

Environmental Health Highlights

APHL Annual Conference is an in-person public health laboratory community event. Below is a list of the environmental-related sessions, posters and events that will be offered at this year's meeting. *All times are in Pacific Time.*

[Learn more](#) and [register](#) for APHL 2025. For a full list of sessions and activities, please see the [final program](#).

Monday, May 5

8:00–11:00 am | Preconference Workshop – B113-114

Implementing One Health Partnerships and Strategies from Within Your Laboratory: Lessons from Rabies and Highly Pathogenic Avian Influenza (HPAI)

Participants will experience how effective collaboration between animal health, public health and environmental sectors strengthens outbreak response, surveillance and disease prevention efforts. Real-world case studies, like rabies and HPAI, will be used to demonstrate best practices for investigating zoonotic diseases, emphasizing the critical role of laboratories in timely detection, reporting and coordination. Participants will be able to describe essential concepts related to One Health and will be provided with tools and resources for developing their own communication and interagency collaboration plans and strategies for enhancing their own laboratories' efforts toward integrating a One Health perspective. Participants will engage with each other and workshop facilitators throughout the day through interactive problem-solving activities.

This is a preconference workshop and prior [registration](#) is required.

3:00 pm | Posters — Exhibit Hall A

The exhibit hall will be open for poster viewings in Exhibit Hall A and rapid poster presentations begin at 5:00 pm in the Oregon Ballroom. [Click here](#) to see the full list, with environmental-related posters highlighted in blue.

6:30-8:30 pm | Informal Social Gathering — Deschutes Brewery Portland Public House Environmental Health Social

210 NW 11th Ave., Portland, OR 97209 ([1.4 mile walk from the Oregon Convention Center](#))

Join APHL environmental health staff, EH fellows and members for an informal social gathering after day one of the conference at [Deschutes Brewery](#). Stop by for a bite, a drink or to play some games!

Tuesday, May 6

8:15–8:45 am | Innovate! Session – B110-112

Putting Advanced Technologies to Work to Revolutionize Environmental Contaminant Testing

Clean water is essential for communities, making it crucial to assess public water supplies for chemical pollutants. LC/MS/MS stands out as a highly effective tool for this purpose due to its exceptional sensitivity and selectivity. This session will reveal how advances in mass spectrometry have resulted in simplified, direct analysis workflows for compounds like PFAS, pesticides, PPCPs and more. Sample pretreatment and enrichment are eliminated, saving time, resources, and making the monitoring process more efficient.

9:00–10:00 am | Session – Oregon Ballroom First Foods and River Vision — Management Guidance for the Intersection of Human, Environmental and Cultural Health

This session presents the Confederated Tribes of the Umatilla Indian Reservation's shared perspective on environmental and human health protection. Portland, the location of this conference, is located in the Columbia River Basin, which has been home to the members of the Cayuse, Umatilla and Walla Walla indigenous peoples for more than 10,000 years. This

session introduces the APHL community to the First Foods culture, traditional foods eaten seasonally and the linkage to environment, community and cultural health.

10:45–11:45 am | Session – B115-116

A Brave New World: How Public Health Laboratories Are Using High-Resolution Mass Spectrometry

High resolution mass spectrometry (HRMS) is a powerful investigative tool that public health laboratories can use to collect comprehensive information on both known and unknown chemicals present within a sample for a variety of matrices. While methods for identifying unknown contaminants have historically been limited, the growing affordability of HRMS has enabled public health laboratories to onboard non-targeted testing. Through three real-world applications, presenters will describe the benefits and challenges of HRMS, how HRMS technology is fit for purpose to swiftly identify chemical contaminants and how HRMS data has been used to accelerate definitive testing and inform timely public health intervention.

12:30–1:00 pm | Innovate! Session – B110-112

Advancing Public Health: Automated Testing for Environmental Surveillance of Vector-Borne Diseases

Join us for an informative session on advancements in environmental surveillance of vectorborne diseases using automation. This session will highlight how technologies, such as the Panther Fusion instrument, are being utilized in Public Health laboratories to monitor and control diseases transmitted by mosquitoes and ticks. Through real-world examples, we will discuss the methods and benefits of using automated systems for pathogen detection in environmental samples, including improved workflow efficiency and faster response times.

