

Innovate! Sessions

Concurrent Sessions

Tuesday, May 7, 7:00–7:30 am

Wastewater Surveillance: Advancing Beyond SARS-CoV-2 with ddPCR at Hampton Roads Sanitation

presented by Bio-Rad Laboratories • Room 101AB

Embracing Droplet Digital PCR (ddPCR), our wastewater utility has pioneered methods for microbial source tracking to complex environmental monitoring applications. Initially applied to the identification of fecal markers in stormwater, we've expanded to pathogen detection in oysters, verification of treatment efficacy, and COVID-19 surveillance. Recently, our capability extended to high-order multiplexing for animal fecal identification and eDNA, aiding in the management of invasive and endangered species, demonstrating ddPCR's robustness in environmental and public health domains.

Speaker: Raul Gonzalez, PhD, Co-founder and Principal Scientist at H2O Molecular

Decentralized Molecular Diagnostics to Address Public Health Needs

presented by Cepheid • Room 101C

In this session, we will demonstrate the role of laboratory quality decentralized testing in addressing public health needs. Use cases and successful examples will be highlighted.

Speakers:

- Joaquin Aracena, MA, Assistant Commissioner, Bureau of Public Health Clinics (BPHC), New York City Department of Health and Mental Hygiene

Automation and Whole Genome Sequencing: The Public Health of Tomorrow

presented by Clear Labs • Room 101DE

With an expanded repertoire of applications offered by the Clear Dx platform, Clear Labs continues to empower public health laboratories, healthcare establishments and private hospitals to conduct routine pathogen surveillance, as well as outbreak investigations in a decentralized model. Subject matter experts in the field will be sharing their experience of utilizing automated NGS technologies for surveillance and outbreak investigations, as well as discussing the impact and implications of their work.

Moderator: Ramin Khaksar, Clear Labs

Speakers:

- Samantha Wirth, Wadsworth Center, New York State Department of Health
- Kyle Rhoden, Clear Labs

Nanopore Sequencing for Enhanced Microbial Genomics and AMR Surveillance

presented by Oxford Nanopore Technologies • Room 102AB

This session will provide an overview of practical applications of nanopore sequencing for enhanced microbial genomics and antimicrobial resistance (AMR) surveillance. Learn how Oxford Nanopore technology facilitates complete, high-quality microbial genome and plasmid assemblies, enabling characterization of AMR genes, precise mapping of their locations, outbreak detection, and tracking of horizontal gene transfer events. Gain insights into how nanopore sequencing accelerates turnaround times and enhances our understanding of microbial pathogens to support public health initiatives.

Speaker: Kelly Oakeson, PhD, Utah Public Health Laboratory

Standardization and Flexibility: A New Paradigm in Public Health Testing

presented by Promega • Room 102C

1. Embrace flexibility and standardization: Streamline your esoteric LDT workflow with our unique and versatile nucleic acid extraction kit, catering to various pathogens and complex matrices.
2. S3: Optimize your workflow with our Size-efficient, Scalable extraction solutions, backed by a reliable, local Supply chain and in-house production.
3. Enhanced Molecular Workflow: Boost public health PCR monitoring initiatives with added cell viability checks, improving food safety, water quality, and infectious disease diagnostics.

Speaker: Malik M. Keshwani, Promega

Beyond Drinking Water: Utilizing EPA Method 1633 for Assessing Water Supplies for PFAS

presented by Waters Corporation • Rooms 102DE

The widespread use of Per- and Polyfluorinated Alkyl Substances, PFAS, has resulted in deposition into the environment, impacting water and food supplies. Laboratories supporting PFAS testing must be ready to adjust to the changing landscape of testing requirements - expanded analytes, low level detection, more matrices. Join us to learn about innovations for successful sample preparation and LC-MS/MS analysis using EPA Method 1633, and it's use for assessing non-potable water sources for PFAS.

Speaker: Stuart Oehrle, PhD, Principal Technical Specialist, Waters Corporation and Chemistry Instructor, Northern Kentucky University

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Tuesday, May 7, 8:00–8:30 am

Investigating the Performance of the Alinity m You-Create Feature

presented by Abbott Molecular • Room 101AB

Lab developed tests (LDTs) play an important role in the diagnosis of infectious diseases in response to an outbreak or when a regulatory approved test is not available. Current molecular diagnostic platforms offer fully automated high-throughput performance capable of running LDTs. The Alinity m platform enables users to run LDTs concurrently with IVD assays with its Alinity m You-Create feature. During the session we will review You-Create features and implementation of LDTs such as *C. auris*.

Speaker: Mark Sasaki PhD, Manager Global Scientific Affairs, Abbott Molecular

Optimizing Diagnostic Efficiency of HCV Testing in the Laboratory

presented by Hologic • Room 101C

Hepatitis C virus (HCV) infection remains a substantial global health problem and continues to be an underdiagnosed disease in the US. Achieving HCV elimination goals will require improving the effectiveness of HCV diagnosis. This session will highlight key strategies to optimize the diagnostic efficiency of HCV testing in the laboratory.

Speakers:

- Karen Harrington, PhD HCLD (ABB), Head of Scientific Affairs, Hologic
- Casey Schroeder, Texas Department of State Health Services Public Health Laboratory
- Stephanie Sweets, Indiana Department of Health Laboratory

Advancing Public Health Through Applications with Illumina NGS

presented by Illumina • Room 101DE

Speaker: Alexandria Rossheim, Colorado Department of Public Health and Environment

Flushing the Threat: Tracking Antimicrobial Resistance in Hawaiian Communities Through Wastewater-based Epidemiology

presented by QIAGEN • Room 102AB

Antimicrobial Resistance (AMR) is a global threat, with antibiotic-resistant bacteria (ARB) on the rise. Carbapenem resistance is particularly concerning, leading to serious outbreaks and limited treatment options. The Hawaii Department of Health (HDOH) employs wastewater-based epidemiology (WBE) to monitor AMR in two Hawaiian communities. Using digital PCR and targeted sequencing HDOH studies resistance gene prevalence, informing public health initiatives. Explore the talk for insights into WBE AMR testing and its implications.

Speakers:

- Joshua Boston, QIAGEN, LLC
- Doris Di, Hawaii Department of Health

Expanding Sensitivity and Precision with Roche qPCR

presented by Roche Diagnostics • Room 102C

Learn about Roche's new dual-mode (RUO & IVD) real-time PCR system, the LightCycler PRO. This innovative, 7-channel instrument is designed to offer industry-leading multiplexing capabilities plus the high precision, scalability, usability, and analytic capabilities found in Roche qPCR instruments. Ask questions and explore data generated on the LightCycler PRO with CDC suggested primers and probes.

Speaker: Robin Thomas, PhD, Scientific Partner, MSA

Exploring Analytical Toxicology Capabilities Utilizing LC-MS for Overdose Surveillance

presented by Thermo Fisher Scientific • Room 102DE

The growing number of abused drugs, coupled to the rise in non-lethal overdoses, requires rapid and sensitive toxicology testing to aid bio-surveillance efforts.

Fast, high-throughput mass spectrometry methods (with and without liquid chromatography) will be discussed — including a fast, quantitative method for 106 high-frequency drugs on Orbitrap™ MS and QQQ MS, as well as a novel PaperSpray ion source that limits the need for sample preparations and LC separation prior to mass spectrometry.

Speaker: Jingshu Guo, PhD, Application Scientist, Thermo Fisher Scientific