellite Data to Support Air Quality Assessment and Management	AQMM		301AB
Thurs	10:10 am – 11:50 am	Advancements in Community-Led Air Quality Monitoring: Fostering Environmental Equity, Ensuring Quality Assurance & Using Data for Change	MINI/AQMM/EEQT	panel	306A
Thurs	1:40 pm – 3:40 pm	Air Sensor Applications	AQMM	platform	302A
<b>Air Quality Modeling</b>					
Tues	1:30 pm – 3:30 pm	Photochemical Grid Modeling (Part 1)	AQMO	platform	306A
Tues	1:30 pm – 3:30 pm	AEESP/A&WMA Joint Lecture and A&WMA Lecture	CLIM/AQMO/EEQT	lecture	306B
Tuea	4:00 pm – 6:00 pm	Photochemical Grid Modeling (Part 2)	AQMO	platform	306A
Weds	1:30 pm – 3:10 pm	Innovative Air Quality Modeling Techniques	AQMO	platform	306A
Weds	3:30 pm – 5:30 pm	Air Dispersion Modeling: Case Studies, Issues, Applications, Advances, and Guidance	AQMO	platform	306A
<b>Climate Resiliency – Policy &amp; Adaptation and Greenhouse Gas Emissions</b>					
Tues	1:30 pm – 3:30 pm	AEESP/A&WMA Joint Lecture and A&WMA Lecture	CLIM/AQMO/EEQT	lecture	306B
Tues	4:00 pm – 6:00 pm	Methane Measurements: In Place to In Space	AQMM/CLIM	platform	302B
Tues	4:00 pm – 6:00 pm	Climate Mitigation, Greenhouse Gas Emissions, Impacts	CLIM	platform	302C
Tues	4:00 pm – 6:00 pm	Air Pollution Control: GHGs	AQCT/CLIM	platform	302A
Weds	8:00 am – 9:40 am	Roadmap to Achieving Carbon Neutrality: Major Economies' Perspectives	MINI/CLIM	panel	301AB
Weds	8:00 am – 9:40 am	Landfill Air Compliance and Permitting – The Perfect Storm of Overlapping Regulatory Changes	REGU/CLIM/WAST	panel	305A
Weds	10:10 am – 11:50 am	Greenhouse Gas Emissions: Disclosure and Decarbonizing	CLIM	platform	302A
Weds	10:10 am – 11:50 am	Young Professional Panel: Recovering from Natural Disasters	YPRO/CLIM/REGU	panel	305A
Weds	3:30 pm – 5:30 pm	Clearing the Air: Navigating Changes in GHG Landfill Air Regulations, Sustainability, and Compliance Reporting, and the Impacts of Satellite Technology	MINI/CLIM/WAST	panel	301AB
Thurs	1:40 pm – 3:40 pm	Decarbonizing Aviation: Advancements in Greenhouse Gas Mitigation for Airports & Airlines	MINI/TRAN/CLIM	panel	306A

# TECHNICAL SESSIONS BY TOPIC AREA

Day	Time	Title	Track	Session	Room
<b>Climate Resiliency – Policy &amp; Adaptation and Greenhouse Gas Emissions (cont.)</b>					
Thurs	1:40 pm – 3:40 pm	Climate Policy, Issues, and Corporate Programs	CLIM	platform	306C
Thurs	1:40 pm – 3:40 pm	Hydrogen Manufacturing	INDU/CLIM	platform	305A
<b>Environmental Equity and Health &amp; Environmental Effects</b>					
Tues	1:30 pm – 3:30 pm	AEESP/A&WMA Joint Lecture and A&WMA Lecture	CLIM/AQMO/EEQT	lecture	306B
Weds	10:10 am – 11:50 am	State-Led Environmental Equity Initiatives	MINI/EEQT	panel	301AB
Weds	10:10 am – 11:50 am	Health Effects and Exposure (Part 1)	H&EE	platform	306A
Weds	1:30 pm – 3:10 pm	The Next Generation of NASA Air Quality Satellite Observations for Decision Making	MINI/AQES/AQMM/H&EE	panel	301AB
Weds	3:30 pm – 5:30 pm	Environmental Protection Network – Purpose, Goals, and Actions	EEQT	panel	306A
Thurs	10:10 am – 11:50 am	Advancements in Community-Led Air Quality Monitoring: Fostering Environmental Equity, Ensuring Quality Assurance & Using Data for Change	MINI/AQMM/EEQT	panel	306A
Thurs	10:10 am – 11:50 am	Health Effects and Exposure (Part 2)	H&EE	platform	302B
<b>Power Generation, Sustainable Energy, Oil &amp; Gas, and Manufacturing</b>					
Tues	1:30 pm – 3:30 pm	Case Studies in Air Monitoring	AQMM/INDU	platform	302B
Tues	4:00 pm – 6:00 pm	Hot Topics in Power	INDU	platform	305A
Tues	4:00 pm – 6:00 pm	Wastewater and Waste-to-Energy	WAST/INDU	platform	306C
Weds	8:00 am – 9:40 am	Electric Power – 2025 Issues and Developments	INDU	panel	305B
Weds	8:00 am – 9:40 am	Waste-to-Energy, Municipal Solid Waste	WAST/INDU	platform	306C
Weds	10:10 am – 11:50 am	Hot Topics in Industry Air Permitting and Emissions Reduction Programs	INDU/REGU	platform	305B
Weds	1:30 pm – 3:10 pm	Navigating Environmental Permitting and Compliance Challenges in Lithium-Ion Battery Recycling: Insights and Regulatory Perspectives	SUST/REGU/INDU	panel	302C
Weds	3:30 pm – 5:30 pm	Air Legislation, Regulation, and Policy Developments	INDU/REGU	panel	306B
Thurs	1:40 pm – 3:40 pm	Hydrogen Manufacturing	INDU/CLIM	platform	305A
<b>Regulatory, Legal, and Policy Development</b>					
Tues	4:00 pm – 6:00 pm	Air Permitting Programs – Federal and State Implementation Perspectives	MINI/REGU	panel	301AB
Tues	1:30 pm – 3:30 pm	New Source Review (NSR): Issues and Recent Developments	REGU	panel	305A
Tues	1:30 pm – 3:30 pm	Environmental Issues at Government Facilities	REGU	platform	305B
Tues	4:00 pm – 6:00 pm	Environmental Issues at Military Facilities	REGU	platform	305B
Weds	8:00 am – 9:40 am	Landfill Air Compliance and Permitting – The Perfect Storm of Overlapping Regulatory Changes	REGU/CLIM/WAST	panel	305A
Weds	8:00 am – 9:40 am	Air Permitting Problems and Solutions	REGU	panel	306B
Weds	10:10 am – 11:50 am	Hot Topics in Industry Air Permitting and Emissions Reduction Programs	INDU/REGU	platform	305B
Weds	10:10 am – 11:50 am	Young Professional Panel: Recovering from Natural Disasters	YPRO/CLIM/REGU	panel	305A
Weds	1:30 pm – 3:10 pm	Navigating Environmental Permitting and Compliance Challenges in Lithium-Ion Battery Recycling: Insights and Regulatory Perspectives	SUST/REGU/INDU	panel	302C
Weds	3:30 pm – 5:30 pm	Air Legislation, Regulation, and Policy Developments	INDU/REGU	panel	306B
Weds	3:30 pm – 5:30 pm	Young Professionals Panel: Regulatory Update	YPRO/REGU	panel	305A
Thurs	10:10 am – 11:50 am	BACT and Air Permit Modeling Implementation Issues	REGU	panel	302A
Thurs	10:10 am – 11:50 am	The History of the U.S. Environmental Protection Agency	REGU	panel	306B
<b>Sustainability and Resource Conservation</b>					
Tues	1:30 pm – 3:30 pm	Corporate Sustainability: Plans, Programs, Ethics, and Performance Tracking	MINI/SUST	platform	301AB
Tues	1:30 pm – 3:30 pm	Sustainable Waste/Materials Management	SUST/WAST	platform	302C
Weds	8:00 am – 9:40 am	Unlocking Business Value of Sustainability – Blueprint for a Greener Future	SUST	panel	302C
Weds	10:10 am – 11:50 am	Circular Economy Outlook – Practices, Challenges, and Opportunities	SUST	panel	302C
Weds	10:10 am – 11:50 am	Agricultural Waste Reuse and Sustainable Products for Food Systems	WAST/SUST	platform	306C
Weds	1:30 pm – 3:10 pm	Navigating Environmental Permitting and Compliance Challenges in Lithium-Ion Battery Recycling: Insights and Regulatory Perspectives	SUST/REGU/INDU	panel	302C
Weds	3:30 pm – 5:30 pm	Sustainability Metrics and Analytics	SUST	platform	302C
Thurs	1:40 pm – 3:40 pm	Zero Waste and Circular Economy: Plans, Programs, Metrics, Economics, Innovation, and Climatic Benefits	SUST	platform	302C

# TECHNICAL SESSIONS BY TOPIC AREA

Day	Time	Title	Track	Session	Room
<b>Transportation</b>					
Tues	4:00 pm – 6:00 pm	Mobile Source Emissions Trends and Analysis Methods	TRAN/AQES	platform	306B
Weds	1:30 pm – 3:10 pm	Noise Issues and Transportation Noise Modeling	TRAN	platform	306B
Thurs	1:40 pm – 3:40 pm	Decarbonizing Aviation: Advancements in Greenhouse Gas Mitigation for Airports & Airlines	MINI/TRAN/CLIM	panel	306A
<b>Waste Management, Landfill Regulation, and PFAS</b>					
Tues	1:30 pm – 3:30 pm	Sustainable Waste/Materials Management	SUST/WAST	platform	302C
Tues	1:30 pm – 3:30 pm	Vapor Intrusion and Methane Hazards	WAST	platform	306C
Tues	4:00 pm – 6:00 pm	Wastewater and Waste-to-Energy	WAST/INDU	platform	306C
Weds	8:00 am – 9:40 am	Landfill Air Compliance and Permitting – The Perfect Storm of Overlapping Regulatory Changes	REGU/CLIM/WAST	panel	305A
Weds	8:00 am – 9:40 am	Waste-to-Energy, Municipal Solid Waste	WAST/INDU	platform	306C
Weds	10:10 am – 11:50 am	Agricultural Waste Reuse and Sustainable Products for Food Systems	WAST/SUST	platform	306C
Weds	1:30 pm – 3:10 pm	Young Professional Panel: All About Per- and Polyfluoroalkyl Substances	YPRO/WAST	panel	305A
Weds	3:30 pm – 5:30 pm	PFAS Management, Landfill Leachate and Wastewater	WAST	platform	306C
Weds	3:30 pm – 5:30 pm	Clearing the Air: Navigating Changes in GHG Landfill Air Regulations, Sustainability, and Compliance Reporting, and the Impacts of Satellite Technology	MINI/CLIM/WAST	panel	301AB
Thurs	10:10 am – 11:50 am	PFAS Air Analysis and Site Characterization	WAST	platform	306C
<b>Young Professionals</b>					
Weds	10:10 am – 11:50 am	Young Professional Panel: Recovering from Natural Disasters	YPRO/CLIM/REGU	panel	305A
Weds	1:30 pm – 3:10 pm	Young Professional Panel: All About Per- and Polyfluoroalkyl Substances	YPRO/WAST	panel	305A
Weds	3:30 pm – 5:30 pm	Young Professionals Panel: Regulatory Update	YPRO/REGU	panel	305A

# TECHNICAL AND STUDENT POSTERS

**Attend the Technical and Student Poster Session**  
**Tuesday, June 10, 10:45 am – 12:15 pm, Ballroom BC**

## **Air Emission Control Technologies and Programs**

**A Study on the Characteristics of Down-Flow to Improve Pressure Drop and Collection Efficiency in Dust Collectors**  
 Paper #1996686

*Hwabhin Kwon, Youngchul Byun, Jung Gi Min, Seungwan Seo, Research Institute of Industrial Science & Technology*

**Effective Reduction of Condensable Particulate Matter from Coal Combustion Flue Gas (Student Poster #22)**

Paper #2028918

*Choi Seungjin, Chungbuk National University*

**Optimizing Ozone Removal with PRMs for Taza Aya's NTP Module under Freezing Temperatures and Elevated Humidity at Michigan Turkey Producers (Student Poster #24)**

Paper #2029437

*Bhanu Sai Prakash Chikkavarapu, Northern Illinois University*

## **Air Pollutant Emission Sources: Quantification, Monitoring, and Reporting**

**Analysis of Hazardous Material Emission from a CO<sub>2</sub> Amine Absorption Process Using Alkanolamine (Student Poster #23)**

Paper #2028925

*YeJi Han, Chungbuk National University*

## **Air Pollutant Monitoring and Analysis**

**Ozone Evaluation for Ozone Advance In Memphis, Tennessee**  
 Paper #1998637

*Cheng-En Yang, University of Tennessee; James Johnston, Michelle Oakes, Marc Corrigan, Mark Reynolds, Tennessee Department of Environment and Conservation; Wasim Khokhar, Michael Goldstein, Shelby County Health Department; Joshua Fu, University of Tennessee-Knoxville*

**Considerable Sample-Imbalance-Induced Biases in Ground-Level PM<sub>2.5</sub> Estimation from Satellite and Machine Learning in U.S. (Student Poster #26)**

Paper #2031707

*Leyuan Zhang, University of Tennessee*

**Analysis of Organic Components of Condensable Particulate Matter Generated from Coal Combustion (Student Poster #27)**

Paper #2032313

*Jun-Hyeok Jang, Chungbuk National University*

# TECHNICAL AND STUDENT POSTERS

## Air Pollutant Exposure, Impacts, and Health Risks

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### Estimating Air Quality Exposure in 1940 and 2010 For Health Analyses (Student Poster #8)

Paper #1980174

*Xiaorong Shan, George Mason University*

### Characteristics of Korea Air Pollutants Exposure (KAPEX) Model

Paper #1991495

*Kiyoung Lee, Seoul National University*

### Analysis of Pre-cleaned XAD-2 for OTM-45 and PFAS Contaminants

Paper # 1998815

*James Ross, Joshua Fera, MilliporeSigma*

## Air Quality Modeling and Impact Assessment: Models, Applications, and Guidance

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### Assessing the Impact of Dimethyl Sulfide (DMS) Emissions on Air Quality in Coastal Chile Using CMAQ Modeling (Student Poster #25)

