

virtual conference

# APHL™ 2020

september 22 – october 15  
tuesdays and thursdays

## Final Program



[www.aphl.org/AC](http://www.aphl.org/AC)

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# Welcome to APHL 2020 Virtual!

Where laboratory science and public health meet.

The APHL 2020 Virtual Conference will take place on Tuesdays and Thursdays over a 4-week period from September 22 to October 15, 2020. It is a virtual conference of more than 1,000 professionals that addresses public health laboratory issues, trends and technologies relative to emerging infectious diseases, environmental health, emergency preparedness, informatics, food safety, newborn screening, global health and more.

The conference will include several plenary sessions per day along with posters and exhibits. The sessions will be 60-minutes long and will consist of a welcome, pre-recorded presentations (video and PowerPoint slides) and live Q&A. Posters will be viewable and downloadable as e-posters with a short video presentation. There will be a virtual exhibit hall with information on the latest in products and services and links to interact with exhibitor staff.

The APHL 2020 Virtual Conference is open to anyone with an interest in the work of public health laboratories.

## Who Attends?

- State, county and city public health laboratory directors and personnel
- Clinical and academic institution managers and staff
- Environmental and agricultural laboratory directors and scientists
- Healthcare professionals and clinicians from public health agencies
- Federal agencies or state and local public health officials
- Clinical and academic laboratory managers and staff
- Others interested in laboratory issues

## General Information

### Registration

#### Conference Registration Fee: Complimentary

Advanced registration through APHL is required. Go to the conference webpage [www.aphl.org/AC](http://www.aphl.org/AC) for details. If you have any questions, please contact Terry Reamer at [terry.reamer@aphl.org](mailto:terry.reamer@aphl.org) or 240.485.2776.

After registering, you will receive an email confirmation with log in information for the virtual conference platform. The platform works best in the Chrome browser.

### Continuing Education Credits Available

APHL is an approved provider of continuing education programs in the clinical laboratory sciences through the American Society of Clinical Laboratory Science (ASCLS) P.A.C.E.® program. Attendees have the opportunity to earn up to 20.0 contact hours by attending the entire conference.

APHL is an approved provider of Certified in Public Health (CPH) Recertification Credits through the National Board of Public Health Examiners (NBPHE). Attendees have the opportunity to earn up to 20.0 hours of credit by attending the entire conference.

### Consent to Use Photographic Images

Registration and attendance at or participation in APHL conferences and other activities constitutes an agreement by the registrant to APHL's use and distribution (both now and in the future) of the registrant's or attendee's image or voice, without compensation, in photographs, video and audio recordings of such events and activities.

### Poster Abstracts

More than 60 posters will be displayed on the conference platform where contact with the presenters will be available. **Poster abstracts** are available for pre-viewing on the conference website.

Thank you to our sponsors for their generous support of this conference!

**HOLOGIC**®



# Not to Miss!

All listed times are Eastern.

## Dr. Katherine Kelley Distinguished Guest Lecture

Wednesday, October 7, 1:00 pm – 2:00 pm ET



### Public Health 3.0: A 21st Century Model for 21st Century Challenges

Public health is what we do together as a society to ensure the conditions in which everyone can be healthy. Although many sectors play key roles, governmental public health is an essential component. Even before COVID-19, recent stressors on public health are driving many local governments to pioneer a new Public Health 3.0 model in which leaders serve as Chief Health Strategists, partnering across multiple sectors and leveraging data and resources to address social, environmental and economic conditions that affect health and health equity.

**Karen B. DeSalvo, MD, MPH, MSc** is Chief Health Officer at Google Health. She is also adjunct Professor of Medicine and Population Health at University of Texas at Austin Dell Medical School and co-convenes the National Alliance to Impact the Social Determinants of Health. She is a physician executive working at the intersection of medicine, public health and information technology to improve the health of all people with a focus on catalyzing pragmatic solutions to address all the social determinants of health. She earned her MD and MPH from Tulane University, and a master's in clinical epidemiology from the Harvard School of Public Health.

### Exhibit and Poster Hall

Tuesdays and Thursdays  
Sep 22 through Oct 13

10:00 am – 5:00 pm ET

Exhibitors and Posters will be open and available for viewing throughout the virtual conference. Be sure to visit the exhibitors to see the latest products and services and the posters to learn the latest science and practices. Watch videos, see e-posters and chat with exhibitor staff and poster presenters.

See exhibitor listings on page 16.

### Innovate! Sessions

Tuesday, Sep 29 and Oct 13  
Thursday, Sep 24 and Oct 8

2:30 pm – 3:30 pm ET

Connect with your industry partners and learn of new technologies and services. See the full lineup on pages 13–15.

# Session Topics Guide

## Session Topics

This year APHL solicited session proposals from its standing committees and the general membership, which resulted in many excellent proposals. To assist you in determining the general area of interest, we have given each session a letter symbol which corresponds with the topic that it represents. This guide is listed to the right.

## Competencies

The Centers for Disease Control and Prevention (CDC) and the APHL published Competency Guidelines for Public Health Laboratory Professionals in a May 2015 Morbidity and Mortality Weekly Report (MMWR) supplement issue. These competency guidelines were developed with a focus on public health laboratory (PHL) practice and are intended to form the foundation of competency-based approaches to strengthen that practice, including integration into workforce development initiatives such as training and education programs.

In support of efforts to further the adoption and implementation of the Guidelines, each session in the APHL 2020 Virtual Conference program will include one or more symbols corresponding to the related competency domain(s) that the session addresses. This guide is listed to the right.

- C** Communications
- EH** Environmental Health
- ELS** Environmental Laboratory Science
- FS** Food Safety
- GH** Global Health
- I** Informatics
- ID** Infectious Disease
- KM** Knowledge Management
- NBS** Newborn Screening & Genetics
- PHPR** Public Health Preparedness & Response
- PO** Policy
- QS** Quality Systems
- W** Workforce Development

- QMS** Quality Management Systems
- ETH** Ethics
- MLD** Management and Leadership
- COM** Communication
- SEC** Security
- EMR** Emergency Management and Response
- WFT** Workforce Training
- GEN** General Laboratory Practices
- SHC** Safety: Hazard Control
- SRV** Surveillance
- INF** Informatics
- MCB** Microbiology
- CHM** Chemistry
- BIO** Bioinformatics
- RES** Research

# Agenda at a Glance

All listed times are Eastern.