1:30–2:30 pm | Session – B113-114

Navigating the (Waste)Waters: Building a Sustainable Program in the Post-pandemic Era

This session will explore how laboratories balance establishing a sustainable wastewater surveillance program while also being able to quickly respond to emerging threats using quality science in the post-pandemic era. Speakers will discuss how laboratories can use what they've learned since transitioning from SARS-CoV-2 pandemic testing to a wider list of infectious disease targets. This includes defining what

has and what has not worked, identifying gaps and building off efficiencies to create a financially sound program that provides public health value. CDC National Wastewater Surveillance System will also outline its future goals and priorities, providing additional information that will help laboratories develop a wastewater surveillance program that best meets public health needs.

1:30–2:30 pm | Session – B117-119

The Laboratory Response Network in Action: 25 Years of Preparedness

The Laboratory Response Network (LRN) was established as a collaborative effort between the Centers for Disease Control and Prevention (CDC), Federal Bureau of Investigation (FBI), the Department of Defense (DoD) and the Association of Public Health Laboratories (APHL) and functions as a robust network of state and local public health, federal, military and international laboratories that prepare for and respond to emerging public health threats. Since its inception in 1999, the LRN has evolved to not only improve response readiness to biological threats, but also emerging and re-emerging infectious diseases, chemical threats and other public health emergencies. As the LRN celebrates over 25 years of preparedness, this session will provide an overview of the past, present and future laboratory responses to public health threats. Speakers will also discuss how the LRN could be shaped to respond to future events.

4:30–5:30 pm | Session – B117-119

Forging Ahead: State and Tribal Innovators Battling Emerging Contaminants

With the ever-present challenge of emerging contaminants on the horizon, this session will provide timely networking and knowledge exchange to help position state, tribal and local jurisdictions to respond. State and tribal representatives will discuss their experiences creating laboratory and natural resource programs to strategically address contaminants of emerging concern. Tribal representatives will share their strategic planning process to address toxics to protect community health and evaluate cumulative risk. State laboratory representatives will present considerations to developing an emerging contaminants program such as where to start, method development, communication, resource acquisition, navigating government, barriers, challenges and more. Attendees will share their own successes and challenges through audience participation and a post-session survey. This feedback will inform the future

work of APHL's Contaminants of Emerging Concern workgroup and help attendees be more prepared to address these challenges in their own jurisdiction and tribal representatives will discuss their experiences creating laboratory and natural resource programs to proactively address contaminants of emerging concern.

10:00 am–6:30 pm | Posters — Exhibit Hall A

The exhibit hall will be open for poster viewings. [Click here](#) to see the full list, with environmental-related posters highlighted in blue.

11:45 am–1:30 pm | APHL Environmental Health Program Exhibit Booth — Exhibit Hall A

Visit the APHL Environmental Health booth to learn more about APHL's Environmental Health tools and programs!

Wednesday, May 7

11:15 am – 12:15 pm | Session – B117-119 More Moves than a Dance Floor: Chasing Drug Overdose Trends with New Partners

Attendees will hear from the Street Drug Analysis Lab at the University of North Carolina Chapel Hill, Center for Forensic Science Research and Education's (CFRSE) Novel Psychoactive Substances (NPS) Discovery program and the Minnesota Drug Overdose and Substance Use Surveillance Activity (MNDOSA) overdose biosurveillance program. This session will explore the collaboration and varying perspectives needed for timely detection and monitoring of drug supply and overdose trends in the United States to inform public health action. Speakers will share their learnings about drug supply trends including adulterants and contaminants, detection and monitoring of novel psychoactive substances, emerging fatal and non-fatal drug overdose trends, the role of overdose biosurveillance and the value of high-resolution mass spectrometry in retrospective data interrogation to identify when substances emerged within a population.

12:30 pm – 1:00 pm | Innovate! Session – B117-119

Advancing Wastewater Monitoring Through Droplet Digital PCR: Applications, Opportunities and Recommendations

This presentation will highlight: Wastewater monitoring using multiplex Droplet Digital PCR (ddPCR) for viral pathogens of public health concern- considerations,

best practices and lessons learned from five years of translating research into action. Methodology matters: Bridging gaps for multipathogen monitoring by adapting viral RNA workflows for DNA based monitoring of clinically relevant bacterial, fungal and antimicrobial resistance gene targets.