Paper #2030598

*Mariela Martinez, Pontificia Universidad Católica de Valparaíso*

## Pollutant Health Effects

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### Impact of Animal Feeding Operations on the Historical Trends of Agricultural Communities (Student Poster #6)

Paper #2025669

*Brandon Lewis, Yale University*

### The Role of Stress Kinase GCN2 in Lung Injury and Inflammation Caused by Ozone Inhalation in Mice (Student Poster #20)

Paper #2028245

*Jessica Rodriguez, Rutgers University*

## Climate Resiliency — Drivers and Mitigation

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### Studying the Performance and Stability Characteristics of Triamine-Modified Mesoporous Silica Materials for CO<sub>2</sub> Capture from Ambient Air (Student Poster #19)

Paper #2027751

*Laura Rojas Quiroz, Florida Atlantic University*

## Residuals And Waste: Treatment, Reclamation, Beneficial Use, and Impacts

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### Regeneration of Sodium Bicarbonate from Industrial Desulfurization Waste

Paper #1996056

*Jung Gi Min, Youngchul Byun, Seungwan Seo, Hwabhin Kwon, Research Institute of Industrial Science & Technology (RIST)*

### A Novel Chitosan-Based Films Reinforced with Sustained Release Citral Oil Nanoemulsion with Enhanced Multi-Functionality and Physicochemical Properties (Student Poster #10)

Paper #1997361

*Shih-Syuan Lin, National Chung Hsing University*

### Conversion of Citrus Waste to Chemically Modified Activated Carbon Adsorbent Materials for Aqueous Phase Phosphate Removal (Student Poster #17)

Paper #2027227

*Sierra Mugan, Florida Atlantic University*

### Transforming Scrap Tires into Amine-Functionalized Activated Carbon Adsorbents for Landfill Gas Upgrading (Student Poster #21)

Paper #2028624

*Brandyn Nutter, Florida Atlantic University*

## Bioenergy, Waste-to-Energy

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### Impact of Glucose Concentration on Hydrogen Production Efficiency in Microalgal-Cyanobacterial-Bacterial Co-Cultures (Student Poster #12)

Paper # 1998884

*Abdelsalam Zidan, United Arab Emirates University*

### Waste-to-Energy: Transitioning Towards a Sustainable Energy Future in Indonesia (Student Poster #13)

Paper #1999433

*Qoriatul Fitriyah, North Carolina State University*

### A Regulatory Mind map for Incinerator Projects: Wood and Biosolids

Paper #1999706

*Mark Kiffe, Bay Area Air District*

## Sustainability and Resource Conservation

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### From Servers to Heaters: Harnessing Data Center Waste Heat for Northern China's Green Transition (Student Poster #28)

Paper #2032454

*Hao Hu, University of Southern California*



# TECHNICAL PROGRAM HIGHLIGHTS



**Chih Chao**  
Technical Council Chair,  
Cantech Environmental  
Services

The technical program is the core of the A&WMA Annual Conference, and we strive to host one of the most inclusive conferences on environmental monitoring, science, technology, and management. The Technical Council and the Technical Coordinating Committees have been working diligently over the past year, led by Chih Chao with support from Fernando Garcia Menendez, Roger Wayson, and the Local Host Committee.

The theme of this year's conference is "Collaborating for an Equitable, Resilient Environment," which lies at the intersection of resource development, social responsibility, and environmental stewardship. The conference will kick off with a timely Keynote Plenary that provides a multi-perspective approach to policymaking and measures to ensure an equitable and resilient environment. Subsequent sessions and panels will expand on this theme, presenting new findings and state-of-the-science solutions to environmental issues. This year's 55th Annual Critical Review on "Satellite Data to Support Air Quality Assessment and Management" exemplifies the complex and interdisciplinary nature of the conference theme.



**Fernando Garcia  
Menendez**  
Technical Program Vice Chair,  
North Carolina State University

Now that you're at ACE, it's time to take advantage of the hundreds of presentations, multiple networking events, and dozens of exhibitor booths to enrich your knowledge. Here are a few tips to get the most out of ACE this year:

- Learn about different approaches for developing regulation and policy – Attend sessions on policy advances, permitting challenges, emissions inventories, new regulations, and environmental equity.
- Learn the latest on hot and emerging topics – Attend the AEESP/A&WMA Joint Lecture and sessions on PFAS, sustainable materials, major economies' carbon neutrality perspectives, ESG approaches, electric power, hydrogen and low-carbon fuels, new monitoring technologies, and innovations in modelling.
- Learn from the important people in the various environmental sectors – Attend sessions on EPA history and environmental protection networking. Don't hesitate to initiate dialogue with speakers, panelists, exhibitors, or other attendees, in person or through the mobile app.

## TECHNICAL PROGRAM TRACKS

Legend			
Tracks		Tracks	
AQCT	Air Quality - Control Technology	LOHC	Local Host Committee
AQES	Air Quality - Emissions Studies	MINI	Mini-Symposium: Achieving an Equitable, Resilient Environment
AQMM	Air Quality - Measurements and Monitoring	REGU	Regulatory and Legal
AQMO	Air Quality - Modeling	SUST	Sustainability and Resource Conservation
CLIM	Climate Resiliency	TRAN	Transportation
EEQT	Environmental Equity	WAST	Waste Management
H&EE	Health and Environmental Effects	YPRO	Young Professionals
INDU	Heavy Industry, Power Generation, and Petroleum Production		

# TECHNICAL SESSIONS – TUESDAY

Tuesday, June 10 2025				
Time	Title	Track	Session	Room
8:30 am – 10:30 am	Opening Keynote Plenary Session: Fostering Collaboration for Environmental Resilience		panel	Ballroom A
10:45 am – 5:30 pm	Exhibit Hall Grand Opening			Ballroom BC
10:45 am – 12:15 pm	Technical and Student Poster Session			Ballroom BC
11:55 am – 1:15 pm	Technical Coordinating Committee Meetings			See page 17
Tuesday PM1				
1:30 pm – 3:30 pm	Corporate Sustainability: Plans, Programs, Ethics, and Performance Tracking	MINI/SUST	platform	301AB
1:30 pm – 3:30 pm	Air Pollution Control: General	AQCT	platform	302A
1:30 pm – 3:30 pm	Case Studies in Air Monitoring	AQMM/INDU	platform	302B
1:30 pm – 3:30 pm	Photochemical Grid Modeling (Part 1)	AQMO	platform	306A
1:30 pm – 3:30 pm	AEESP/A&WMA Joint Lecture and A&WMA Lecture	CLIM/AQMO/EEQT	lecture	306B
1:30 pm – 3:30 pm	New Source Review (NSR): Issues and Recent Developments	REGU	panel	305A
1:30 pm – 3:30 pm	Environmental Issues at Government Facilities	REGU	platform	305B
1:30 pm – 3:30 pm	Sustainable Waste/Materials Management	SUST/WAST	platform	302C
1:30 pm – 3:30 pm	Vapor Intrusion and Methane Hazards	WAST	platform	306C
3:30 pm – 4:00 pm	Session Break			Exhibit Hall
Tuesday PM2				
4:00 pm – 6:00 pm	Air Permitting Programs – Federal and State Implementation Perspectives	MINI/REGU	panel	301AB
4:00 pm – 6:00 pm	Air Pollution Control: GHGs	AQCT/CLIM	platform	302A
4:00 pm – 6:00 pm	Methane Measurements: In Place to In Space	AQMM/CLIM	platform	302B
4:00 pm – 6:00 pm	Photochemical Grid Modeling (Part 2)	AQMO	platform	306A
4:00 pm – 6:00 pm	Climate Mitigation, Greenhouse Gas Emissions, Impacts	CLIM	platform	302C
4:00 pm – 6:00 pm	Hot Topics in Power	INDU	platform	305A
4:00 pm – 6:00 pm	Environmental Issues at Military Facilities	REGU	platform	305B
4:00 pm – 6:00 pm	Mobile Source Emissions Trends and Analysis Methods	TRAN/AQES	platform	306B
4:00 pm – 6:00 pm	Wastewater and Waste-to-Energy	WAST/INDU	platform	306C

## Corporate Sustainability: Plans, Programs, Ethics, and Performance Tracking

Track: MINI/SUST  
6/10/2025, 1:30 pm  
Room: 301AB

**Platform** – TCC: SUS

**Chair:** Kate Howe, Weaver Consultants Group  
**Co-Chair:** Kraig Kurucz, Lockheed Martin-Space

### 1:30 PM

#### Developing a Practical Sustainability Plan Providing Business Direction

Paper #1998752

*Kate Howe, Weaver Consultants Group*

### 1:50 PM

#### Do Environmental, Social and Governance (ESG) Activities Influence Financial Performance of Leading Indian Firms?

Paper #1996811

*Sweta Bania, Jhumoor Biswas, IISWBM*

### 2:10 PM

#### Renewable Energy Procurement 101

Paper #1995935

*Ashley Sorensen, Geosyntec Consultants*

### 2:30 PM

#### Navigating ESG Software - Setting up for Success from Selection through Implementation

Paper #1999473

*Carolyn K. Meisner, Adam Berger, Jacobs*

### 2:50 PM

#### Strategic Workforce Solutions in the Environmental and Waste Industry: Navigating Talent Challenges for Consultants, Civil and Environmental Companies, and Utilities

Paper #2006712

*Stuart Keeter, MRI Raleigh*

### 3:10 PM

#### Decision Support Tool Process Module for Municipal Solid Waste Processing for Developing Countries

Paper #2000159

*Ketan V. Shah, SCS Engineers*

## AEESP/A&WMA Joint Lecture and A&WMA Lecture

Track: CLIM/AQMO/EEQT

6/10/2025, 1:30 PM

Room: 306B

**Lecture** – TCC: CCI

# TECHNICAL SESSIONS – TUESDAY

1:30 PM

## **AEESP/A&WMA Joint Lecture: Engaging Communities in Scientific Discovery and Innovation to Address Environmental Grand Challenges**

**Lecturer:** *Andrea R. Ferro, Clarkson University*

Community engagement is critical for the successful development and implementation of engineering solutions to many environmental problems. Community partners bring knowledge and expertise that allow for the co-creation of research questions, experimental methods, engineering design considerations, and beneficial research products. However, community-engaged research (CER) also has the potential to cause harm to community partners due to unequal power dynamics and reward systems, undervaluing of community contributions, and underestimating the time required by various stakeholders to build trusting relationships and to conduct the work. This lecture will highlight recent advances in developing evidence-based strategies and associated tools for conducting and assessing CER and will provide specific examples for applying the tools. Building upon a rich history of best practices from CER conducted across disciplines, these strategies can aid CER teams to effectively and respectfully work together to address environmental grand challenges and, in turn, improve outcomes for engineering solutions developed with and for communities.

2:30 PM

## **A&WMA Lecture: AI Applications in Air Quality and Weather Forecasting**

**Lecturer:** *Joshua S. Fu, University of Tennessee-Knoxville*

Accurate weather and air quality forecasts are vital for protecting public health, shaping environmental policy, and understanding climate systems. Traditional chemical transport models (CTMs), while detailed, are computationally intensive and impractical for real-time use. To address this, the AI application, DeepCTM4D framework, uses deep learning to emulate CTM outputs, significantly improving computational efficiency while maintaining scientific credibility. Trained on emissions, meteorology, and chemical data, DeepCTM4D captures key atmospheric processes and enables rapid, interpretable predictions. It supports real-time applications and policy analysis, offering a powerful, scalable tool for air quality and weather forecasting. An application is also discussed in the measurement-model fusion processes. Complementing this, the DeepMMF model introduces a physics-constrained deep learning approach to improve NO<sub>2</sub> estimates over the U.S. It combines CTM outputs with satellite and ground observations, addresses sample imbalance issues, and enhances spatial-temporal accuracy. DeepMMF achieves superior performance compared to traditional methods and aligns emission adjustments with observed trends, highlighting its potential for air pollution exposure assessment and policy support.