Wednesday, October 7, 1:00 pm – 2:00 pm ET  
**Dr. Katherine Kelley Distinguished Guest Lecture**

**Public Health 3.0: A 21st Century Model for 21st Century Challenges**  
 Karen B. DeSalvo, MD, MPH, MSc, Chief Health Officer at Google Health



Tuesday September 22		Thursday September 24		Tuesday September 29		Thursday October 1		Tuesday October 6		Thursday October 8		Tuesday October 13		Thursday October 15						
	Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm		Exhibits and Posters • 10:00 am – 5:00 pm					
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# Agenda of Events

All listed times are Eastern.

## Tuesday, September 22

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10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

see list of exhibitors on page 16

11:00 am – 12:00 pm

**Severe Respiratory Disease Outbreaks:  
A Focus on Novel Coronavirus**

**ID** **MCB** **SRV**

588-800-20 • 1.0 contact hour

Moderator: Erik Reisdorf, MPH, Wisconsin State  
Laboratory of Hygiene

**Minnesota SARS-CoV-2 Whole Genome Sequencing:  
a Unified Laboratory – Epidemiology Approach**

Xiong (Sean) Wang, DVM, PhD, Minnesota  
Department of Health

**SARS-CoV-2 Antibody Dynamics**

Amy Schuh, MT(ASCP), MPH, PhD, Centers for  
Disease Control and Prevention

The COVID-19 response is of a magnitude not previously seen in the era of modern laboratory science. The high reliance on testing in this response has presented a myriad of challenges to the public health laboratory system. Presenters will discuss some of their most effective approaches to dealing with ongoing challenges and how they are preparing for the upcoming respiratory season while still in the midst of an active public health response.

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

**Use of NGS for Virology: It's Not Just Flu**

**ID** **GH** **BIO** **MCB**

588-801-20 • 1.0 contact hour

Moderator: Joel Sevinsky, PhD, Theiagen Consulting  
LLC

**Viral Genomic Surveillance: Public Health Use Cases in  
West Africa and New England**

Daniel Park, PhD, Broad Institute of MIT and Harvard  
University

**NGS Synergy with Metagenomics, Targeted  
Amplicon, Microfluidics and Bioinformatics in  
Search of Pathogens in Viral Diseases**

Terry Fei Fan Ng, PhD, Centers for Disease Control  
and Prevention

**Enhanced Analyses of Mumps and Measles with  
NBS and SARS-CoV-2**

Kirsten St. George, MS, PhD, New York State Department  
of Health, Wadsworth Center

Next-generation Sequencing (NGS) is quickly evolving from a Whole Genome Sequencing (WGS) -centric technology to a metagenomics-centric technology, and nowhere is this more evident than in the area of viral genomics and biosurveillance. The speakers will present their experience using NGS, especially metagenomics, for biosurveillance of viral pathogens of high public health importance.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

**Environmental Metagenomics: The  
Next Generation in Environmental  
Microbiological Testing**

**EH** **ELS** **MCB** **BIO**

588-802-20 • 1.0 contact hour

Moderator: Enoma Omoregie, PhD, New York City  
Department of Health

**Using Metagenomics to Identify Microbial  
Contamination in the Food Chain**  
Joseph Heinzelmann, MBA, Neogen Corporation

**A Metagenomic Approach to Evaluating Recreational  
Water Quality**

Sanjib Bhattacharyya, PhD, City of Milwaukee Health  
Department

Our water, food and built environment can provide a conduit for pathogen transmission, but traditional environmental microbiological tests are limited to specific pathogens or indicators. Metagenomics methods allow the rapid and simultaneous detection of a large number of pathogens. Presenters will explore the barriers and challenges, as well as the use of metagenomic methods for pathogen detection in environmental systems.

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**

# Thursday, September 24

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10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

11:00 am – 12:00 pm

**Increasing Capacity in Clinical Mycology**

**Testing** **ID** **MCB**

588-803-20 • 1.0 contact hour

Moderator: Elizabeth L. Berkow, PhD, MLS (ASCP),  
Centers for Disease Control and Prevention

**MALDI-TOF for Fungal Pathogens**

Natalie Nunnally, MLS (ASCP), Centers for Disease  
Control and Prevention

**Testing of Emerging /Re-emerging Fungal Pathogens:  
A Public Health Perspective**

Sudha Chaturvedi, PhD, New York State Department  
of Health, Wadsworth Center

**The Current Landscape of Antifungal Susceptibility  
Testing**

Shawn Lockhart, PhD, D(ABMM), F(AMM), Centers for  
Disease Control and Prevention

Many clinical laboratories still perform minimal mycology testing. However, with the emergence of *Candida auris*, the rise of drug resistant *Aspergillus fumigatus* and recurring incidences of hospital-associated mold outbreaks, the clinical laboratory has opportunity to reevaluate what mycology testing is performed in-house. Presenters share information on increasing capacity in MALDI-TOF for yeast and molds, responding to fungal disease outbreaks and navigating the landscape of antifungal susceptibility testing.

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

**Biosecurity Drills and Exercises**

**PHPR** **SEC** **EMR**

588-804-20 • 1.0 contact hour

Moderator: Maureen Sullivan, MPH, Minnesota  
Department of Health

- Andrew Cannons, PhD, HCLD (ABB), Florida Bureau of Public Health Laboratories – Tampa
- Leslie Ann Dauphin, PhD, Centers for Disease Control and Prevention
- Maureen Sullivan, MPH, Minnesota Department of Health

Biosecurity is often seen as an afterthought in laboratories, where laboratory staff do not receive adequate training to improve their skills in this area. Through the APHL Biosafety and Biosecurity Committee, APHL is gathering successful biosecurity training techniques such as drills and exercises from public health laboratories and private laboratories to promote them across all laboratories. Learn how speakers delivered successful drills and exercises in their institutions.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

**Innovate! sessions**

see page 13 for details

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**

10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

11:00 am – 12:00 pm

**A Step Ahead of Threats: Rebuilding Public Health Systems** **PHPR** **QS** **EMR**

588-805-20 • 1.0 contact hour

Moderator: LCDR Eduardo O'Neill La Luz, PhD, MS, MPH, Centers for Disease Control and Prevention

Speakers:

- Carolina Luna-Pinto, MPH, CHES, Centers for Disease Control and Prevention
- Brett Ellis, PhD, MSPH, US Virgin Islands Territorial Public Health Laboratory

In late 2018, APHL was awarded a two-year, \$15.1 million dollar cooperative agreement by the US Centers for Disease Control and Prevention (CDC) to provide technical assistance for response to public health crises in three jurisdictions – Puerto Rico, US Virgin Islands and Houston – impacted by the hurricanes. Presenters will describe the work that is being done through APHL, the jurisdictions and CDC to rebuild public health systems in those impacted jurisdictions.