1:45–2:45 pm | Session – Oregon Ballroom Microplastics: Yes, “Everything Everywhere All At Once” Applies

In this joint environmental health/environmental laboratory science committee session, national experts will explore the latest scientific water testing and human exposure research on microplastics. After a study found that 80% of drinking water samples from 14 countries across 5 continents had microplastics in them, California became the first government worldwide to require microplastics monitoring in drinking water. This policy motivated rapid scientific work to define microplastics and to develop standard methods to measure them in source water. Wednesday, May 7 41 | APHL 2025 Annual Conference | May 5–8, 2025 | #APHL Microplastics have also been found in air, soil, wildlife and human blood and lung tissue, yet studies are just beginning to uncover potential human health effects such as internal inflammation and reproductive effects. Presenters will summarize the evidence of human exposure, data gaps for exposure quantification and the potential for microplastic substances to pose a public health hazard.

3:30–4:30 pm | Session – B113-114 From Decay to Display: Showcasing Radiochemistry's Role in Public Health Protection

This session will spotlight the essential role of environmental radiochemistry in public health protection, covering everything from routine monitoring in public health laboratories to exploring the EPA's National Analytical Radiation Environmental Laboratory's (NAREL) role in the analysis of environmental samples. Speakers will share their insights into the diverse applications of radiochemistry, including environmental surveillance and regulatory compliance testing. Speakers will share recent collaborations and initiatives that leverage regulatory agreements, such as FDA's Food Emergency Response Network (FERN) and the Integrated Consortium of Laboratory Networks (ICLN), to expand laboratory capabilities and ensure preparedness for radiological incidents. Through these presentations, attendees will see how radiochemistry laboratories are evolving to

meet modern public health needs and leveraging response networks for a safer environment.

10:00 am – 6:30 pm | Posters — Exhibit Hall A

The exhibit hall will be open for poster viewings. [Click here](#) to see the full list, with environmental-related posters highlighted in blue.

Thursday, May 8

7:30–8:30 am | Roundtable – B115-116

Are Laboratory Systems Ready to Respond to Unknown Chemical Intoxications? How Psychedelic Edibles Prepared One Laboratory for Unexplored Chemical Intoxications

This roundtable discussion will explore the challenges and lessons learned from the investigation of contaminated Diamond Shrooms products. The case highlights the complexities of managing foodborne outbreaks involving chemical contaminants and the importance of cross-agency collaboration among public health scientists, epidemiologists, poison control centers and food safety regulators. Speakers will discuss challenges encountered in this response, including complicated food matrices and the absence of a validated method. Roundtable speakers and participants will discuss strategies for responding to chemical food safety threats, including the use of high-resolution mass spectrometry (HRMS) and leveraging networks to respond to complicated investigations. Speakers will also discuss the development of model practices for responding to chemical contamination events and consider how this investigation differed from the EVALI response.

9:00–10:00 am | Session – B110-112

Hashing It Out: The Evolving Landscape of Cannabis Regulations and Public Health Implications

Cannabis is treated differently from other matrices in the public health landscape: tobacco, drugs, foods and poisons. Speakers will address these differences as well as the inherent challenges of cannabis testing and challenges that arise due to variance in legalization and regulations across the states. This session will discuss what differentiates cannabis from other matrices in the public health landscape and how other states may learn from Oregon's experience as one of the oldest cannabis testing programs that was established following legalization of medical marijuana in 1998 and recreational use in 2015.

9:00–10:00 am | Session – B115-116

Wastewater Surveillance: Communicating Complex Data for Public Health Action

Experts from CDC's National Wastewater Surveillance System, academic laboratories, state health laboratories and industry partner, Verily Life Sciences, will discuss how collaboration is used to advance wastewater science and how integrating laboratory data with epidemiology analysis and effective communication and data visualization has supported public health action. Attendees will gain insights into successful collaborative efforts, real-world examples of utilizing wastewater data during emergencies and how public health partners use this data to drive informed decision making and implement impactful interventions in collaboration with communities.