## **Air Pollution Control: General**

Track: AQCT  
6/10/2025, 1:30 PM  
Room: 302A

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**Platform – TCC:** AAC

**Chair:** Masoud Jahandar Lashaki, Florida Atlantic University

**Co-Chair:** Ryan Thomas, SCS Engineers

1:30 PM

## **Air Pollution Control Equipment Design: An Update**

Paper #1997706  
*Jay Richardson, BS – Combustion Engineer; R. Ryan Dupont, Utah State University, Utah Water Research Laboratory; Kumar Ganesan, Montana Technological University, The University of Montana; Paul Farber, P. Farber & Associates, LLC; Lou Theodore, Theodore Tutorials*

1:50 PM

## **Effects of Air Temperature on Inactivation of Airborne Viruses by Non-Thermal Plasma**

Paper #1999588  
*Herek L. Clack, Emma L. Pfeiffer, Dylan Weiss, Taza Aya, Inc.; Abigail Atwood, Arnulfo Pelayo, Marta Struve, Alexandra Szczuka, University of Michigan*

2:10 PM

## **Novel Modular RTO for Control of Air Pollution Emissions from Small Sources**

Paper #1998746  
*Joseph M. Klobucar, Rotoheater LLC*

2:30 PM

## **Real-Time Monitoring of Odor Using Sulfur as a Surrogate**

Paper #1999702  
*Eva Luu, Armando Hurtado, SCS Engineers*

2:50 PM

## **Impact of Operational Scaling on Odor Mitigation: A Case Study of Waste Oil Treatment Facility**

Paper #2006554  
*Meera Harara, Sultan Albusaeedi, Ahmed El-Said Rady, Ahmed Al Waheebi, Environment Agency Abu Dhabi*

## **Case Studies in Air Monitoring**

Track: AQMM/INDU  
6/10/2025, 1:30 PM  
Room: 302B

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**Platform – TCC:** AAM

**Chair:** Douglas C. Dziubla, ERM

**Co-Chair:** Carrie Macdougall, Golder Associates

1:30 PM

## **Real-Time Wind-Activated Fenceline and Community Particulate Monitoring – Case Study**

Paper #1999351  
*Stepheney Davey, Pooya Shariaty, GHD Limited*

1:50 PM

## **Airborne Radioactivity Downwind of Colorado's Largest Oil Refinery**

Paper #2003381  
*Detlev Helmig, Ryan Daly, Lisa Darby, Gabriel Greenberg, Jacques Hueber, Kat Potter, Susan Simoncic, Michel Stahl, Boulder AIR LLC; David Brown, Environment and Human Health Inc.; Dani Caputi, cPlanet Ozone Meteorological Consulting; Philip Doe, Be the Change – Colorado; Olga Gonzalez, Cultivando; Justin Nobel, Rolling Stone Magazine; Gunnar Schade, Texas A&M University; Wilma Subra, Subra Company*

# TECHNICAL SESSIONS – TUESDAY

**2:10 PM**

## **Measuring CO<sub>2</sub>, PM, and VOCs in a Student Apartment without Centralized AC and Cooling**

Paper #2012968

*Mingming Lu, Alyssa Coriell, University of Cincinnati*

**2:30 PM**

## **How Air Monitoring Advances Address Compliance, Client, and Community Concerns on a Brownfield Cleanup**

Paper #2006517

*Paul R. Pickering, Aeroqual*

**2:50 PM**

## **EPA Method 325: Past Lessons & HON MACT Implications**

Paper #2006617

*Matt Loftis, Daniel Clayton, Enthalpy Analytical*

**3:10 PM**

## **Streamlining Compliance: Automated Solutions for US EPA Hazardous Organic NESHAP (HON) Regulations**

Paper #1997803

*Steven J. LaZar, Gilad Shpitzer, Atmosfir Optics, Ltd.*

## **Environmental Issues at Government Facilities**

Track: REGU

6/10/2025, 1:30 PM

Room: 305B

**Platform** – TCC: GOV

**Chair:** Roger L. Wayson, AECOM

**Co-Chair:** Julie Wallace, AECOM

**1:30 PM**

## **Calculating Emissions from Storage Tanks**

Paper #1998910

*Julie Wallace, Roger L. Wayson, AECOM*

**1:50 PM**

## **Storage Tanks and Generator Inspections**

Paper #1997966

*Zacharie St Jean, DAF, Air National Guard Readiness Center (ANGRC)*

**2:10 PM**

## **Air Emissions, Modernizing Inventory Management**

Paper #2004748

*Breanne Whipple, Alea Smith, Oneida ESC Group*

**2:30 PM**

## **The Benefits of Microgrids to Army Infrastructure Resiliency**

Paper #1996563

*Regan V. Eyerman, AECOM*

**2:50 PM**

## **Scientific Research to Inform Environmental Decisions at the U.S. Environmental Protection Agency: Strengths, Weaknesses, Opportunities, and Threats**

Paper #1998432

*H. Christopher Frey, North Carolina State University*

## **New Source Review (NSR): Issues and Recent Developments**

Track: REGU

6/10/2025, 1:30 PM

Room 305A

**Panel** – TCC: REG

**Chair:** Gurinder Saini, RTP Environmental Associates, Inc.

**Co-Chair:** Eric L. Hiser, Hiser Joy

New Source Review (NSR) is one of the most contentious Clean Air Act programs and permitting changes are one of the pillars for the new administration. These changes that affected or will affect program elements and court challenges. In addition, there are efforts at State level to address program implementation. NSR permitting (which includes nonattainment major NSR permitting, Prevention of Significant Deterioration (PSD) permitting, and minor NSR permitting) continues to be affected by U.S. Environmental Protection Agency (EPA) policy and court decisions regarding implementation of the programs, and other issues. EPA, under the new administration, will be proposing changes to several elements of major NSR regulations, EPA is also looking at streamlining Title V program elements. A panel of experts will discuss key developments in NSR, point out ways that facility operations could be affected by these developments, indicate what lay ahead, and identify issues that remain unsettled.

### **Panelists:**

- *Clara Poffenberger, Clara Poffenberger Environmental Law and Policy*
- *Gurinder Saini, RTP Environmental Associates, Inc.*
- *Eric L. Hiser, Hiser Joy*
- *Colin Campbell, RTP Environmental Associates, Inc.*
- *Peter Keller, U.S. EPA OAQPS*

## **Photochemical Grid Modeling (Part 1)**

Track: AQMO

6/10/2025, 1:30 PM

Room: 306A

**Platform** – TCC: APM

**Chair:** Ralph E. Morris, Ramboll

**Co-Chair:** Anthony Schroeder, Trinity Consultants

**1:30 PM**

## **Hybrid Photochemical Grid and Plume Modeling to Address PM<sub>2.5</sub> Attainment Modeling**

Paper #1997908

*Ralph E. Morris, Ramboll*

**1:50 PM**

## **Comparison of Global Atmospheric Deposition by a Measurement-Model Fusion Approach with Different Methods**

Paper #1999698

*Joshua S. Fu, University of Tennessee-Knoxville*

**2:10 PM**

## **Developing Strategies to Use Chemical Transport Models to Effectively Predict the Air Quality Impact of Single Prescribed Burns**

Paper #1999044

*Amirhossein Ghajari, Fernando Garcia Menendez, North Carolina State University*



# TECHNICAL SESSIONS – TUESDAY

**2:30 PM**

**Exploring Uncertainties in Model-based Estimates of Air Pollution Impacts from Deforestation Fires in Northern South America**

Paper #1998604

*Nafisa Islam, Fernando G. Menendez, North Carolina State University; Diego Roberto Rojas Neisa, Ricardo Morales Betancourt, Universidad de los Andes, Colombia*

**Sustainable Waste/Materials Management**

Track: SUST/WAST

6/10/2025, 1:30 PM

Room: 302C

**Platform – TCC: SRC**

**Chair:** Mingming Lu, University of Cincinnati

**Co-Chair:** Chih C. Chao, Cantech Environmental Services

**1:30 PM**

**An Innovative Use of Recycled Waste Tire Rubber in Superior Hydrophobic Cement/Concrete**

Paper #1995563

*Mark Zih Yao Shen, Tzong-Bin Lin, Chi-Yao Chen, Maw-Tien Lee, Yin-Hsien Chen, Fang-Pin Chen, Shinchuang Technology Co. Ltd.; Chih C. Chao, Cantech Environmental Services*

**1:50 PM**

**Selective Gold Recovery from Waste PCBs with Polyamide 6 Fishing Line Adsorptive Membrane**

Paper #1998020

*Yi-Hsiang Su, Che-Jung Hsu, Chian Yong Loh, Chengdi Dong, Chiu-Wen Chen, National Kaohsiung University of Science and Technology*

**2:10 PM**

**Recovery of Platinum Group Metals from Spent Automotive Catalyst Leachate using Activated Carbon Fiber Cloth through Electrodeposition**

Paper #1997376

*Hung-Pin Huang, Hsing-Cheng Hsi, Shih-Tong Jiang, National Taiwan University*

**2:30 PM**

**Phosphate Absorption with Biomass Based Biochar as a Potential Slow Release Fertilizer**

Paper #2014037

*Mingming Lu, Iniya Thirugnanasambanthan, Yaru Peng, University of Cincinnati*

**Vapor Intrusion and Methane Hazards**

Track: WAST

6/10/2025, 1:30 PM

Room: 306C

**Platform – TCC: WMR/HEE**

**Chair:** Andrew Horwath, Langan

**Co-Chair:** David McCready, EnviroCalc Consulting

**1:30 PM**

**Avoiding Methane Explosion Hazards in New Developments Summary of Ground Gas Methane Guidance Documents**

Paper #1997218

*Morgan Randolph, Eric Lovenduski, Kristen Soucheck, Geosyntec Consultants*

**1:50 PM**

**Pulsed Vapor Intrusion During Fall and Winter Intensive Sampling Events**

Paper #1998966

*Alan C. Williams, Brian Schumacher, U.S. EPA; Kate E. Bronstein, RTI International; Brian Cosky, Laurent C. Levy, Christopher C. Lutes, Ben Thompson, Jacobs; Chase Holton, GSI Environmental Inc.; Rohit Warriar, RTI International; John H. Zimmerman, Jr., U.S. EPA ORD*

**2:10 PM**

**Impact of Multiple HVAC Systems on Indoor Air VOC And Radon Concentrations from Vapor Intrusion During Seasonal Usage**

Paper #2002126

*John H. Zimmerman, Jr., U.S. EPA ORD; Alan C. Williams, Brian Schumacher, U.S. EPA; Christopher C. Lutes, Brian Cosky, Ben Thompson, Jacobs; Chase Holton, GSI Environmental Inc.; Rohit Warriar, Kate E. Bronstein, RTI International*

**2:30 PM**

**Not Just a Climate Problem: The Safety and Health Risks of Methane Super-Emitter Events**

Paper #1989300

*Sofia Bisogno, Chowdhury G. Moniruzzaman, Christos Efstathiou, Jeremy K. Domen, Lee Ann L. Hill, Nick Heath, Jasmine Lee, Drew R. Michanowicz, Quintin Munoz, Yanelli Nunez, Sebastian T. Rowland, Daniel Bon, Daniel H. Cusworth, Seth B. Shonkoff, Kelsey R. Bilsback, PSE Healthy Energy*

**2:50 PM**

**Developing a Machine-Learned Bayesian Network Model to Screen for VOC Vapor Intrusion**

Paper #1989300

*Patrick Mays, Hana Long, Tongchuan Wei, Samrin Ahmed Kusum, Jacqueline M. Gibson, North Carolina State University*

**Air Permitting Programs – Federal and State Implementation Perspectives**

Track: MINI/REGU

6/10/2025, 4:00 PM

Room: 301AB

**Panel – TCC: REG**

**Chair:** Gurinder Saini, RTP Environmental Associates, Inc.

**Co-Chair:** Gary Steinbauer, Babst, Calland, Clements, and Zomnir, PC

The air permitting programs are implemented under the cooperative federalism paradigm per the Clean Air Act. With the change in administration, significant changes are expected at EPA OAQPS pertaining to staffing and policy objectives. EPA is also likely to push more obligations to States and local agencies for air programs. A panel of experts will discuss key developments in cooperative federalism, and detail experiences and future changes that may affect the permitting agencies and the regulated community.

# TECHNICAL SESSIONS – TUESDAY

## Panelists:

- *Eric L. Hiser, J.D., Hiser Joy*
- *Peter Keller, U.S. EPA OAQPS*
- *Gurinder Saini, RTP Environmental Associates, Inc.*
- *Gary Steinbauer, Babst, Calland, Clements, and Zomnir, PC*
- *Mark J. Cuilla, North Carolina Division of Air Quality*

## Air Pollution Control: GHGs

Track: AQCT/CLIM

6/10/2025, 4:00 PM

Room: 302A

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**Platform** – TCC: AAC

**Chair:** Masoud Jahandar Lashaki, Florida Atlantic University

**Co-Chair:** Ryan Thomas, SCS Engineers

### 4:00 PM

#### Emission from Amine-Based Post-Combustion Capture Process

Paper #2005830

*Sangsup Lee, Seungjin Choi, Junhyeok Jang, Yeji Han, Chungbuk National University*

### 4:20 PM

#### A Comprehensive Assessment of the Performance and Stability of Triamine-Grafted Mesoporous Silica Materials for Direct Air Capture Applications

Paper #1998226

*Laura Rojas Quiroz, Amirjavad Ahmadian Hosseini, Brandyn L. Nutter, Masoud Jahandar Lashaki, Florida Atlantic University*

### 4:40 PM

#### Converting Scrap Tire to Amine-Modified Activated Carbon Materials for Landfill Gas Upgrading

Paper #1998083

*Brandyn L. Nutter, Amirjavad Ahmadian Hosseini, Laura Rojas Quiroz, Sierra S. Mugan, Masoud Jahandar Lashaki, Florida Atlantic University*

## Climate Mitigation, Greenhouse Gas Emissions, Impacts

Track: CLIM

6/10/2025, 4:00 PM

Room: 302C

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**Platform** – TCC: CCI

**Chair:** Joshua S. Fu, University of Tennessee-Knoxville

**Co-Chair:** Christopher D. Easter, Bay Area Air District

### 4:00 PM

#### Climate Change and Building Material Chemical Emissions

Paper #1995678

*Patrick S. Chepaitis, Marilyn Black, David Kalafut, Taryn Waddey, Mark J. Wilson, Qian Zhang, Chemical Insights Research Institute*

### 4:20 PM

#### Methodology Differences in Carbon Emissions Estimation within EU Carbon Pricing Mechanisms and their Impacts on Steel Industry

Paper #1996815

*Author: Po-Yao Kuo, Research Center for Resource & Environment, CTCI Foundation*