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

**Prepare Yourself: Metagenomics Is Here!**

**FS** **ID** **BIO**

588-806-20 • 1.0 contact hour

Moderator: Joel Sevinsky, PhD, Theiagen Consulting LLC

**A Metagenomics Primer**

Joel Sevinsky, PhD, Theiagen Consulting LLC

**What Happens When We Don't Have Cultures? Public Health Surveillance in the Age of CIDTs**

A. Jo Williams-Newkirk, PhD, Centers for Disease Control and Prevention

**MetagenomeTrakr: The Use of Metagenomics for Improved Food Safety**

Christopher J. Grim, PhD, US Food and Drug Administration

The true promise of Next Generation Sequencing (NGS) is metagenomics – the direct sequencing of clinical specimens and environmental samples. Metagenomics will improve upon the work done with WGS by providing early, effective and efficient detection of pathogens directly from the specimen or sample, from a wide range of matrices, with no need for culturing.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

**Innovate! sessions**

*see page 13 for details*

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**

10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

11:00 am – 12:00 pm

**Weird Science: Unusual Cases in Infectious Diseases**

**ID** **SRV** **MCB**

588-807-20 • 1.0 contact hour

Moderator: Anthony Tran, DrPH, MPH, D(ABMM), DC  
Public Health Laboratory

Speakers:

- Megan Crumpler, PhD, HCLD(ABB), Orange County (CA) Public Health Laboratory
- Stephen LaVoie, PhD, New York City Department of Health and Mental Hygiene
- Marie-Claire Rowlinson, PhD, D(ABMM), Florida Bureau of Public Health Laboratories
- Shawn Lockhart, PhD, D(ABMM), F(AMM), Centers for Disease Control and Prevention

Panel:

- Sara Blosser, PhD, D(ABMM), Indiana State Public Health Laboratory
- William Glover, PhD, D(ABMM), MT(ASCP), North Carolina State Laboratory of Public Health
- Nicole Green, PhD, D(ABMM), Los Angeles Public Health Laboratory
- Tonia Parrott, Georgia Public Health Laboratory

The public health laboratory is often the laboratory of last resort for diagnosis of unusual cases, detection of emerging infectious diseases and outbreaks. “Weird Science” is a quiz-style experience that challenges a panel of experts with diagnostic conundrums, and encourages audience participation. This year our panel of experts will consist of two teams who will compete against each other. Let’s see which team triumphs!

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

**Navigating Advocacy and Policy for Public Health Laboratories: A Domestic and Global Perspective** **PO** **W** **MLD**

588-808-20 • 1.0 contact hour

Moderator: Sanjib Bhattacharyya, PhD, City of Milwaukee Health Department

Speakers:

- Peter Kyriacopoulos, Association of Public Health Laboratories
- Ralph Timperi, MS, Association of Public Health Laboratories
- Grace Kubin, PhD, Texas Department of State Health Services

An overview of public health policy for laboratorians interested in advocacy efforts, including tips and best practices for advocacy, to support domestic and global health laboratories. Discussions will include Global Health investments, funding status, challenges in the current political climate, advocacy experiences and the value of networking for a collaborative approach.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

**Lay Down the Law: Setting the Bar High for Cannabis Testing Best Practices and Methodology** **EH** **ELS** **CHM**

588-809-20 • 1.0 contact hour

Moderator: Marc Nascarella, PhD, MS, CPH,  
Massachusetts Department of Public Health

Speakers:

- Gillian Schauer, PhD, MPH, University of Washington
- Susan Audino, PhD, AOAC International Cannabis Analytical Science Program (CASP)
- Sunny Summers, Oregon Department of Agriculture

Dr. Gillian Schauer will open the session with a national overview of cannabis testing policy issues. Dr. Susan Audino will then discuss the latest developments in analytical methodology and AOAC efforts to standardize cannabis testing methods. Sunny Summers will close the session with a description of the Oregon Department of Agriculture’s Hemp Program. Oregon was the first state to decriminalize cannabis in 1973 and legalized medical marijuana in 1998.

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**



10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

11:00 am – 12:00 pm

## **Emerging Environmental Issues: From Analysis to Communication**

**EH CHM COM**

588-810-20 • 1.0 contact hour

Moderator: Lori Pillsbury, MS, Oregon Department of Environmental Quality Laboratory

## **Increasing Public Access to Accurate Air Quality Information Through the Use of Low-cost Sensors**

Anthony Barnack, MS, Oregon Department of Environmental Quality Laboratory

## **Monitoring Cyanotoxins to Protect Public Health in Oregon**

Alison Minerovic, Oregon Department of Environmental Quality Laboratory

The Oregon Department of Environmental Quality Laboratory (DEQ) is focused on emerging environmental issues that affect communities surrounding the laboratory. Learn how DEQ addressed topics from sampling to analysis to data assessment and communication.

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

## **Stories From the Field: Discussing the Use of Laboratory Information Systems in Data Backup and Recovery in the Wake of Cyclone Idai and SARS-COV-2**

**I P H P R Q S I N F E M R**

588-811-20 • 1.0 contact hour

Moderator: Frances Downes, DrPH, Michigan State University

Speakers:

- Solon Kidane, APHL Mozambique
- Reshma Kakkar, Association of Public Health Laboratories

Cyclone Idai made landfall near Beira, one of Mozambique's largest cities in March 2019. The Ponta Gea Health Facility in Beira is the main reference laboratory for HIV viral load (VL) testing and incurred severe damage and flooding of the server rooms. APHL's Global Health and Informatics committees worked on a backup systems toolkit that was implemented by APHL Mozambique's staff. Learn what steps they took and how HIV VL testing continued.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

## **Bridging the Gap Between Clinical and Public Health**

**C W M L D C O M**

588-812-20 • 1.0 contact hour

Moderator: Jasmine Chaitram, MPH, MT(ASCP), Centers for Disease Control and Prevention

Speakers:

- Robert Nickla, RBP, M(ASCP), Oregon State Public Health Laboratory
- Judith Guzman-Cottrill, DO, Oregon Health and Science University
- William Becker, DO, MPH, Quest Diagnostics

The success of the public health system relies on the continued effort and dedication of professionals across a spectrum of different areas. Public-private partnerships are critical in ensuring that public health professionals and clinical practices can meet the growing patient demands of laboratory testing specialties and provide critical results in a safe and timely.

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**

## Wednesday, October 7

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1:00 pm – 2:00 pm

### Dr. Katherine Kelley Distinguished Lecture

588-813-20 • 1.0 contact hour

#### Public Health 3.0: A 21st Century Model for 21st Century Challenges

I QS QMS MLD

Moderator: Bill Whitmar, MS, Missouri State Public Health Laboratory

Speaker: Karen DeSalvo, MD, MPH, MSc, Chief Health Officer, Google Health

Speaker: Scott Becker, MS, Association of Public Health Laboratories

Public health is what we do together as a society to ensure the conditions in which everyone can be healthy. Although many sectors play key roles, governmental public health is an essential component. Even before COVID-19, recent stressors on public health are driving many local governments to pioneer a new Public Health 3.0 model in which leaders serve as Chief Health Strategists, partnering across multiple sectors and leveraging data and resources to address social, environmental and economic conditions that affect health and health equity.

## Thursday, October 8

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10:00 am – 5:00 pm

### Exhibit Hall and Posters Open

11:00 am – 12:00 pm

#### New Genomic Sequencing Methods and Analysis Tools for STD Pathogens

ID MCB

588-814-20 • 1.0 contact hour

Moderator: Megan Crumpler, PhD, Orange County (CA) Public Health Laboratory

Speakers:

- Allan Pillay, PhD, Centers for Disease Control and Prevention
- Brian Raphael, PhD, Centers for Disease Control and Prevention
- Sanjib Bhattacharyya, PhD, City of Milwaukee Health Department

Rates of sexually transmitted diseases (STDs) are rising nationally and public health laboratories (PHLs) play a central role in understanding trends in circulating strain populations, characterizing antimicrobial resistance and detection of outbreaks. Presenters introduce new analytical methods available to PHLs for characterizing gonococcal isolates. We will explore new whole genome sequencing (WGS) methods for difficult-to-culture pathogens such as *Treponema pallidum* and *Chlamydia trachomatis* which could help PHLs distinguish sporadic cases from clusters or outbreaks.

12:00 pm – 1:00 pm

### Break / Visit the exhibit hall and posters

1:00 pm – 2:00 pm

#### Stories from the Field: Discussing the Ghana Biorisk Assessments

GH PPHR EMR

588-815-20 • 1.0 contact hour

Moderator: Shannon L. Emery, MSPH, Association of Public Health Laboratories

Speakers:

- Michael J. Perry, MS MEd, New York State Department of Health, Wadsworth Center
- Michael Marsico, MS, Association of Public Health Laboratories

Through the collaboration between the APHL Global Health and Public Health Preparedness and Response teams, a successful Biorisk Assessment in Ghana was delivered. Biosecurity and biosafety are important topics in international laboratories. Biorisk assessments enable laboratories to review their biosafety and biosecurity status and create action plans to mitigate against risk.

2:00 pm – 2:30 pm

### Break / Visit the exhibit hall and posters

2:30 pm – 3:30 pm

#### Innovate! sessions

see [page 14](#) for details

3:30 pm – 5:00 pm

### Visit the exhibit hall and posters

10:00 am – 5:00 pm

**Exhibit Hall and Posters Open**

11:00 am – 12:00 pm

**Case Studies: Laboratory Acquired Infection** **ID** **MCB**

588-816-20 • 1.0 contact hour

Moderator: Michael A. Pentella, PhD, (ABMM), State Hygienic Laboratory at the University of Iowa

Speakers:

- Michael A. Pentella, PhD, (ABMM), State Hygienic Laboratory at the University of Iowa
- Frances P. Downes, DrPH, Michigan State University

Clinical laboratories have experienced many exposures such as Brucella through the recent years. In responding to these exposures, the clinical laboratory often seeks expertise from their public health laboratory. Participants will receive the case history of an event including biological risk factors and biosafety practices to consider the root cause of the incident along with describing the business case for preventing exposures.

12:00 pm – 1:00 pm

**Break / Visit the exhibit hall and posters**

1:00 pm – 2:00 pm

**Incorporating Virtual Reality (VR) into Laboratory Training: How We Did It, What We Learned and What This Means for Future Training** **W** **WFT**

588-817-20 • 1.0 contact hour

Moderator: Kevin Clark, Centers for Disease Control and Prevention

Speakers:

- Joe Rothschild, Centers for Disease Control and Prevention
- Chris Voegeli, Centers for Disease Control and Prevention

CDC Training and Workforce Development Branch share its VR laboratory training course. Learn about its development, findings from the evaluation and implications for the future of VR in training laboratory professionals.

2:00 pm – 2:30 pm

**Break / Visit the exhibit hall and posters**

2:30 pm – 3:30 pm

**Innovate! sessions**

*see page 15 for details*

3:30 pm – 5:00 pm

**Visit the exhibit hall and posters**

11:00 am – 12:00 pm

## Lessons Learned or Lost from the Ebola Epidemic and Similarities to SARS-CoV-2

ID GH PHPR EMR SRV

588-818-20 • 1.0 contact hour

Moderator: May Chu, PhD, Colorado School of Public Health

Speakers:

- Peter Iwen, PhD, MS, D(ABMM), F(AAM), Nebraska Public Health Laboratory
- Capt. Joel Montgomery, PhD, Centers for Disease Control and Prevention

Ebola is not gone; it continues in the Democratic Republic of the Congo (DRC) and may pop up anywhere. During the 2014–2016 West Africa epidemic, local/state/national public health laboratories had to improvise, devise and implement response practices. Many protocols had to be quickly devised. The US government provided \$5 billion as Ebola supplemental funding to address the epidemic and to build resiliency. How did we do? How ready are we as a public health community to respond to Ebola now, if it “travels” from DRC to the US?

12:00 pm – 1:00 pm

**Break**

1:00 pm – 2:00 pm

## Who Ya Gonna Call? How CDC’s Lab Aids Can Be Used to Meet Urgent Needs of Public Health Laboratories

W KM MLD

588-819-20 • 1.0 contact hour

Moderator: Tara Henning, PhD, Centers for Disease Control and Prevention

Speakers:

- Shaniece Theodore, PhD, Centers for Disease Control and Prevention
- Jennifer Rakeman, PhD, New York City Public Health Laboratory
- David Lowe, PhD, Centers for Disease Control and Prevention
- Cecilia Kretz, PhD, Association of Public Health Laboratories
- M. Shannon Keckler, PhD, Centers for Disease Control and Prevention
- A. Christian Whelan, PhD, Diagnostic Laboratory Services, Inc.