### 4:40 PM

#### How Weather Pattern Changes Have Created Extremes in Droughts, Floods, Heat, and Cold

Paper #2008354

*Rob J. Farber, APV*

### 5:00 PM

#### Net Zero Ambition in the Oil & Gas Industry: A Strategic Approach

Paper #2052131

*Christopher E. Stapp, Saudi Aramco*

### 5:20 PM

#### Public Acceptance of Carbon Capture and Storage Projects: Evidence from Southern Louisiana, USA

Paper #1979363

*Oluwafemi Awolesi, Margaret Reams, Louisiana State University*

### 5:40 PM

#### Decarbonization: A Deeper Understanding

Paper #2005309

*Brian Petermann, Tiffany L. Dillow, POWER Engineers, Inc.*

## Environmental Issues at Military Facilities

Track: REGU

6/10/2025, 4:00 PM

Room: 305B

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**Platform** – TCC: GOV

**Chair:** Julie Wallace, AECOM

**Co-Chair:** Roger L. Wayson, AECOM

### 4:00 PM

#### How Do Ambient Air Quality Analyses Differ for the U.S. Air Force Compared to Civilian Requirements?

Paper #1997923

*Roger L. Wayson, AECOM*

### 4:20 PM

#### Environmental Inspection Process (EIP) for the GOCO Plants

Paper #1984322

*Morris E. Demitry, Air Force Life Cycle Management*

### 4:40 PM

#### Aircraft Arresting Systems

Paper #1997963

*Zacharie St Jean, DAF, Air National Guard Readiness Center (ANGRC)*

### 5:00 PM

#### Compare and Contrast UFC 3-540-07 with CAAA Maintenance Requirements

Paper #1998973

*David J. Sanders, AECOM*

### 5:20 PM

#### Optimizing the Electrification of Cargo Handling Operations at Air Force Bases

Paper #2027696

*Ann Xu, Patrick Finch, Dustin Huynh, Priyadarshan Patil, ElectroTempo*

# TECHNICAL SESSIONS – TUESDAY

## Hot Topics in Power

Track: INDU  
6/10/2025, 4:00 PM  
Room: 305A

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**Platform** – TCC: PWR

**Chair:** John D. Kinsman, Air, Climate and Environmental Justice Specialist

**Co-Chair:** Christopher Roney, EPRI

### 4:00 PM

#### Power Plant Emission Trend from 1940 to 2020 in the United States

Paper #1980177  
*Xiaorong Shan, Lucas Henneman, George Mason University*

### 4:20 PM

#### Data Centers Are Not Alone in Facing Electric Power Supply and Air Pollution Problems

Paper #1998788  
*Michael Slavick, ECorp Consulting Inc.*

### 4:40 PM

#### Replacing US Fossil Fuel with Solar—What Will It Take?

Paper #2006614  
*Thomas W. Easterly, University of Central Florida*

### 5:00 PM

#### Integrating Air Quality Considerations into Power System Optimization Modeling Development and Case Study

Paper #2007245  
*Chin-An Lin, Sarah Awara, Vikram Ravi, Yun Li, Juliette Ugirumura, Devon Sigler, Garvin A. Heath, National Renewable Energy Laboratory*

### 5:20 PM

#### Is That a Data Center I Hear? Understanding Data Center Noise

Paper #2025932  
*Andrew Truitt, Black & Veatch*

## Methane Measurements: In Place to In Space

Track: AQMM/CLIM  
6/10/25, 4:00 PM  
Room: 302B

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**Platform** – TCC: AAM

**Chair:** Douglas C. Dziubla, ERM

**Co-Chair:** Carrie Macdougall, Golder Associates

### 4:00 PM

#### Use of Satellite Remote Sensing for Characterizing Long-term Methane Emissions from Smaller-Scale Fugitive Emission Sources

Paper #1996100  
*Ke Du, Seyed Mostafa Mehrdad, University of Calgary; Bo Zhang, Stantec; Wenqi Guo, Shan Du, University of British Columbia - Okanagan*

### 4:20 PM

#### Enhancing Methane Emissions Measurement: Picarro's Application of Veritas and OGMP 2.0 Protocols

Paper #1963745  
*Sean MacMullin, Francois Rongere, Picarro*

### 4:40 PM

#### Enhancing Leak Detection in California Oil Fields: Triangulating with the SENSIT FMD and LDAR Equipment

Paper #1999274  
*Steven Norlock, SENSIT Technologies*

### 5:00 PM

#### Applications of Ground-Based Hyperspectral Imaging for Methane Detection in Landfills

Paper #2027923  
*Mu-An Tsai, Avery Opalka, Kyle Daun, University of Waterloo; Magnus Gålfalk, Linköping University; Brittney Crawford, Waste Management, Region of Waterloo*

### 5:20 PM

#### Quantification Accuracy of Airborne Long-Wave Infrared Hyperspectral Imaging for Detecting Methane Emissions from the Upstream Oil and Gas Sector

Paper #2027864  
*Kyle Daun, Nishant Narayanan, Sina Talebi Moghaddam, University of Waterloo; Martin Chamberland, Telops; Jim Cormack, Lidar Services, Inc.*

### 5:40 PM

#### Optimizing the Parameters from a First-Order Decay Model to Predict and Compare Measured Landfill Emissions in Canada

Paper #2025875  
*Rebecca Martino, FluxLab*

## Mobile Source Emissions Trends and Analysis Methods

Track: TRAN/AQES  
6/10/2025, 4:00 PM  
Room: 306B

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**Platform** – TCC: AAM

**Chair:** Robert Mentzer, HMMH

**Co-Chair:** Roger Wayson, AECOM

### 4:00 PM

#### Trends in Onroad Light Duty Vehicle Transportation Energy and Emissions: Updates Since the 2018 A&WMA Critical Review

Paper #1998092  
*H. Christopher Frey, North Carolina State University*

### 4:20 PM

#### Development and Application of TeEMs (Telecommuting Expectation Models): Predicting Post-Pandemic Telecommuting Choice and Frequency Using Machine Learning Models

Paper #1999440  
*Aiswarya Acharath Mohanakrishnan, Melanie L. Sattler, Victoria C.P. Chen, Kate Hyun, University of Texas at Arlington*

### 4:40 PM

#### Demonstration of Approaches to Quantifying Ferry Particulate Matter Emissions and Uncertainty: A Case Study of a North Carolina Vessel

Paper #1980495  
*Sebastian Larrahondo, Tongchuan Wei, Andrew Grieshop, H. Christopher Frey, North Carolina State University*

# TECHNICAL SESSIONS – TUESDAY

**5:00 PM**

**Insights from 25 Years of Measuring Real-World Vehicle Activity, Energy Use, and Emissions and Implications for the Next 25 Years**

Paper #1998159

*H. Christopher Frey, North Carolina State University*

**5:20 PM**

**Life Cycle Environmental Impacts of Hydrogen Fueling Stations**

Paper #1999512

*Raghava R. Kommalapati, Mahalakshmi Mannar, Prairie View A&M University*

## Photochemical Grid Modeling (Part 2)

Track: AQMO

6/10/2025, 4:00 PM

Room: 306A

**Platform – TCC: APM**

**Chair:** Qi Zhang, GHD

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

**4:00 PM**

**Challenges in Attaining the Ozone and PM2.5 NAAQS in the Western U.S.**

Paper #1997772

*Ralph E. Morris, Ramboll*

**4:20 PM**

**Assessing Global Background Ozone Transport Pathways to Utah's Northern Wasatch Front**

Paper #1999302

*Trang Tran, Chris Emery, Mike Ring, Ramboll*

**4:40 PM**

**Determination of the Origin of High Tropospheric Ozone Levels in the Central Andes Mountains of Chile Using CMAQ**

Paper #1998281

*Valeria P. Campos, University of Santiago de Chile; Luis Díaz-Robles, PARTICULAS SpA; Francisco Cereceda-Balic, Universidad Técnica Federico Santa María; Fidel Vallejo, UNACH; Joshua S. Fu, University of Tennessee-Knoxville*

**5:00 PM**

**Effects of Oceanic Emissions of Halocarbons on the Air Quality of Chilean Coastal Urban Zones**

Paper #1998286

*Ernesto Pino, Mariela Martínez, Juan Höfer, Pontificia Universidad Católica de Valparaíso; Fernando González, Universidad de Oviedo*

**5:20 PM**

**Effects of Meteorology and Policy Implementations on Ambient Pollutant Concentrations across China**

Paper #1998420

*Shreya Guha, Lucas Henneman, George Mason University*

## Wastewater and Waste-to-Energy

Track: WAST/INDU

6/10/2025, 4:00 PM

Room: 306C

**Platform – TCC: WMB**

**Chair:** David Greene, SCS Engineers

**Co-Chair:** Richard N. Lindstrom, Industry and Government

**4:00 PM**

**Wastewater Reuse Options in the GCC Region: Challenges and the Way Forward**

Paper #1996812

*Sophia Ghanimeh, Tasneem Hussein, Qatar University*

**4:20 PM**

**Investigating the Impact of Glucose-to-Ethanol Ratios on Hydrogen Production and Volatile Fatty Acid Accumulation in Algal-Bacterial Co-Cultures**

Paper #1998967

*Abdelsalam MA Zidan, Ashraf Aly Hassan, UAE University*

**4:40 PM**

**Optimizing Biocrude Production from Food Waste via Hydrothermal Liquefaction**

Paper #1998971

*Eliandre Russel P. Vistal, Harriet D. Appiah, Jagadish Torlapati, Kirti Yenkie, Rowan University*

**5:00 PM**

**Selective Recovery of Platinum and Palladium Ions from Wastewater Using Bimetallic Metal-Organic Frameworks**

Paper #1997420

*Ying-Chi Jiang, Hsing-Cheng Hsi, National Taiwan University*

**5:20 PM**

**How Hydrodynamic Cavitation Enhances Microalgae Cell Disruption and Inactivation? Insights into Damage Mechanisms, Kinetics, and Energy Efficiency**

Paper #1989370

*Diyuan Wang, Francis L. de los Reyes III, Joel Ducoste, North Carolina State University*

**5:40 PM**

**Surface Formation and Adhesion Mechanisms of Fat, Oil, and Grease (FOG) Deposits on Sewer Lines**

Paper #1999033

*Samrin Ahmed Kusum, Moe Pourghaz, Joel Ducoste, North Carolina State University*



# TECHNICAL SESSIONS – WEDNESDAY

Wednesday, June 11, 2025				
Time	Title	Track	Session	Room
<b>Wednesday AM1</b>				
8:00 am – 9:40 am	Roadmap to Achieving Carbon Neutrality: Major Economies' Perspectives	MINI/CLIM	panel	301AB
8:00 am – 9:40 am	Air Emission Estimates and Inventories	AQES	platform	302A
8:00 am – 9:40 am	Electric Power – 2025 Issues and Developments	INDU	panel	305B
8:00 am – 9:40 am	Landfill Air Compliance and Permitting – The Perfect Storm of Overlapping Regulatory Changes	REGU/CLIM/WAST	panel	305A
8:00 am – 9:40 am	Air Permitting Problems and Solutions	REGU	panel	306B
8:00 am – 9:40 am	Unlocking Business Value of Sustainability – Blueprint for a Greener Future	SUST	panel	302C
8:00 am – 9:40 am	Waste-to-Energy, Municipal Solid Waste	WAST/INDU	platform	306C
9:40 am – 10:10 am	Session Break			Exhibit Hall
<b>Wednesday AM2</b>				
10:10 am – 11:50 am	State-Led Environmental Equity Initiatives	MINI/EEQT	panel	301AB
10:10 am – 11:50 am	Greenhouse Gas Emissions: Disclosure and Decarbonizing	CLIM	platform	302A
10:10 am – 11:50 am	Health Effects and Exposure (Part 1)	H&EE	platform	306A
10:10 am – 11:50 am	Hot Topics in Industry Air Permitting and Emissions Reduction Programs	INDU/REGU	platform	305B
10:10 am – 11:50 am	Circular Economy Outlook – Practices, Challenges, and Opportunities	SUST	panel	302C
10:10 am – 11:50 am	Agricultural Waste Reuse and Sustainable Products for Food Systems	WAST/SUST	platform	306C
10:10 am – 11:50 am	Young Professional Panel: Recovering from Natural Disasters	YPRO/CLIM/REGU	panel	305A
12:00 pm – 1:15 pm	TCC Meetings			See page 17
<b>Wednesday PM1</b>				
1:30 pm – 3:10 pm	The Next Generation of NASA Air Quality Satellite Observations for Decision Making	MINI/AQES/AQMM/H&EE	panel	301AB
1:30 pm – 3:10 pm	Emissions Measurements for Point and Non-Point Sources	AQMM	platform	302A
1:30 pm – 3:10 pm	Innovative Air Quality Modeling Techniques	AQMO	platform	306A
1:30 pm – 3:10 pm	Navigating Environmental Permitting and Compliance Challenges in Lithium-Ion Battery Recycling: Insights and Regulatory Perspectives	SUST/REGU/INDU	panel	302C
1:30 pm – 3:10 pm	Noise Issues and Transportation Noise Modeling	TRAN	platform	306B
1:30 pm – 3:10 pm	Young Professional Panel: All About Per- and Polyfluoroalkyl Substances	YPRO/WAST	panel	305A
3:10 pm – 3:30 pm	Session Break			Exhibit Hall
<b>Wednesday PM2</b>				
3:30 pm – 5:30 pm	Clearing the Air: Navigating Changes in GHG Landfill Air Regulations, Sustainability, and Compliance Reporting, and the Impacts of Satellite Technology	MINI/CLIM/WAST	panel	301AB
3:30 pm – 5:30 pm	Air Monitoring Instrumentation Advances	AQMM	platform	302A
3:30 pm – 5:30 pm	Next Generation Air Monitoring Tools and Techniques	AQMM	platform	302B
3:30 pm – 5:30 pm	Air Dispersion Modeling: Case Studies, Issues, Applications, Advances, and Guidance	AQMO	platform	306A
3:30 pm – 5:30 pm	Environmental Protection Network – Purpose, Goals, and Actions	EEQT	panel	306A
3:30 pm – 5:30 pm	Air Legislation, Regulation, and Policy Developments	INDU/REGU	panel	306B
3:30 pm – 5:30 pm	Sustainability Metrics and Analytics	SUST	platform	302C
3:30 pm – 5:30 pm	PFAS Management, Landfill Leachate and Wastewater	WAST	platform	306C
3:30 pm – 5:30 pm	Young Professionals Panel: Regulatory Update	YPRO/REGU	panel	305A

# TECHNICAL SESSIONS – WEDNESDAY

## Roadmap to Achieving Carbon Neutrality: Major Economies' Perspectives

Track: MINI/CLIM  
6/11/2025, 8:00 AM  
Room: 301AB

**Panel – TCC:** CCP/LHC/SUS

**Chair:** Chih C. Chao, Cantech Environmental Services

**Co-Chair:** Sarwar Golam, U.S. EPA

Experts from key international economies will share their respective economies' carbon reduction goals, programs, progress, and plans. Challenges ahead and opportunities for international collaborations will be presented. This panel will familiarize the audience with the world trend of decarbonization, current status, and future perspectives of key economies' drive for achieving carbon neutrality. Panelists will also discuss the current headwinds and barriers related to GHG reductions and addressing climate impacts based on current political conditions. There will also be a focus on California, where climate and GHG reduction programs are moving forward. Panelists' sharing their knowledge and viewpoints on these aspects is expected to spark enthusiastic dialogues among the participants.