CDC’s Laboratory Leadership Service (LLS) offers a Lab-Aid as a mechanism for a public health laboratory to request assistance from CDC to meet a critical need. The panel will provide an overview on how to request a Lab-Aid and first-hand perspectives on the benefits of this type of partnership between a public health laboratory, LLS fellows and CDC subject matter experts.

2:00 pm – 2:30 pm

**Break**

2:30 pm – 3:30 pm

## APHL President and CEO Discuss the Future

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Speakers:

- Bill Whitmar, President, Association of Public Health Laboratories
- Scott Becker, MS, CEO, Association of Public Health Laboratories

As a wrap up to the APHL 2020 Virtual Conference, APHL’s president and chief executive officer will offer some thoughts on the state of the association. They will share the successes and challenges facing APHL currently and highlight priorities for APHL over the next year.

## Thursday, September 24

2:30–3:00 pm

### Using Targeted Whole Viral Genome Sequencing to Analyze and Understand COVID-19

*Presented by QIAGEN*

The seismic effects of the COVID-19 pandemic have affected public health and society at large in an unprecedented way. Beyond the continued need for rapid, accurate SARS-CoV-2 diagnostic tests, there is an increasing need for sequencing based solutions to support epidemiological research on the SARS-CoV-2 genome. Studying genomic variants and the role those variants play in impactful amino acid changes, as well as using phylogenetic analysis to investigate local, regional or national differences, is key to understanding the global progression of the pandemic.

This Innovate! webinar describes amplifying and sequencing the viral genome using the QIAseq SARS-CoV-2 Primer Panel, followed by data analysis with the QIAGEN CLC Genomics Workbench software. With a flexible protocol, you can run samples on any Illumina sequencer at varying read lengths to customize your genomic resolution. Multiplexing and protocol automation options are also available. By combining QIAGEN chemistry and analysis solutions into a single targeted workflow, you can obtain informative results faster, and add deeper insights to your research on viral epidemiology, vaccine development, and drug discovery.

#### Speakers:

- Brian Dugan, M.S., Associate Director, Global Product Management, Genomics, QIAGEN
- Shawn Prince, Field Application Scientist, Applied Advanced Genomics, QIAGEN

## Thursday, September 24

3:00–3:30 pm

### Surviving Against SARS-CoV-2: Critical Considerations to Cope with the New Normal

*Presented by PerkinElmer*

Labs have been facing unprecedented challenges due to the increase in demand for COVID-19 testing. In this webinar, we will discuss the critical factors that labs should consider when choosing the tools for detection and diagnosis. We will share details on immediately deployable solutions that allow labs to efficiently process samples. We will also address the most frequently asked questions around lab set up and workflow.

**Speaker:** Arvind Kothandaraman, General Manager, Specialty Diagnostics, PerkinElmer

## Tuesday, September 29

2:30–3:00 pm

### QIAcuity: Transforming the PCR Experience

*Presented by QIAGEN*

PHLs performing applications such as viral detection often find themselves struggling to identify faint genetic signals against a strong background, especially when it is a single positive lost in a dense pool of negatives. Finding sequence is a typical needle in a haystack problem!

By partitioning the sample into a large number of individual reactions, digital PCR makes it surprisingly easy to detect the single positive. It is in such instances where the lower limit of detection excludes standard real-time quantitative PCR as a viable solution.

At QIAGEN, our mission is to empower you with everything you need to overcome challenges in real-time and digital PCR research applications. In the end, finding a needle in a haystack might not remain as challenging as it sounds.

#### Speakers:

- Adam Jessen, Director, QIAGEN Foundation, Mid-Atlantic Area Sales
- Dr. Michael Bussmann, Associate Director Global Product Management -dPCR, QIAGEN
- Dr. Gerald Schock, Director Product Management - dPCR Instrumentation, QIAGEN
- Dr. Wolfgang Leibinger, VP for PCR Technologies, QIAGEN

## Tuesday, September 29

3:00–3:30 pm

### Recent Developments in the COVID-19 Battle: Advancing Tools for Monitoring SARS-CoV-2 Infection

*Presented by Bio-Rad Laboratories*

Increasing capacity, access and reliability of diagnostic tests is of utmost importance as states attempt to decrease the effects of the COVID-19 pandemic when the long-term outcomes and persistence of the virus is unknown. This presentation will cover emerging data from several different technologies; including an overview of droplet digital PCR for diagnostics, confirmatory and wastewater testing and the usage of total antibody and semi-quantitative IgG serology to monitor immune status.

**Speaker:** Scott Hauenstein, PhD, Senior Manager, Scientific Affairs, Molecular Diagnostics, Bio-Rad Laboratories, Inc.

**Thursday, October 8**  
2:30 pm – 3:00 pm

## **Strategies for the Analysis of Legacy and Emerging PFAS**

*Presented by Waters Corporation*

The widespread use of Per- and Polyfluorinated Alkyl Substances (PFAS) has resulted in deposition into the environment, where they have eventually found their way into public drinking water and food supplies, pushing regulatory agencies to monitor for these substances at trace levels.

A Total PFAS Analytical Workflow was developed by Waters to reach the ultra-low detection limits required for protecting human health using highly sensitive UPLC with tandem MS, along with sample preparation that provides a concentration step for EPA methods 537.1 and 533. Additionally, we have hints and tips on how to minimize PFAS contamination from common lab materials.

**Speaker:** Kari Organtini, Waters Corporation

**Thursday, October 8**  
2:30 pm – 3:00 pm

## **High-Throughput Assay for Monitoring COVID-19 Antibodies and Their Isotypes**

*Presented by Luminex Corporation*

Since the outbreak of Covid-19, diagnostic development for both the molecular and serological has become essential for monitoring the spread of the disease, and recovery. It is unknown which antigens (if any) may correlate with protective immunity. Most current serological assays are limited in their ability to monitor and distinguish multiple markers in a single patient sample. This presentation describes the development of a rapid multiplex serological assay. Antibody responses to the SARS-CoV-2 Spike (S), receptor binding domain (RBD), and nucleocapsid (NP) antigens are measured in a 96-well format and found to be both highly sensitive (92% by day 16) and specific (100%).

### **Speakers:**

- Nicole Pecora, MD, PhD, Associate Director of Clinical Microbiology, Dept. of Pathology and Lab, University of Rochester
- Stephen Angeloni, PhD, Senior Field Application Scientist, Luminex Corporation

**Thursday, October 8**  
3:00 pm – 3:30 pm

## **Next-Generation Sequencing (NGS) Applications for SARS-CoV-2/COVID-19 Epidemiology and Diagnostics**

*Presented by Illumina, Inc.*

Explore the NGS methods developed at Illumina to fully sequence SARS-CoV-2 and other viruses causing respiratory diseases. Full coverage and mutation analysis enable tracing of the pandemic, performing transmission investigations and evaluating the robustness of current first-line detection methods. NGS-based diagnostic solutions help labs diversify and expand COVID-19 testing capabilities.