### Panelists:

- Jinhui Li, Tsinghua University
- Ulka Kelkar, WRI India
- Christopher D. Easter, Bay Area Air District
- Jurgen Roedel, TU Darmstadt

## Air Emission Estimates and Inventories

Track: AQES  
6/11/2025, 8:00 AM  
Room: 302A

**Platform – TCC:** AAE

**Chair:** Rodolfo Sosa Echeverría, Sr., Universidad Nacional Autónoma de México

**Co-Chair:** Juan Carlos Ramirez-Dorransoro, Valparaiso University

**8:00 AM**

### The Importance and First Results of Assessing Mercury in Ambient Air in Mexico City

Paper #2005844

Rodolfo Sosa Echeverría, Sr., Gilberto Fuentes Garcia, Alejandro Palacios Ibarra, Pablo Sanchez Alvarez, Universidad Nacional Autónoma de México; David Gay, David Grande, National Atmospheric Deposition Program

**8:20 AM**

### Using Patterns in Concentration Measurements for Enhanced Leak Locating, Alarming, and Quantification

Paper #1988355

Michelle Liu, Colin Jensen, Dennis Prince, Airdar Inc.

**8:40 AM**

### Assessment of Air Quality in Major Indian Cities

Paper #1996803

Jhumoor Biswas, Jayita Saha, IISWBM; Zuber Farooqui, California Air Resources Board; Saikat Ghosh, Pacific National Laboratory

**9:00 AM**

### Data-based Air Quality Management: From Science to Solutions – Case Study of Indore

Paper #1998697

Prakash Doraiswamy, Ritesh Kumar, Azra Khan, Sanjar Ali, Vandana Tyagi, Bhavay Sharma, WRI India; Tammy Thompson, Environmental Defense Fund; Andrea Orfanos-Chequela, Suvarna Tikle, Idir Bouarar, Guy P. Brasseur, Max Planck Institute for Meteorology; Abhinand Krishnashankar, Ananya Roy, Environmental Defense Fund; Rajesh Kumar, National Center for Atmospheric Research; Beatriz Cardenas, WRI

## Air Permitting Problems and Solutions

Track: REGU  
6/11/2025, 8:00 AM  
Room: 306B

**Panel – TCC:** REG

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

**Co-Chair:** Kelly Crawford, A&WMA SASS Board Member

This panel will discuss permitting issues and permit conditions that are prone to problems from various industry, government, and environmental perspectives. Generally, air pollutant emission sources are required to obtain permits, and the issuing agency will provide an opportunity for a facility to review and comment on draft permit conditions. Taking advantage of that opportunity is essential to ensure the best permit that can be obtained. Particular permit conditions that may present problems will be discussed. Some conditions may require substantial effort, yet produce little environmental benefit. On the other hand, permitting agencies and environmental advocacy groups may perceive different problems with permit conditions. The panel will discuss alternative conditions and other remedies for problem permits. Facility personnel should strive to explain difficulties, so they can be changed. Similarly, the public should take advantage of its opportunities to comment on a proposed permit.

### Panelists:

- Jason R. Krawczyk, Eli Lilly and Company
- Laura Huff, POWER Engineers, Inc.
- Gina Fioravante, POWER Engineers, Inc.
- Sunhee Park, Black & Veatch

## Electric Power – 2025 Issues and Developments

Track: INDU  
6/11/2025, 8:00 AM  
Room: 305B

Sponsored by:



**Panel – TCC:** PWR

**Chair:** John D. Kinsman, Air, Climate, and Environmental Justice Specialist

**Co-Chair:** James M. Walker, Consumers Energy

The moderator will engage several panelists for a detailed discussion on issues and developments for the electric power sector in 2025, related to energy production and associated environmental issues at the Federal and state levels, both regulatory and non-regulatory, as well as legislative and legal.

### Panelists:

- David J. Long, American Electric Power Service Corporation
- James M. Walker, Consumers Energy
- Khalil Porter, North Carolina's Electric Cooperatives

# TECHNICAL SESSIONS – WEDNESDAY

## Landfill Air Compliance and Permitting – The Perfect Storm of Overlapping Regulatory Changes

Track: REGU/CLIM/WAST  
6/11/2025, 8:00 AM  
Room: 305A

**Panel – TCC:** CCP/SUS

**Chair:** Julie Hall, Weaver Consultants Group

If there was ever a constant in the world of landfill air compliance, it would be change. It often seems that the only thing that is certain is that everything keeps changing. With the change in Administration in early 2025, the regulated community is once again waiting to see the impacts at the site level. Updates to the New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) are expected based on the time since the last reconsideration of these rules, while states are still implementing the 202 Emissions Guidelines/ This panel will address the impact changes would have on landfills; updates to AP-42 Section 2.4 for MSW Landfills; the proposed Fugitive Emissions Rule and its impact on landfill permitting; and more. Attendees will leave with a reality check of the worst-case scenario if any of these changes happened and how each would impact the future of landfills.

### Panelists:

- Julie Hall, Weaver Consultants Group
- Archana Nagaraj, Weaver Consultants Group

## Unlocking Business Value of Sustainability – Blueprint for a Greener Future

Track: SUST  
6/11/2025, 8:00 AM  
Room: 302C

**Panel – TCC:** SUS

**Chair:** Raghavan (Ram) Ramanan, ImpactEdge Inc.

This panel will provide a general overview of ways to unlock business value of sustainability for global corporations, develop a blueprint for a greener future, and show how some leading corporations are preparing to do so. This session will feature speakers who represent global perspectives and insight into distinct aspects of technology and business model innovations and strategies to accomplish long-lasting business value. This panel is geared towards practitioners and professionals and will highlight the risks and opportunities of sustainability management. The panel will conclude with open discussion and Q&A, allowing attendees to interact with the panelists. The attendee should walk away with a conviction that mainstreaming sustainability is inevitable for long-term value – strategy, innovation, and leveraging Artificial Intelligence (AI). AI is the 'Avatar Incarnate' to protect our planet, people, and progeny and do so profitably!

### Panelists:

- Kylee Hamilton, Jacobs
- Raghavan (Ram) Ramanan, ImpactEdge Inc.
- Jennifer Routhier, AECOM

## Waste-to-Energy, Municipal Solid Waste

Track: WAST/INDU  
6/11/2025, 8:00 AM  
Room: 306C

**Platform – TCC:** WMB

**Chair:** David Greene, SCS Engineers

**Co-Chair:** Richard N. Lindstrom, Industry and Government

### 8:00 AM

#### Advancing Circular Economy Practices in Waste Management: Sustainable Pathways for Developing Countries

Paper #1999188

*Daniel Sarpong, GASSLIP; Mabel Sarpong, AMP Logistics; Satah Hackman Duncan, Accra Technical University*

### 8:20 AM

#### Comparison Analysis Decentralized and Centralized Facility of Refused Derived Fuel as Alternative Fuel for Cement Industry in Indonesia

Paper #1999719

*Sudarmanto Budi Nugroho, Menikpura Nirmla, Kohei Hibino, Premakumara Jagath Dickella Gamaralalage, Institute for Global Environmental Strategies*

### 8:40 AM

#### Carbon Emissions Monitoring in Waste-to-Energy Plants: Development and Implementation of a Balance Method in China

Paper #2015646

*Xiaodong Li, Zhejiang University*

### 9:00 AM

#### Power Production and Methane Reduction with a Resource Recovery Facility Located at a Municipal Solid Waste Landfill

Paper #2007262

*Matt F. Dunn, Geosyntec Consultants, Inc.*

## State-Led Environmental Equity Initiatives

Track: MINI/EEQT  
6/11/2025, 10:10 AM  
Room: 301AB

**Panel – ITF:** EJS

**Chair:** John D. Kinsman, Air, Climate, and Environmental Justice Specialist

**Co-Chair:** Kelly Crawford, A&WMA SASS Board Member

The moderator will engage several panelists for a detailed discussion on new developments related to regulatory, non-regulatory (e.g., guidance, executive orders), legislative, legal, and voluntary approaches to addressing environmental, climate, and energy justice issues at federal, state, and other levels. Topics to be addressed will include permitting, compliance and enforcement activities; screening and assessment tools and approaches, including cumulative impacts; and engagement approaches.

### Panelists:

- Richard A. Wayland, Retired Director of the Air Quality Assessment Division, EPA's Office of Air Quality, Planning, and Standards
- Kelly Crawford, A&WMA SASS Board Member
- Janet McCabe, Former Deputy Administrator, U.S. EPA; Distinguished Scholar, Indiana University Robert H. McKinney School of Law

# TECHNICAL SESSIONS – WEDNESDAY

## Agricultural Waste Reuse and Sustainable Products for Food Systems

Track: WAST/SUST  
6/11/2025, 10:10 AM  
Room: 306C

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**Platform** – TCC: SRC/WMB

**Chair:** Mary Kenamer, ONE Environmental

**Co-Chair:** Mingming Lu, University of Cincinnati

**10:10 AM**

### Intelligent Packaging Films Produced from Fishery Waste Chitosan Conjugate Discarded Fruit Peel Pomace: Shelf-Life Extension Mechanism of Fresh Pork Loins

Paper #1998022

*Ying-Chen Chen, Jenn-Wen Huang, Yao-Tung Lin, National Chung Hsing University; Chih-Huang Weng, I-Shou University; Jing-Hua Tzeng, University of Delaware; Li-Ting Yen, Academia Sinica; Shang-Ming Huang, China Medical University*

**10:30 AM**

### Enhancing Air Quality and Water Treatment through Sustainable Orchard Wood Utilization and Vermifiltration Systems

Paper #2005696

*Sierra J. Smith, George A. Damoff, Russ Davis, David A. Elmenhurst, PERCA; Shannon S. Neibergs, Washington State University*

**10:50 AM**

### Termite Hindgut Bacteria TAV5: Key to Lignocellulose Waste Decomposition

Paper #1999675

*Hussain Ali, SCS Engineers; Melanie L. Sattler, Kimberly Bowles, Rajashekar Ambothu, University of Texas at Arlington*

## Air Monitoring Instrumentation Advances

Track: AQMM  
6/11/2025, 10:10 AM  
Room: 302B

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**Platform** – TCC: AAM

**Chair:** Douglas C. Dziubla, ERM

**Co-Chair:** Praveen Srirama, New Mexico Environment Department

**10:10 AM**

### Optimizing VOC Detection with the OMNI-22XX Autonomous Analyzer

Paper #1996347

*Kathleen L. Masse, Apex Instruments; Sassan Teymouri, Yutao Qin, Omniscent*

**10:30 AM**

### Reliable, Sensitive Cavity Ringdown Spectroscopy for Trace Detection of Ambient Ethylene Oxide

Paper #1999165

*James N. Hodges, Yu Chen, Brian M. Siller, Process Insights*

**10:50 AM**

### Advances in Near Reference Method Ambient Monitoring Technology - What, Why, Where?

Paper #2010042

*Paul R. Pickering, Aeroqual; Linda Lattner, Victoria McFarland, WSP*

**11:10 AM**

### A New Instrument for Continuous ppb level Benzene Measurement in Ambient Air

Paper #1998448

*Geoff Henshaw, Anna Farquhar, Matt Walbran, Lena Weissert, Aeroqual*

**11:30 AM**

### A Novel Methodology for Determining the Efficacy of Interventions Targeting Urban Air Pollution Hotspots

Paper #1999396

*Hamesh Patel, Mote Limited, The University of Auckland, Queensland University of Technology; Nick Talbot, Environment Southland; Perry Davy, The Institute of Geological and Nuclear Sciences; Cherie Tollemache, Mote Limited; Jennifer Salmond, David Williams, The University of Auckland*

## Circular Economy Outlook – Practices, Challenges, and Opportunities

Track: SUST  
6/11/2025, 10:10 AM  
Room: 302C

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**Panel** – TCC: SRC

**Chair:** Chih C. Chao, Cantech Environmental Services

**Co-Chair:** Archana Nagaraj, Weaver Consultants Group

Implementing a circular economy promises to be a sustainable way to facilitate economic growth while conserving natural resources and reducing environmental impact including climate change effects. Many countries have benefited from this practice leading to an enhanced green competitiveness and enviable national growth. However, this concept is not that easy to implement in other countries for one reason or another. Factors of consideration include public mindset, regulatory setting, waste management framework, technology innovation, economic drive, and market mechanism. This panel will discuss the above issues and illustrate underlying challenges while presenting potential opportunities for interested policy-makers, business and industrial leaders, circular economy practitioners, waste recyclers, technology researchers, sustainability promoters, etc. to consider. Successful cases will be analyzed. Barriers and solution approaches will also be discussed. Invited panelists will share their experiences and viewpoints on these aspects, expecting to spark enthusiastic dialogues among the participants.