**Speaker:** Mehdi Keddache, PhD, Executive Sales Specialist, Microbiology, Illumina, Inc.

**Thursday, October 8**  
3:00 pm – 3:30 pm

## **Advanced, Multiplexed HDPCR Testing for COVID-19 and Tick-Borne Pathogens**

*Presented by ChromaCode*

During this session you will learn how High Definition PCR (HDPCR) technology increases throughput and reduces cost for COVID-19 and Tick-Borne Pathogen testing. Data will be presented to demonstrate how labs can easily implement multiplexing on their existing qPCR systems to meet the ever-changing needs of the public health lab.

### **Speakers:**

- Karen Menge, PhD, Vice President, Research and Development, ChromaCode
- Jyotsna Shah, PhD, President and Lab Director, IGeneX Inc.

**Tuesday, October 13**

2:30 pm – 3:30 pm

## **Weathering the Storm: Challenges, Ideas and Solutions in a Pandemic**

*Presented by Hologic*

Join us for an informative session to discuss the many challenges faced by public health laboratories during the COVID-19 pandemic, potential shifts in testing options, and maximizing resources for STI testing.

### **Hologic Update: Opportunities to Increase Efficiencies and Processing Capabilities**

- Melissa Maxwell-Stropes, PhD, Senior Manager, Medical Science Liaison, Hologic

### **Severe Thunderstorms Ahead: How Automation Helped Save the District's Public Health Laboratory**

- Anthony Tran, DrPH, MPH, D(ABMM), MT(ASCP), Director, Washington, DC Public Health Laboratory

**Tuesday, October 13**

2:30 pm – 3:00 pm

## **Clear Dx™ Next-Generation Sequencing as a Diagnostic Replacement for SARS-CoV-2 Screening via PCR**

*Presented by Clear Labs*

NGS has become a turn key and fully-automated diagnostic which combines the once separate aspects of viral detection and genomic surveillance - improving test specificity and enabling real-time contact tracing through identification of disease clusters, outbreaks and transmission routes. Clear Dx™ opens a new era of genomics-based assays which enables a high-confidence diagnostic at a price comparable to qPCR, while allowing simultaneous monitoring of mutations that may confer drug resistance, enhanced virulence, and loss of diagnostic targets for PCR.

**Speaker:** Sasan Amini, PhD, Founder & CEO, Clear Labs

**Tuesday, October 13**

3:00 pm – 3:30 pm

## **COVID-19 Wastewater-based Epidemiology: How Public Health Labs Can Be Involved**

*Presented by IDEXX*

The CDC recently launched the National Wastewater Surveillance System to help public health officials better understand and respond to COVID-19 infections in communities – including through early detection of COVID in community or congregate settings. Join this session to learn about ways environmental and clinical public health laboratories can contribute their testing expertise to this CDC program and similar initiatives that are springing up across the country.

**Speaker:** Jeff Bates, IDEXX

# Exhibitors

**Thank you to our exhibitors for joining us and supporting this conference!**

## **Abbott Laboratories**

100 Abbott Park Rd.  
Abbott Park, IL 60064  
224.361.7629

[www.abbott.com](http://www.abbott.com)

Abbott is a leader in infectious disease and other testing using immunoassay and molecular platforms. Many of the tests are also available with our leading Alere point of care products. Abbott's STARLIMS lab information systems help integrate and improve the flow of data within the laboratory.

## **APHL Experience**

Association of Public Health Laboratories  
8515 Georgia Ave, Suite 700  
Silver Spring, MD 20910  
240.485.2745

[www.aphl.org](http://www.aphl.org)

The Association of Public Health Laboratories (APHL) represents state and local governmental health laboratories, and works to strengthen laboratory systems serving the public's health in the United States and globally. These member laboratories monitor, detect and respond to health threats.

Visit our booth for the latest and most impactful resources we have for laboratorians, and to connect with APHL staff!

## **Applied Maths/bioMerieux**

11940 Jollyville Rd., Suite 115-N  
Austin, TX 78759  
512.482.9700

[www.applied-maths.com](http://www.applied-maths.com)

BioNumerics: the one universal bioinformatics solution to store and analyze all your biological data. BioNumerics offers unparalleled options for gel analysis, sequence analysis (+ wgMLST and wgSNP), SARS-CoV-2 screening and more. Powerful databasing, visualization and decision-making tools including data mining, querying, clustering, identification and statistics all in one user-friendly software application.

## **Bio-Rad Laboratories**

4000 Alfred Nobel Dr.  
Hercules, CA 94547  
510.724.1000

[www.bio-rad.com/diagnostics](http://www.bio-rad.com/diagnostics)

Bio-Rad provides a full range of infectious disease, molecular diagnostics, and quality control solutions. With expertise in HIV screening/supplemental testing, and a menu that includes Hepatitis tests and a novel Syphilis Total/RPR multiplex assay. Bio-Rad's molecular-based offerings include market-leading droplet digital PCR technology and real-time PCR solutions for infectious disease.

## **Biotage**

10430 Harris Oaks Blvd., Suite C  
Charlotte, NC 28269  
704.654.4900

[www.sampleprep.biotage.com](http://www.sampleprep.biotage.com)

Biotage is a leading provider of Sample Prep and Evaporation Instruments and Consumables for the cleanup of samples from many matrices, including urine, whole blood, plasma, serum, oral fluid and tissue. Sample prep systems include Biotage® Extrahera for Simplified Automated processing of SLE/SPE plates, TurboVap Solvent Evaporator, Lysera, and PRESSURE+.

## **Cepheid**

2550 Great America Way, 5th Floor  
Santa Clara, CA 95054  
408.242.5390

[www.cepheid.com](http://www.cepheid.com)

Cepheid is a leading molecular diagnostics company that is dedicated to improving healthcare by developing accurate yet easy to use molecular systems and tests. Through its strong molecular biology capabilities, the company is focusing on those applications where accurate, rapid, and actionable test results are needed most.



# Exhibitors

## ChromaCode

2330 Farrady Ave., Suite 100  
Carlsbad, CA 92008  
442.244.4370

[www.chromacode.com](http://www.chromacode.com)

ChromaCode is redefining molecular testing through data science. Our HDPCR™ multiplexing technology is the unique coupling of widely-used, low-cost chemistries with proprietary software to perform multiplex testing at a very low cost. Using HDPCR™, ChromaCode is seeking to expand global access to multiplex testing, reduce healthcare costs, and provide solutions for unmet healthcare needs faster.

## Clear Labs

1559 Industrial Rd.  
San Carlos, CA 94062  
650.257.3304

[www.clearlabs.com](http://www.clearlabs.com)

Clear Labs is the only automated and intelligent diagnostic NGS platform. We help our customers capitalize on a new era of technology by seamlessly integrating DNA sequencing, bioinformatics, and robotics. The result democratizes genomics within settings never before possible. With these capabilities, Clear Labs has become a prominent and credible platform for safeguarding the global food supply and enhancing preventative food safety management systems. Now, we are employing our novel genomics platform to drastically improve the quality of testing options within the clinical market.

## DiaSorin

1951 Northwestern Ave.  
Stillwater, MN 55082  
651.439.9710

[www.diasorin.com](http://www.diasorin.com)

DiaSorin: Specialty Testing Simplified — a global leader for over 50 years, developing, manufacturing and commercializing, immunodiagnostic assays that reliably support clinical laboratory needs. DiaSorin provides solutions that consolidate, automate, and integrate workflow reducing hands-on time optimizing sample management and improving turnaround time.

## Gold Standard Diagnostics

2851 Spafford St.  
Davis, CA 95618  
530.759.8000

[www.gsdx.us](http://www.gsdx.us)

At GSD, we provide comprehensive diagnostic solutions along with outstanding customer service. Our extensive menu includes assays for autoimmune, infectious disease, and endocrinology; our suite of instruments includes automation for immunoblot, ELISA, and agglutination testing. We bring send-out tests in house, optimize workflow, improve results, and simplify your laboratory experience.

## HDR

1917 S. 67th St.  
Omaha, NE 68106-2973  
847.778.6824

[www.hdrinc.com](http://www.hdrinc.com)

HDR is the #1 design firm for Science + Technology. We are experts in designing research environments across diverse typologies in the scientific field, with specializations including Public Health. We use a practical, culturally-sensitive, sustainable and incremental approach to develop local, regional and national laboratories to help improve health outcomes.

## Hologic

10210 Genetic Center Dr.  
San Diego, CA 92121  
619.314.0984

[www.hologic.com](http://www.hologic.com)

At Hologic, we enable people to live healthier lives everywhere, every day. The Diagnostic Solutions division delivers on this commitment by developing and providing innovative cytology, molecular and perinatal testing. With instrumentation and assays rooted in science and driven by technology, Hologic helps guide patient care and enable earlier detection.

# Exhibitors

## **HORIZON Lab Systems LLC**

8601 Six Forks Rd., Suite 160  
Raleigh, NC 27615  
919.855.8716

[www.horizonlims.com](http://www.horizonlims.com)

HORIZON Lab Systems LLC (previously ChemWare) has provided laboratory information management solutions and services to highly regulated and mission-critical analytical laboratories including many of the most automated environmental, industrial hygiene, public health, clinical, drug toxicology, energy and water quality laboratories in North America since 1987. HORIZON LIMS is used by many state and municipal public health labs, the largest investor-owned water utility in the US and the country's second largest environmental testing services network.

## **iConnect Consulting**

715 32nd St.  
San Francisco, CA 94121  
415.735.5540

[www.icconnectconsulting.com](http://www.icconnectconsulting.com)

iConnect Lab Web Portal (LWP) is a secure cloud-based ETOR solution offering an intuitive, real-time interface to order tests, track progress and review results. Lab Web Portal is easy to integrate with healthcare providers, laboratory information systems and to access from any web-enabled device. iConnect also provides LIMS implementation services.

## **IDEXX**

1 IDEXX Dr.  
Westbrook, ME 04092  
800.321.0207

[www.idexx.com/water](http://www.idexx.com/water)

IDEXX's culture testing solutions deliver easy, rapid and accurate information on water quality worldwide, and our products help ensure clean water for an estimated 2.5 billion people every day. IDEXX's ongoing commitment to public health includes its recent development of a test to track SARS-CoV-2 in wastewater.

## **Illumina**

5200 Illumina Way  
San Diego, CA 92122  
619.915.2033

[www.illumina.com](http://www.illumina.com)

For more than 20 years, Illumina has aspired to improve human health by unlocking the power of the genome. With more than 3400 patents worldwide and our sequencing-by-synthesis technology being used to generate over 90% of the world's sequencing data, we are just beginning to discover the impact of genomics.

## **LIMSABC LLC**

500 E. Broward Blvd., Suite 1710  
Ft. Lauderdale, FL 33394  
800.834.8618

[www.limsabc.com](http://www.limsabc.com)

When you need accurate, dependable lab results managed and communicated in a timely manner, turn to a company with the experience and knowledge to deal with the unique challenges of public health informatics. LIMSABC provides seamless workflow automation and data integration and can bring powerful efficiency to your lab in a matter of weeks – not months.

## **Luminex Corporation**

12212 Technology Blvd.  
Austin, TX 78727  
512.569.3548

[www.luminexcorp.com](http://www.luminexcorp.com)

At Luminex, our mission is to empower labs to obtain reliable, timely, and actionable answers, ultimately advancing health. We offer flexible solutions for hospitals, reference labs, and researchers, as well as innovative xMAP® and flow cytometry solutions that span a wide variety of applications, including molecular diagnostics, drug discovery, life science research, immunology, and personalized medicine.

# Exhibitors

## **MRIGlobal**

425 Volker Blvd.  
Kansas City, MO 64110  
240.361.4029

[www.mriglobal.org](http://www.mriglobal.org)

MRIGlobal develops solutions for government and commercial clients in areas of clinical research support, infectious disease and biological threat agent detection, global biological engagement, in vitro diagnostics, and biocontainment facilities. MRIGlobal is a not-for-profit 501(c)(3) organization with laboratory facilities in Gaithersburg, Maryland and at its headquarters in Kansas City, Missouri.

## **National Jewish Health**

1400 Jackson St.  
Denver, CO 80206  
303.398.1669

[www.njlabs.com](http://www.njlabs.com)

National Jewish Health Advanced Diagnostic Laboratories has a long history of partnering with public health laboratories. We perform testing for COVID-19, tuberculosis and NTM in our CLIA, CAP, and ISO 15189 accredited laboratory. COVID-19 testing is performed 7 days a week with a sustained 24–48 hour TAT.