**Panelists:**

- Jon Greene, Civil and Environmental Consultants, Inc.
- Kevin Hobbie, Green Li-Ion
- Xiaodong Li, Zhejiang University
- Christia Meidiana, Brawijaya University
- Norm L. Ruttan, iWasteNot Systems

## Greenhouse Gas Emissions: Disclosure and Decarbonizing

Track: CLIM  
6/11/2025, 10:10 AM  
Room: 302A

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**Platform** – TCC: CCP

**Chair:** Joshua Fu, University of Tennessee-Knoxville

**Co-Chair:** Chih C. Chao, Cantech Environmental Services



# TECHNICAL SESSIONS – WEDNESDAY

**10:10 AM**

**Corporate Climate Disclosures: Roadmap for the Journey to Mandatory Reporting**

Paper #2007195

*Victoria A. Evans, SCS Engineers*

**10:30 AM**

**Biogas Potential for Decarbonizing Maritime Transportation in Qatar**

Paper #1995636

*Author: Sophia Ghanimeh, Batool A. Rezqalla, Hashmi Muhammad, Qatar University; Elias Abou Jawdeh, Senior Logistics Professional*

**10:50 AM**

**Streamlining Carbon Footprint Analyses Including Scope 1, 2, and 3 Sources**

Paper #1996901

*Jacob Rattay, Civil & Environmental Consultants, Inc.*

**11:10 AM**

**Reducing Emissions While Improving Gas Collection – It's All in the Data**

Paper #2030230

*Robert S. Reale, David Barron, Sniffer Robotics*

**Health Effects and Exposure (Part 1)**

Track: H&EE

6/11/2025, 10:10 AM

Room: 306A

**Platform – TCC: HEE**

**Chair:** James Morrow, J.W. Morrow Consulting

**Co-Chair:** David McCready, EnviroCalc Consulting

**10:10 AM**

**Toxicity of Ultrafine Particles during Diwali's Firework: An In-Vitro Study of A549 Cells**

Paper #1996808

*Arun K. Srivastava, Jawaharlal Nehru University; Naresh Kumar, University of Miami; Dudun Mehta, JNU*

**10:30 AM**

**Application of USEPA's Air Quality Index (AQI) Methods to the Kyrgyz Republic and Its Implications**

Paper #1998861

*James D. Blando, Old Dominion University; Yevgen Nazarenko, University of Cincinnati; Ainash Sharshenova, Kyrgyz Republic Institute of Public Health; Anara Shakhmatova, Zharkynbek Kasymbekov, National Institute of Public Health of the Ministry of Health of the Kyrgyz Republic (NIPH); Marina Duishenkulova, Kyrgyz Medical Institute for Retraining and Advanced Training; National Institute of Public Health of the Ministry of Health of the Kyrgyz Republic; Aigerim Zhusupova, Tatyana Chernikova, Kyrgyz Hydromet of the Ministry of Emergency of the Kyrgyz Republic*

**10:50 AM**

**NASA Satellite Data to Enhance One Health Collaborations in Air Quality Monitoring**

Paper #1999492

*Helena J. Chapman, John A. Haynes, NASA HQ; Laura M. Judd, NASA Langley Research*

**11:10 AM**

**Evaluating Health Risks from PM2.5, PM10, and Ozone: A Systematic Review and Meta-Analysis in High-Income Countries**

Paper #1999112

*Samrin Ahmed Kusum, Jacqueline MacDonald Gibson, Grace Kilroy, North Carolina State University*

**Hot Topics in Industry Air Permitting and Emissions Reduction Programs**

Track: INDU/REGU

6/11/2025, 10:10 AM

Room: 305B

**Platform – TCC: PIM**

**Chair:** Wilma Dreessen, Chevron Products Company

**Co-Chair:** Chun Yi Wu, Minnesota Pollution Control Agency, Retired

**10:10 AM**

**It's Getting Hot in Here: Does Your Flare Meet Air Permit Standards?**

Paper #1993078

*Regina M. Hanson, Varec Biogas, a division of Ovivo USA LLC*

**10:30 AM**

**Interacting with Permits and Regulations in the Age of Artificial Intelligence**

Paper #2003167

*Kyong Song, Barr Engineering*

**10:50 AM**

**A Survey of AI & Machine Learning Applications for Environmental Professionals: Emerging Use Cases and Limitations**

Paper #1993501

*Kyong Song, Barr Engineering*

**11:10 AM**

**Gauging Emissions Reductions Programs - How Effective Are They?**

Paper #1999204

*Scott D. Miller, Tetra Tech*

**11:30 AM**

**Evaluating Health Damages of Air Pollution from Power Generation: Impact of Spatial Resolution on Estimates of Racial and Income Disparities**

Paper #1999313

*Bianca Meotti, Fernando Garcia Menendez, Jeremiah Johnson, North Carolina State University*

**Young Professional Panel: Recovering from Natural Disasters**

Track: YPRO/CLIM/REGU

6/11/2025, 10:10 AM

Room: 305A

**Panel – TCC: CCI**

**Chair:** Lindsay Salvador, ALL4

**Co-Chair:** Stephanie Taylor, SCS Engineers

# TECHNICAL SESSIONS – WEDNESDAY

Climate change is increasing the frequency and severity of natural disasters around the world. North Carolina has experienced these changes firsthand over the last 10 years including one of the most destructive hurricanes, Hurricane Florence (2018), and one of the deadliest hurricanes, Hurricane Helene (2024). During the year 2024, there were 24 confirmed natural disaster events with losses exceeding \$1B each in the United States. Recovering from major adverse climate related events is no easy task and brings together a wide variety of agencies and stakeholders on the federal, state, and local levels. This panel will cover natural disaster recovery efforts as it is linked to air and waste management and regulations. Geared towards students and young professionals, attendees will leave with an understanding of the processes for air and waste management in the wake of increasing natural disasters to stay current and ahead in the field.

## Panelists:

- *Michael Dustman, SCS Engineers*
- *Taylor Hartsfield, North Carolina Department of Environmental Quality*
- *Jason Watkins, North Carolina Department of Environmental Quality*

## The Next Generation of NASA Air Quality Satellite Observations for Decision Making

Track: MINI/AQES/AQMM/H&EE

6/11/2025, 1:30 PM

Room: 301AB

**Panel** – TCC: AAE/AAM

**Chair:** Helena J. Chapman, NASA HQ

**Co-Chair:** Laura M. Judd, NASA Langley Research Center

To protect our health, improving air quality requires the evaluation and identification of solutions. This panel session highlights how the next generation of new satellite-based observations can help fill data gaps in current air quality decision-making processes. Panelists will cover topics on three new NASA satellite missions: (1) the Tropospheric Emissions: Monitoring of Pollution (TEMPO) instrument provides hourly observations of key air quality pollutants from geostationary orbit, (2) the Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) satellite provides high-quality observations of our ocean and atmosphere with air and water quality applications, (3) the Multi-Angle Imager for Aerosols (MAIA) investigation will target regions around the globe with epidemiological studies to better understand how aerosols impact human health. Our panelists will share their challenges and successes in using satellite data to better understand our Earth system as well as describe training opportunities for audience members on using satellite data from these new missions

## Panelists:

- *John A. Haynes, NASA HQ*
- *Aaron Naeger, NASA MSFC*
- *Morgaine McKibben, NASA GSFC*
- *Yang Liu, Emory University*

## Emissions Measurements for Point and Non-Point Sources

Track: AQMM

6/11/2025, 1:30 PM

Room: 302A

**Platform** – TCC: AAE/AAM

**Chair:** Juan Carlos Ramirez-Dorronsoro, Valparaíso University

**Co-Chair:** Rodolfo Sosa Echeverría, Sr., Universidad Nacional Autónoma de México

**1:30 PM**

**Deployment of PEMS (An Alternative Emission Monitoring Solution) for Continuous Air Compliance Monitoring Requirements at the University of Wisconsin**

Paper #1952544

*Brian G. Swanson, Katie Grytzeliuss, CMC Solutions*

**1:50 PM**

**Challenges of Measuring Low PM<sub>10</sub> and PM<sub>2.5</sub> Emissions From Stationary Sources**

Paper #1996425

*Ilya Alimov, TRC*

**2:10 PM**

**Measuring Wildfire-Specific VOCs to Demonstrate Enhanced Ozone Production**

Paper #1948979

*Yousaf Hameed, Clark County Department of Environment and Sustainability; Crystal D. McClure, Sonoma Technology, Inc.*

**2:30 PM**

**Direct Detection of NO<sub>2</sub>: Applications and Performance of a Dual-Channel NO<sub>2</sub>/NO<sub>x</sub> Analyzer in Emissions and Field Monitoring**

Paper #1999374

*Charles Odame-Ankrah, Steve Dawson, Matthew Nordstrom, Kelly N. Pickrell, Brian Rosentreter, Sanjay A. Vaswani, Global Analyzer Systems Ltd.*

**2:50**

**Is Pollution Indoors a Visible Menace in Developing Countries?**

Paper #2004159

*Ajay Taneja, Dr Bhimrao Ambedkar University*

## Innovative Air Quality Modeling Techniques

Track: AQMO

6/11/2025, 1:30 PM

Room: 306A

**Platform** – TCC: APM

**Chair:** Mary M. Kaplan, AECOM

**Co-Chair:** Michael T. Hammer, Lakes Environmental Software

**1:30 PM**

**Modeling Overwater Platform Downwash and Shoreline Fumigation with AERMOD**

Paper #1996431

*Michelle G. Snyder, Rebecca Miller, WSP Environment & Infrastructure USA*

# TECHNICAL SESSIONS – WEDNESDAY

**1:50 PM**

**Source Culpability for PM2.5 Modeling in Belgrade, Serbia**

Paper #1998802

*Bill Jones, Blue Sky Modeling*

**2:10 PM**

**Landfill Fire Modeling in Trinidad**

Paper #1998786

*Bill Jones, Blue Sky Modeling; Krystal Jack, Trinidad Environmental Management Authority*

**2:30 PM**

**Probabilistic Screening Method for Variable Emission Inputs to AERMOD**

Paper #1999267

*Zachery I. Emerson, Tanvir Khan, National Council for Air & Stream Improvement (NCASI)*

**2:50 PM**

**Intelligent Interpretations: AI-Driven Insights into AERMOD Outputs**

Paper #1998665

*Jason Reed, Ramboll*

**Navigating Environmental Permitting and Compliance Challenges in Lithium-Ion Battery Recycling: Insights & Regulatory Perspectives**

Track: SUST/REGU/INDU

6/11/2025, 1:30 PM

Room: 302C

**Panel – TCC: SRC/REG**

**Chair:** Grace Ricker, Barr Engineering

**Co-Chair:** Archana Nagaraj, Weaver Consultants Group

This panel will include information on challenges related to environmental permitting and compliance for lithium-ion battery (LIB) recycling facilities. A brief overview of LIB recycling processes and associated air emissions, wastewater discharges and wastes will be reviewed. Panelists will discuss the evolving regulatory structure, potentially applicable air regulations, implications of industrial classifications and control technologies. Recent USEPA guidance and updates on the status of proposed regulations under RCRA will be highlighted. State initiatives and regulatory requirements related to LIB recycling will also be highlighted. The panel will also include a high-level discussion of risk management, liability protection and international pressures.

**Panelists:**

- *Kim Alfonsi, Barr Engineering*
- *Greg Patten, Barr Engineering*
- *Kurt Brauer, Warner Norcross + Judd LLP*
- *Jessica Young, U.S. EPA Office of Resource Conservation and Recovery*

**Noise Issues and Transportation Noise Modeling**

Track: TRAN

6/11/2025, 1:30 PM

Room: 306B

**Platform – TCC: CNV**

**Chair:** Robert C. Mentzer, HMMH

**Co-Chair:** Roger L. Wayson, AECOM

**1:30 PM**

**Noise: Not Just a Nuisance**

Paper #1997390

*Corey Kinart, HGC Noise Vibration Acoustics*

**1:50 PM**

**Don't Wait Until It's Too Late! Cautionary Case Studies in Overlooking Noise as a Pollutant**

Paper #1996497

*Andrew Dobson, Nick McCabe, Rob Stevens, HGC Noise Vibration Acoustics*

**2:10 PM**

**Airport Noise and Air Quality Evaluation**

Paper #2003021

*Robert C. Mentzer, Jr., HMMH*

**2:30 PM**

**The Advancement of Traffic Noise Modeling in the U.S.**

Paper #1996384

*Roger L. Wayson, AECOM*

**2:50 PM**

**Life Cycle Environmental Impacts and Costs of AC and DC Electric Vehicle (EV) Charging Stations**

Paper #1999519

*Raghava R. Kommalapati, Mahalakshmi Mannar, Prairie View A&M University*

**Young Professional Panel: All About Per- and Polyfluoroalkyl Substances (PFAS)**

Track: YPRO/WAST

6/11/2025, 1:30 PM

Room: 305A

**Panel – TCC: WMR**

**Chair:** Aurelie Marcotte, Entanglement Technologies, Inc.

**Co-Chair:** Lindsay Salvador, ALL4

Per- and polyfluoroalkyl substances, or PFAS, are a widely used class of chemicals found in a variety of consumer and industrial products. PFAS are persistent in the environment and are exceptionally hard to study due to the number of potential species and chemical diversity. PFAS have been measured in vast environmental matrices, in food, and in very remote locations and some are regulated due to their potential harmful health effects in humans and animals. Concerns around PFAS are widespread. This panel will provide an overview of the science surrounding PFAS in the context of air and waste, which are growing in the regulatory space. This panel is geared towards students and young professionals. Topics will include: overview of PFAS in the environment; the science of PFAS in air and waste; PFAS regulations in air and waste; and future of PFAS regulations and research.

**Panelists:**

- *Stephanie Bolyard, North Carolina Department of Environmental Quality*
- *Christopher C. Lutes, Jacobs*
- *Oscar Beckman, Enthalpy Analytical*

# TECHNICAL SESSIONS – WEDNESDAY

## Clearing the Air: Navigating Changes in GHG Landfill Air Regulations, Sustainability, and Compliance Reporting, and the Impacts of Satellite Technology

Track: MINI/CLIM/WAST

6/11/2025, 3:30 PM

Room: 301AB

**Panel** – TCC: CCP/SUS

**Chair:** Archana Nagaraj, Weaver Consultants Group

Numerous regulatory and sustainability updates are affecting modelled Landfill greenhouse gas (GHG) emissions. The panel will discuss 2024 amendments to GHG Reporting for Municipal Solid Waste (MSW) Landfills, highlighting revisions to modelling for methane generation, including Degradable Organic Carbon Content of MSW and first order decay rates. We will discuss the Solid Waste Industry for Climate Solutions (SWICS) Landfill Emissions Model (LEM) that industry uses for sustainability reporting, comparing collection efficiencies for landfill gas collection systems based on cover types (daily, intermediate, and final) for GHG Reporting and SWICS. We will summarize recent AP-42 revisions for Landfills, and the latest LandGEM Model for methane generation. We will present recent changes to federal air regulations at landfills, alongside current and future scenarios for Landfill emissions and methane generation. Plus, diving into the accuracy of Carbon Mapper and satellite technologies, and their use in decision making.