## **OpenELIS Foundation**

7231 McIntosh Way  
Egg Harbor, WI  
651.271.9094

[www.openelis.com](http://www.openelis.com)

The OpenELIS Foundation provides training and support for the OpenELIS laboratory information system. OpenELIS is an open source system developed for use in domestic and global public health and clinical laboratories. OpenELIS provides, within a single system, functionality for clinical, environmental, BT/CT, and newborn screening laboratory testing, management and reporting.

## **PerkinElmer**

710 Bridgeport Ave.  
Shelton, CT 06460  
203.402.1994

[www.perkinelmer.com](http://www.perkinelmer.com)

PerkinElmer, Inc. offers automated solutions which improve the efficiency of genomic and proteomics workflows. With our nucleic acid isolation technology, liquid handlers, library preparation kits, automated nucleic acid and protein analysis systems, and solutions for single cell genetic analysis, PerkinElmer is eliminating the challenges associated with genomic and proteomic analysis.

## **Promega**

2800 Woods Hollow Rd.  
Madison, WI 53711  
608.210.5906

[www.promega.com](http://www.promega.com)

Promega Corporation serves diagnostic applications for molecular and immunological assays with its reagents, instruments and technical support. This is part of a much larger 4,000 product portfolio that supports a range of applications in cell biology; DNA, RNA and protein analysis; drug development; human identification and molecular diagnostics. For over 40 years these tools and technologies have grown in their applications and are used today by scientists and technicians in labs for academic and government research, forensics, pharmaceuticals, clinical diagnostics and agricultural and environmental testing.

## **QIAGEN**

19300 Germantown Rd.  
Germantown, MD 20874  
240.805.4806

[www.qiagen.com](http://www.qiagen.com)

Every day, QIAGEN serves 500,000 customers globally, all seeking insights from the building blocks of life — DNA and RNA. Delivering Sample to Insight solutions for molecular testing, we enable scientists and clinicians to achieve breakthroughs in life sciences research, molecular diagnostics and drug development. We make improvements in life possible.

# Exhibitors

## Quantabio

100 Cummings Center, Suite 407J  
Beverly, MA 01915  
978.869.1505

[www.quantabio.com](http://www.quantabio.com)

Quantabio is a leading provider of advanced DNA and RNA amplification reagents for the most demanding molecular testing applications in applied, translational and life science research. The Quantabio team leverages decades of experience in developing pioneering amplification technologies to deliver cutting-edge products to researchers focused on critical cloning, PCR, qPCR and Next-Generation Sequencing (NGS) based applications.

## Roche Diagnostics

9115 Hague Rd.  
Indianapolis, IN 46256  
317.605.1509

<https://diagnostics.roche.com/us/en/home.html>

As the world leader in in-vitro diagnostics, Roche provides innovative healthcare solutions focused on testing efficiency and medical value. We offer fully automated, scalable solutions for screening, diagnosis and treatment monitoring - with the goal to deliver the right answers for your testing needs.

## Ruvos

2252 Killearn Center Blvd., Suite 300  
Tallahassee, FL 32309

[www.ruvos.com](http://www.ruvos.com)

Since 2004, Ruvos has served as a team of global data integration engineers, a leading cloud services provider, and experts in information security and data intelligence. We're on a Mission to Deliver Clever and Efficient Solutions to Problems So That the World is a Better Place For The Communities We Serve.

## SCIEX

500 Old Connecticut Path  
Framingham, MA 01701  
563.756.1904

[www.sciex.com](http://www.sciex.com)

Detecting low abundance compounds in complex matrices is challenging. With SCIEX Mass Spectrometry you can meet the challenge and exceed regulatory demands in every run. SCIEX also offers Genetic Analysis solutions that enable you to rapidly achieve quantitative gene expression, DNA sequencing, genotyping, single nucleotide polymorphism and/or fragment analysis.

## SmartGene

PO Box 99543  
Raleigh, NC 27624-953  
919.844.6145

[www.smartgene.com](http://www.smartgene.com)

SmartGene is a bio-informatics application service provider (ASP), delivering secure, integrated, software solutions for both Sanger and Next Generation Sequencing. Our specific applications enable rapid identification, genotyping and analysis of pathogens, for clinical and public health surveillance purposes. SmartGene's Modules address HIV, HCV, Coronaviruses, Influenza, Bacteria, Fungi and Microbiomes.

## STACS DNA

2255 St. Laurent Blvd., Suite 206  
Ottawa, ON K1G 4K3 Canada  
613.274.7822

[www.stacsdna.com](http://www.stacsdna.com)

Sample tracking solutions for public health labs. Track-Kit™ tracks samples statewide from collection to storage to prevent delays for thousands of users. STACS® comprehensive DNA LIMS maximizes throughput and minimizes risk. Clients are federal, state, regional and local agencies, including many of the largest forensics DNA labs in North America.

# Exhibitors

## **Theiagen Consulting LLC**

1745 Shea Center Dr., Suite 400  
Highlands Ranch, CO 80129  
720.640.9550

[www.theiagen.com](http://www.theiagen.com)

The mission of Theiagen Consulting is to “transform public health and infectious disease surveillance through the innovative implementation of NGS and bioinformatics technologies”. Theiagen offers training and capacity building for those public health entities expanding their NGS activities, with an emphasis on cloud-based infrastructures for affordable and secure solutions.

## **VWR, part of Avantor**

100 Matsonford Rd.  
Radnor, PA 19087  
267.252.7443

[www.vwr.com](http://www.vwr.com)

As the channel brand of Avantor®, a Fortune 500 company, VWR serves as a leading global provider of product and service solutions to laboratory and production customers in the pharmaceutical, biotechnology, industrial, education, government and healthcare industries, and offers an integrated, seamless purchasing experience.

## **Waters**

34 Maple St.  
Milford, MA 01757  
508.478.2000

[www.waters.com](http://www.waters.com)

Waters Corporation is the world’s leading specialty measurement company focused on improving human health and well-being through the application of analytical technologies and industry leading scientific expertise. We partner with analytical testing laboratories to accelerate new developments, optimize laboratory operations, and ensure regulatory compliance with a portfolio of separations and analytical science, laboratory informatics, mass spectrometry, and thermal analysis.

## **Thermo Fisher Scientific**

5823 Newton Dr.  
Carlsbad, CA 92008  
857.272.6929

[www.thermofisher.com/covid19](http://www.thermofisher.com/covid19)

Thermo Fisher Scientific is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner and safer. We do that by providing an unmatched combination of innovative technologies, purchasing convenience, and comprehensive support through product and service brands.