### Panelists:

- *Matt Stutz, Weaver Consultants Group*
- *Julie Hall, Weaver Consultants Group*
- *Jonathan Lumang, Weaver Consultants Group*
- *Kate Howe, Weaver Consultants Group*

## Air Dispersion Modeling: Case Studies, Issues, Applications, Advances, and Guidance

Track: AQMO

6/11/2025, 3:30 PM

Room: 305B

**Platform** – TCC: APM

**Chair:** Bill Jones, Blue Sky Modeling

**Co-Chair:** Michelle G. Snyder, WSP Environment & Infrastructure USA

**3:30 PM**

### AERMOD Tier 3 NO2 Case Study

Paper #1998736

*Anthony Schroeder, Katrina M. Becker, Trinity Consultants*

**3:50 PM**

### AERMOD Meteorological Data Determination: A Case Study of a Meteorological Data Sensitivity Analysis in West Virginia

Paper #1997838

*Zak Schmidt, Civil & Environmental Consultants, Inc.*

**4:10 PM**

### Case Study on PVMRM's Nonmonotonic Behavior at Low NO2 to NOx In-Stack Ratio

Paper #2000148

*Qi Zhang, GHD*

**4:30 PM**

### Comparison of AERMOD NO2 Modeling Techniques for Cumulative Inventory Analysis at a Large Industrial Facility

Paper #1999164

*Mary M. Kaplan, Christopher J. Warren, AECOM*

**4:50 PM**

### Comparison Between CFD and AERMOD at a Data Center

Paper #1999741

*Jason Reed, Jens Chr. Bennetsen, Jelena Popovic, Ramboll*

## Air Legislation, Regulation, and Policy Developments

Track: INDU/REGU

6/11/2025, 3:30 PM

Room: 306B

**Panel** – TCC: PIM/REG

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

**Co-Chair:** Wilma Dreessen, Chevron Products Company

The Trump Administration and EPA have taken or announced multiple actions as part of an overall effort to review and/or reconsider multiple rules and policies. For example, EPA has announced that it will reconsider at least 31 rules and has taken other actions to reduce the impact of regulations on the economy. This panel will provide a general overview of these actions followed by more specific insight into key rules that EPA is reconsidering. Information provided may include the development and implementation of air quality/emissions regulations, promulgated under the U.S. and other air quality legislation; standards development, including new source performance standards, emission guidelines, and maximum achievable control technology standards; the current state of standards development and schedules for developing, proposing, and implementing standards/revisions; recent court rulings and cases; EPA's required evaluations of residual risks from industrial source categories; and, state and local emission standards.

### Panelists:

- *Clara Poffenberger, Clara Poffenberger Environmental Law and Policy (CPELP)*
- *John King, Breazeale, Sachse & Wilson, LLP*
- *Joel Trinkle, Barr Engineering*

## Environmental Protection Network – Purpose, Goals, and Actions

Track: EEQT

6/11/2025, 3:30 PM

Room: 306A

**Chair:** Stan Meiburg, Former Acting Deputy Administrator, U.S.

EPA; Executive Director, Sabin Family Center for Environment and Sustainability, Wake Forest University

**Co-Chair:** Jennifer Orme-Zavaleta, Former Principal Deputy Assistant Administrator for Science, Office of Research and Development, U.S. EPA (Retired); Environmental Protection Network, Board Member

The Environmental Protection Network (EPN) was founded in January 2017 and now has over 650 EPA alumni volunteering their time to protect the integrity of the EPA, human health, and the environment, and to serve as a trusted resource, answering calls



# TECHNICAL SESSIONS – WEDNESDAY

for objective analysis, scientific rigor, and a vision for a transformed 21st-century EPA. EPN harnesses the expertise of former EPA career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators with decades of historical knowledge and subject matter expertise. EPN is focused on building and defending the capacity of environmental agencies and the communities they serve to address the most urgent health and environmental crises. EPN works to ensure that EPA advances policies, budgets, and institutional changes to address environmental injustices, climate impacts, and other pressing public health needs. This panel will discuss the purpose, goals, and current activities of the EPN.

## Panelists:

- *Janet McCabe, Former Deputy Administrator, U.S. EPA; Distinguished Scholar, Indiana University Robert H. McKinney School of Law*
- *H. Christopher Frey, North Carolina State University*
- *Stan Meiburg, Former Acting Deputy Administrator, U.S. EPA; Executive Director, Sabin Family Center for Environment and Sustainability, Wake Forest University*
- *Jennifer Orme Zavaleta, Former Principal Deputy Assistant Administrator for Science, Office of Research and Development, U.S. EPA (Retired); Environmental Protection Network, Board Member*

## Next Generation Air Monitoring Tools and Techniques

Track: AQMM

6/11/2025, 3:30 PM

Room: 302B

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**Platform – TCC: AAM**

**Chair:** Douglas C. Dziubla, ERM

**Co-Chair:** Chun Yi Wu, Minnesota Pollution Control Agency, Retired

### 3:30 PM

#### **An Innovative Automated Scanning Electron Microscope Methodology for Quantifying Airborne Elongated Mineral Particles**

Paper #1999457

*Hamesh Patel, Mote Limited, The University of Auckland, Queensland University of Technology; Anushka Elangasinghe, The University of Auckland / Mote Limited; Kim N. Dirks, Ayrton Hamilton, Wenxia (Wendy) Fan, Charles Chen, Martin Brook, David Williams, Jennifer Salmond, The University of Auckland; Nick Talbot, Environment Southland; Shanon Lim, Pattle Delamore Partners; Jed Januch, U.S. EPA; Brett Wells, Mote Ltd.; Perry Davy, The Institute of Geological and Nuclear Sciences; Woodrow Pattinson, Deceased*

### 3:50 PM

#### **An Alternative Annex to Appendix K – Calculation of Response Factor for Optical Gas Imaging Cameras**

Paper #2024341

*Ram A. Hashmonay, Opgal*

### 4:10 PM

#### **A Physically Constrained Deep-Learning Fusion Method for Estimating Atmospheric Chemical Concentration from Satellite and Ground Monitors**

Paper #2024341

*Jia Xing, Joshua S. Fu, University of Tennessee-Knoxville; Bok H. Baek, Chi-Tsan Wang, Siqi Ma, Daniel Tong, George Mason University; Siwei Li, Ge Song, Wuhan University; Shuxin Zheng, Chang Liu, Tie-Yan Liu, Microsoft Research AI for Science; Jung-Hun Woo, Seoul National University*

### 4:30 PM

#### **Real-Time Ambient Particulate Measurement and Monitoring**

Paper #2037952

*Ekta Suman, Jeffrey Ambs, Thermo Fisher Scientific*

### 4:50 PM

#### **Waste Tracking Using AI**

Paper #1999591

*Ino Tschirntzi, Allie Janoch, Mapistry*

### 5:10 PM

#### **HaZapp, the Crowd Based Application for Reporting Environmental Hazards**

Paper #1999242

*Steven J. LaZar, Gilad Shpitzer, Atmosfir Optics, Ltd.*

## PFAS Management, Landfill Leachate and Wastewater

Track: WAST

6/11/2025, 3:30 PM

Room 306C

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**Platform – TCC: WMR**

**Chair:** Christopher C. Lutes, Jacobs

**Co-Chair:** Paul Ruehl, Holcim

### 3:30 PM

#### **PFAS Regulatory Framework - HOW Landfills and POTWs Must Navigate Risks**

Paper #1997113

*Thomas L. Maher, Jr., Ivan Arthur Cooper, Civil & Environmental Consultants, Inc.*

### 3:50 PM

#### **2025 PFAS Regulatory Update: No Longer a "Coming Attraction," Life in a World with Federal Standards**

Paper #1999090

*Andrea D. Collier, Barr Engineering*

### 4:10 PM

#### **Encapsulation of PFAS in Landfill Leachate**

Paper #1995998

*Paul Ruehl, Holcim*

### 4:30 PM

#### **Lessons Learned from the Testing, Design, and Installation of the First Foam-Fractionation + Electrochemical Oxidation Treatment System for PFAS Destruction**

Paper #2006795

*Louis E. LeBrun IV, Victor Leung, Axine Water Technologies, LLC*

# TECHNICAL SESSIONS – WEDNESDAY

**4:50 PM**

## **Encapsulation of PFAS in Soil**

Paper #1995981

*Paul Ruehl, Holcim*

## **Sustainability Metrics and Analytics**

Track: SUST

6/11/2025, 3:30 PM

Room: 302C

**Platform** – TCC: SUS

**Chair:** Archana Nagaraj, Weaver Consultants Group

**Co-Chair:** Harish G. Rao, Rao Consulting Services

**3:30 PM**

## **From Reactive Reporting to Predictive Insights: A Case for Emissions Digital Twins**

Paper #1993495

*Kyong Song, Barr Engineering*

**3:50 PM**

## **Understanding Waste Hierarchy for Communities Across the U.S.: An Analysis of 10 Communities Across the Country**

Paper #1999282

*Asmita Narode, Keith Weitz, Debra Kantner, RTI International*

**4:10 PM**

## **Board Characteristics and Sustainable Development Goal Disclosure in Pakistan**

Paper #1998878

*Abid Hussain, Gent University*

**4:30 PM**

## **Sustainability Assessments of Waste Management Strategies**

Paper #2007368

*Christopher L. Campbell, CDM Smith*

**4:50 PM**

## **AI and Blockchain for Sustainability: Excellence with Trusted, Actionable Metrics**

Paper #2025868

*Ram Ramanan, Rakesh Sreekumar, ImpactEdge Inc.*

**5:10 PM**

## **A Methodology for Identifying High Priority Areas in Need of Green Space: A Case Study in Chicago**

Paper #1998994

*Dathan Maton, Matthew J. Blaser, Michael D. Cailas, Apostolis*

*Sambanis, AbdulKareem N. AlKahtani, University of Illinois Chicago*

## **Young Professionals Panel: Regulatory Update**

Track: YPRO/REGU

6/11/2025, 3:30 PM

Room: 305A

**Panel** – TCC: REG

**Chair:** Maria Gabriela Saavedra, GaMEP at Georgia Tech

**Co-Chair:** Fiona Jiang, Ramboll

Staying abreast of the ever-evolving landscape of environmental regulations presents a significant challenge for professionals across the spectrum. This panel will provide a comprehensive overview of the latest regulatory changes impacting air, water, and waste management. Our distinguished panelists will share insights and practical guidance to help attendees navigate these changes thoughtfully and effectively. The session will conclude with open discussions and a Q&A segment, offering students and young professionals the opportunity to deepen their understanding of the current regulatory environment. Geared towards students and young professionals, this panel will cover local, state, and federal regulations and their implications across various industries. Attendees will leave equipped with the knowledge and understanding of the regulations to stay current and ahead in their field.

### **Panelists:**

- *Mike Abraczinskas, North Carolina Division of Air Quality*
- *Farhana Momin, Momin Environmental Services*
- *Victoria A. Evans, SCS Engineers*
- *Carol Kawa, Kawa Consulting*
- *Irene Hantman, Verdant Law, PLLC*
- *Phil Moffatt, Verdant Law, PLLC*

# TECHNICAL SESSIONS – THURSDAY

Thursday, June 12, 2025				
Time	Title	Track	Session	Room
8:00 am – 10:00 am	A&WMA 55th Critical Review: Satellite Data to Support Air Quality Assessment and Management	AQMM	panel	301AB
<b>Thursday AM 2</b>				
10:10 am – 11:50 am	Advancements in Community-Led Air Quality Monitoring: Fostering Environmental Justice, Ensuring Quality Assurance & Using Data for Change	MINI/AQMM/ AQMM	panel	306A
10:10 am – 11:50 am	BACT and Air Permit Modeling Implementation Issues	REGU	panel	302A
10:10 am – 11:50 am	Health Effects and Exposure (Part 2)	H&EE	platform	302B
10:10 am – 11:50 am	PFAS Air Analysis and Site Characterization	WAST	platform	306C
10:10 am – 11:50 am	The History of the U.S. Environmental Protection Agency	REGU	panel	306B
12:00 pm – 1:30 pm	A&WMA Honors & Awards Ceremony and Luncheon			Ballroom A
<b>Thursday PM1</b>				
1:40 pm – 3:40 pm	Decarbonizing Aviation: Advancements in Greenhouse Gas Mitigation for Airports & Airlines	MINI/TRAN/CLIM	panel	306A
1:40 pm – 3:40 pm	Air Sensor Applications	AQMM	platform	302A
1:40 pm – 3:40 pm	Climate Policy, Issues, and Corporate Programs	CLIM	platform	306C
1:40 pm – 3:40 pm	Hydrogen Manufacturing	INDU/CLIM	platform	305A
1:40 pm – 3:40 pm	Zero Waste and Circular Economy: Plans, Programs, Metrics, Economics, Innovation, and Climatic Benefits	SUST	platform	302C

## Advancements in Community-Led Air Quality Monitoring: Fostering Environmental Equity, Ensuring Quality Assurance & Using Data for Change

Track: MINI/AQMM/EEQT  
6/12/2025, 10:10 AM  
Room: 306A

**Panel – TCC: AAM**  
**Chair:** Darren Riley, JustAir

This session explores how partnerships with environmental justice organizers, municipalities, and technology are revolutionizing community-led air quality monitoring by addressing two critical challenges: quality assurance and translating data into meaningful action. JustAir's air quality management platform enhances low-cost sensor networks with quality assurance measures including data recovery, incident detection, maintenance logs, and public transparency. Discussion will explore how decisionmakers determine which air quality metrics matter most when creating public comment and reports, how to engage residents, and how to use data to make decisions. The panel will also highlight environmental justice perspectives and data-driven strategies that are increasingly relevant at state and local levels. Drawing from diverse viewpoints, participants will share best practices, lessons learned, and practical tools for creating healthier environments through collaborative air monitoring initiatives.

### Panelists:

- Azia M. Harris-Martin, Wayne County Health, Human, and Veterans Services
- Kelly Crawford, A&WMA SASS Board Member
- Ebony Elmore, Michigan Environmental Justice Coalition

## BACT and Air Permit Modeling Implementation Issues

Track: REGU  
6/12/2025, 10:10 AM  
Room: 302A

**Panel – TCC: REG**  
**Chair:** Gurinder Saini, RTP Environmental Associates, Inc.  
**Co-Chair:** Colin Campbell, RTP Environmental Associates, Inc.

Significant challenges remain regarding the best available control technology (BACT) for a prevention of significant deterioration (PSD) permit for PM<sub>2.5</sub> emissions. Over the years, U.S. Environmental Protection Agency (EPA) and State agencies have issued several BACT determinations for both PM<sub>2.5</sub> and precursors. PM<sub>2.5</sub> air quality modeling for PM<sub>2.5</sub> direct emissions is complex. In addition, EPA has further lowered the PM<sub>2.5</sub> annual National Ambient Air Quality Standards. Impacts from wildfires and exceptional events continue to create challenges for PM<sub>2.5</sub> annual modeling. This panel will provide an overview of the recent PM<sub>2.5</sub> and ozone precursors BACT developments and modeling challenges especially when dealing with wildfires and exceptional events.

### Panelists:

- Brandon Curtis, Hiser Joy PLC
- Peter Keller, U.S. EPA OAQPS
- Ralph E. Morris, Ramboll
- Clara Poffenberger, Clara Poffenberger Environmental Law
- Gurinder Saini, RTP Environmental Associates, Inc.
- Colin Campbell, RTP Environmental Associates, Inc.

## Health Effects and Exposure (Part 2)

Track: H&EE  
6/12/2025, 10:10 AM  
Room: 302B

**Platform – TCC: HEE**  
**Chair:** James Morrow, J.W. Morrow Consulting  
**Co-Chair:** David McCready, EnviroCalc Consulting

# TECHNICAL SESSIONS – THURSDAY

**10:10 AM**

**Evaluating Sustainable Aviation Fuel Emissions in Turbine Engines: Organic Pollutant Composition and Potential Health Implications for Aviation Industry Workers**

Paper #1988522

*Onyinye A. Ezeifeka, Yevgen Nazarenko, University of Cincinnati*

**10:30 AM**

**Aviation Worker Attitudes toward Safety 24 Hours, One Month, and Three Months after Training**

Paper #1976088

*Hannah L. Frame, Yevgen Nazarenko, University of Cincinnati*

**10:50 AM**

**Effects of Energy Recovery Ventilation on Nanoparticulate and Gaseous Indoor Air Pollution**

Paper #1998161

*Yevgen Nazarenko, Onyinye A. Ezeifeka, University of Cincinnati*

## PFAS Air Analysis and Site Characterization

Track: WAST

6/12/2025, 10:10 AM

Room: 306C

**Platform** – TCC: AAM/WMR

**Chair:** Douglas C. Dziubla, ERM

**Co-Chair:** Christopher C. Lutes, Jacobs

**10:10 AM**

**Measurement of PFAS Air Emissions from Stationary Sources – Where Do We Go from Here?**

Paper #1999095

*Thomas A. Dunder, TRC*

**10:30 AM**

**Performance Testing of a Volatile PFAS Method Applicable to Indoor Air, Soil Gas, and/or Sewer Gas**

Paper #2005664

*Christopher C. Lutes, Elsy A. Escobar, Taylor Salsburg, Jacobs; Kate E. Bronstein, RTI International; Heidi Hayes, Eurofins; Brian Schumacher, Alan C. Williams, U.S. EPA; John H. Zimmerman, Jr., U.S. EPA ORD*

**10:50 AM**

**Characterization of Emissions during the Thermal Destruction of Per- and Polyfluoroalkyl Substances**

Paper #1999558

*Stefanie Silsby, Uniformed Services University; Lan Cheng, Detlef Knappe, Nathen Silsby, NC State University; Stephen Jackson, Bill Preston, U.S. EPA*

**11:10 AM**

**Performance of Commercial Labs in the Application of EPA PFAS Methods for Wastewater Analysis**

Paper #2006647

*Cher M. Lindelien, Giffe Johnson, Waruna Kiridena, Paul Wiegand, NCASI*

## The History of the U.S. Environmental Protection Agency

Track: REGU

6/12/2025, 10:10 AM

Room: 306B

**Panel** – TCC: REG

**Chair:** Frank T. Princiotta, Retired Director of the Air Pollution Prevention and Control Division, EPA's Office of Research & Development

On December 24, 1968, astronaut William Anders took a color picture of the Earth, powerfully illustrating the beauty and isolation of the globe where we all live. In February 1970, President Richard M. Nixon sent a special message to Congress “on environmental quality.” He wrote, “The time has come when we can wait no longer to repair the damage already done, and to establish new criteria to guide us in the future.” The first “Earth Day,” held on April 22, 1970, brought more than 20 million Americans—10% of the country’s population—to call for the nation to address the damage caused by 150 years of unregulated industrial development. President Nixon responded to growing pressure by proposing the creation of the EPA in July 1970, which was officially established in December 1970, consolidating various federal responsibilities under one agency. This panel, consisting of EPA retirees who devoted most of their careers to the Agency, will cover the history of EPA from its start.

**Panelists:**

- *Frank T. Princiotta, Retired Director of the Air Pollution Prevention and Control Division, EPA's Office of Research & Development*
- *Richard A. “Chet” Wayland, Retired Director of the Air Quality Assessment Division, EPA's Office of Air Quality, Planning, and Standards*
- *John Bosch, Retired Chief of EPA's National Air Data Branch*

## Decarbonizing Aviation: Advancements in Greenhouse Gas Mitigation for Airports & Airlines

Track: MINI/TRAN/CLIM

6/12/2025, 1:40 PM

Room: 306A

**Panel** – TCC: PLU

**Chair:** Jennifer Routhier, AECOM

**Co-Chair:** Laura Cloninger, AECOM

The aviation sector is making substantial progress in realizing low-carbon air travel, from airport energy management to sustainable aviation fuel adoption. This panel will explore some of the challenges and successes of wholistic greenhouse gas accounting and mitigation within the aviation industry, using real-world examples of initiatives being implemented today. Topics of discussion will include airport sustainability, low-carbon terminal construction, aviation fuel advancements, and more.

**Panelists:**

- *Roger L. Wayson, AECOM*
- *Gina Danison, Raleigh-Durham International Airport*



# TECHNICAL SESSIONS – THURSDAY

## Air Sensor Applications

Track: AQMM

6/12/2025, 1:40 PM

Room: 302A

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**Platform** – TCC: AAM

**Chair:** Carrie Macdougall, Golder Associates

**Co-Chair:** Douglas C. Dziubla, ERM

**1:40 PM**

**From Data to Decision: Evaluating Air Sensors with Regulatory Monitors in the Southeastern U.S.**

Paper #1998320

*Tanvir Khan, Zachery I. Emerson, Jayme Coyle, William Rice, Ryan Kuemmerlin, Derek Sain, National Council for Air & Stream Improvement (NCASI)*

**2:00 PM**

**Enhancing Air Quality Monitoring in Dalton West 148 Schools: Utilizing SENSIT Devices for Healthier Learning Environments**

Paper #1999105

*Steven Norlock, Jason Gu, SENSIT Technologies*

**2:20 PM**

**Improving Accuracy in Low-Cost Gas Sensors Without Machine Learning**

Paper #1998735

*Kathleen L. Masse, Apex Instruments; Irene Lara-Ibeas, Edurne Ibarrola-Uizurrun, Javier Fernandez Huerta, Kunak Technologies*

**2:40 PM**

**Influence of Home Occupant Activities on Indoor PM<sub>2.5</sub> Concentrations**

Paper #1998394

*Sandeep Kumar Chaudhry, Judith A. Perlinger, Xiusen Yang, Riley L. Krause, Chelsea Schelly, Courtney Archambeau, Noel R. Urban, Ana Dyreson, Jacob Chizek, Michigan Technological University*

**3:00 PM**

**A Monitoring Study of 3D Printer Emissions in a University Digital Fabrication Lab**

Paper #2014054

*Mingming Lu, University of Cincinnati*

## Climate Policy, Issues, and Corporate Programs

Track: CLIM

6/12/2025, 1:40 PM

Room: 306C

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**Platform** – TCC: CCP

**Chair:** Christopher D. Easter, Bay Area Air District

**Co-Chair:** Michael Slavick, ECORP Consulting, Inc.

**1:40 PM**

**Simulating Greenhouse Gas Emissions, Carbon Sequestration, and Nitrogen Cycling in Vermont Agricultural Soils**

Paper #1997462

*Hannah J. Rubin, Jens Kiesel, Bettina Miguez, Jody Stryker, Stone Environmental*

**2:00 PM**

**Adapting to State and SEC Climate Disclosures: What Corporations Need to Know**

Paper #2006999

*Tingting Jiang, Geosyntec Consultants*

**2:20 PM**

**Decarbonizing the Global Economy - How Can the Environmental Remediation Industry Contribute?**

Paper #2008292

*François Beaudoin, Marie-Joëlle Lainé, GHD Consultants Ltd*

**2:40 PM**

**Climate Change: We Are Running Out of Time**

Paper #1992158

*Frank Princiotta, Retired Director of the Air Pollution Prevention and Control Division, EPA's Office of Research and Development*

**3:00 PM**

**Engineering Precision for a Sustainable Future: Advancing Greenhouse Gas Reporting and Verification Standards in America**

Paper #2006624

*Samantha Adams*

**3:20 PM**

**Assessing the Resilience and Sustainability of Municipal Solid Waste Infrastructure and Management in U.S. Communities**

Paper #1999325

*Asmita Narode, Keith Weitz, Debra Kantner, RTI International; Ozge Kaplan, U.S. EPA; Susan Thorneloe, U.S. EPA ORD*

**3:40 PM**

**Lessons Learned from Climate Change Adaptation and Resiliency Planning in Washington**

Paper #1999019

*Heidi E. Rous, Kimley-Horn and Associates*

## Hydrogen Manufacturing

Track: INDU/CLIM

6/12/2025, 1:40 PM

Room: 305A

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**Platform** – TCC: PIM/PWR

**Chair:** Wilma Dreessen, Chevron Products Company

**Co-Chair:** Jordan Haywood, Siemens Energy

**1:40 PM**

**Hydrogen Energy: Principles and Applications**

Paper #2001705

*Vincent DeGatto, Electric Power Engineering; R. Ryan Dupont, Utah State University, Utah Water Research Laboratory; Lou Theodore, Theodore Tutorials; Marybeth Reynolds*

**2:00 PM**

**Advancing Hydrogen Production: Addressing Environmental Challenges and Pathways to Sustainability**

Paper #1998644

*Michael Slavick, ECORP Consulting, Inc.*

# TECHNICAL SESSIONS – THURSDAY

2:20 PM

**The Nexus of Green Hydrogen and Hydropower: Addressing Future Climate Change Scenarios**

Paper #1999649

*Selisa Andrus, Terry L. Alford, Arizona State University*

**Zero Waste and Circular Economy: Plans, Programs, Metrics, Economics, Innovation, and Climatic Benefits**

Track: SUST

6/12/2025, 1:40 PM

Room: 302C

**Platform** – TCC: SRC

**Chair:** Harish G. Rao, Rao Consulting Services

**Co-Chair:** Kate Howe, Weaver Consultants Group

1:40 PM

**The Influence of Leadership Motivation on Circular Economy Adoption**

Paper #1998766

*Kate Howe, Weaver Consultants Group; Brendan Lavy, Texas Christian University*

2:00 PM

**Creating a Circular Economy for Lithium-Ion Batteries - From Waste to Raw Materials**

Paper #2002070

*Jon W. Greene, Civil & Environmental Consultants, Inc.; Kevin Hobbie, Green Li-ion*

2:20 PM

**Supply Chain Circularity in Synthetic Hair Manufacturing: A Case Study**

Paper #1999697

*Odunayo Lawal, Oluwatoyin Adesanya, Covenant University; Oluwafemi Awolesi, Louisiana State University*

2:40 PM

**Circular Economy Regulation Landscape and Value Chain**

Paper #1997208

*Yi Chen, Geosyntec Consultants*

3:00 PM

**An Integrated Approach for Food Waste Management: Technoeconomic and Life Cycle Assessment**

Paper #1999269

*Harriet D. Appiah, Christopher Canterino, Vlad Groshev, Sean McQuilkin, Jagadish Torlapati, Eliandre Russel P. Vistal, Kirti Yenkie, Rowan University*





# Lakes Environmental Software Solutions

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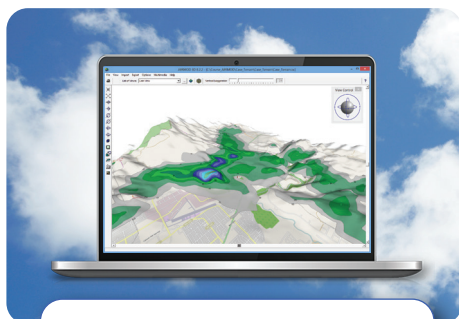
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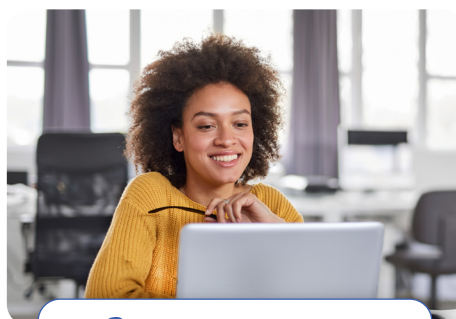
- Emissions Inventory
- Air Dispersion Modeling
- Air Quality Forecasting
- Ambient Air Monitoring
- Human Health Risk Assessment
- Permitting and Compliance



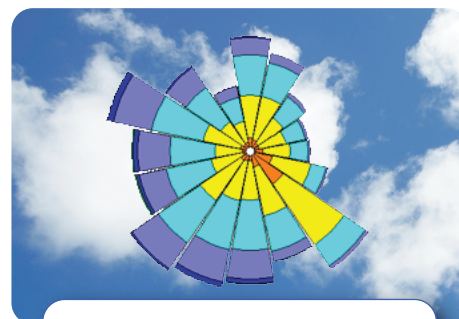
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