

**APHL 2020 Virtual Conference  
September 22 – October 15, 2020**

**P.A.C.E. Session Details**

**Table of Contents**

**September 22, 2020**

11:00 am – 12:00 pm	Severe Respiratory Disease Outbreaks: A Focus on Novel Coronavirus	page 3
1:00 pm – 2:00 pm	Use of NGS for Virology: It's Not Just Flu	page 3
2:30 pm – 3:30 pm	Environmental metagenomics: The Next Generation in Environmental Microbiological Testing	page 3

**September 24, 2020**

11:00 am – 12:00 pm	Increasing Capacity in Clinical Mycology Testing	Page 4
1:00 pm – 2:00 pm	Biosecurity Drills and Exercises	page 4

**September 29, 2020**

11:00 am – 12:00 pm	A Step Ahead of Threats: Rebuilding Public Health Systems	Page 5
1:00 pm – 2:00 pm	Prepare Yourself: Metagenomics is Here!	page 5

**October 1, 2020**

11:00 am – 12:00 pm	Weird Science: Unusual Cases in Infectious Disease	page 6
1:00 pm – 2:00 pm	Navigating Advocacy and Policy for Public Health Laboratories: A Domestic and Global Perspective	page 6
2:30 pm – 3:30 pm	Laying Down the Law: Setting the Bar High for Cannabis Testing Best Practices and Methodology	page 6

**October 6, 2020**

11:00 am – 12:00 pm	Emerging Environmental Issues: From Analysis to Communication	page 7
1:00 pm – 2:00 pm	Stories for the Field: Discussing the Use of Laboratory Information Systems in Data Backup and Recovery in the Wake of Cyclone Idai	page 7
2:30 pm – 3:30 pm	Bridging the Gap Between Clinical and Public Health	page 7

**October 7, 2020**

1:00 pm – 2:00 pm	Public Health 3.0: A 21 <sup>st</sup> Century Model for 21 <sup>st</sup> Century Challenges	page 8
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**October 8, 2020**

11:00 am – 12:00 pm	New Genomic Sequencing Methods and Analysis Tools for STD Pathogens	Page 9
1:00 pm – 2:00 pm	Stories from the Field: Discussing the Ghana Biorisk Assessments	page 9

**October 13, 2020**

11:00 am – 12:00 pm	Case Studies: Laboratory Acquired Infection	Page 10
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	page 10

**October 15, 2020**

11:00 am – 12:00 pm	Lessons Learned or Lost from the Ebola Epidemic and Similarities to SARS-COV-2	Page 11
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	page 11
2:30 pm – 3:30 pm	APHL President and CEO Discuss the Future	Page 11

**September 22, 2020** 11:00 am – 12:00 pm

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

P.A.C.E. #588-800-20 (1.0 contact hour)

Competencies – Microbiology, Surveillance

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Discuss the challenges to public health laboratories with high reliance on testing for COVID-19
- Identify several effective approaches to dealing with these challenges

**September 22, 2020** 1:00 pm – 2:00 pm

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

P.A.C.E. #588-801-20 (1.0 contact hours)

Competencies – Bioinformatics, Microbiology

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe what viral metagenomics is and the kinds of data it generates
- Describe how viral metagenomic data will drive public health decisions at the local level
- Identify resources to help with implementation of viral NGS at the local level

**September 22, 2020** 2:30 pm – 3:30 pm

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

P.A.C.E. #588-802-20 (1.0 contact hours)

Competencies – Bioinformatics, Microbiology

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. This session will explore the barriers and challenges, as well as the use of metagenomic methods in three key areas: (1) The evaluation of water quality; (2) the identification of microbial contamination in the food chain; and (3) the built environment and health.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe metagenomics
- Compare the advantages of metagenomics over traditional microbial detection methods
- Describe how metagenomics can be used to detect and monitor pathogens in environmental systems

**September 24, 2020** 11:00 am – 12:00 pm

**Increasing Capacity in Clinical Mycology Testing**

P.A.C.E. #588-803-20 (1.0 contact hours)

Competencies – Microbiology

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Perform updates and improve one's laboratory internal MALDI TOF database for yeast and mold
- Interpret antifungal susceptibility data based on a variety of available testing methods
- Prepare more effectively for the possibility of involvement in fungal disease outbreak

**September 24, 2020** 1:00 pm – 2:00 pm

**Biosecurity Drills and Exercises**

P.A.C.E. #588-804-20 (1.0 contact hours)

Competencies – Emergency Management and Response, Security

Biosecurity is often seen as an afterthought in laboratories, where laboratory staff do not received 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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe the elements of effective biosecurity drills and exercises for laboratorians
- Identify how public health laboratories and other institutions have been conducting specific biosecurity drills and exercises to improve biosecurity functions in their respective labs
- Summarize how these drills and exercises have been utilized real-time

**September 29, 2020** 11:00 am -12:00 pm

**A Step Ahead of Threats: Rebuilding Public Health Systems**

P.A.C.E. #588-805-20 (1.0 contact hours)

Competencies – Emergency Management and Response

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe specific activities across the US Virgin Islands and Puerto Rico to rebuild public health systems
- Define specific vulnerabilities in public health laboratories
- Describe emergency response plans and activities to mitigate the impact of natural disasters and emerging threats

**September 29, 2020** 1:00 pm – 2:00 pm

**Prepare Yourself: Metagenomics is Here!**

P.A.C.E. #588-806-20 (1.0 contact hour)

Competencies – Bioinformatics

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Define what metagenomics is and how it will address the issue of CIDT adoption
- Describe what resources will be necessary to prepare their lab for this transition
- Initiate a discussion within their laboratory to prepare for this transition

**October 1, 2020** 11:00 am – 12:00 pm

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

P.A.C.E. #588-807-20 (1.0 contact hour)

Competencies – Security, Microbiology

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe the role of the public health laboratory in infectious disease diagnostics
- Identify best practices in laboratory diagnosis and management when faced with challenging diagnostic cases
- Assess the public health laboratory response to emerging infectious diseases and emerging drug resistant organisms

**October 1, 2020** 1:00 pm – 2:00 pm

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

P.A.C.E. #588-808-20 (1.0 contact hour)

Competencies – Management and Leadership

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Apply a tool box of resources to advocacy efforts and latest initiatives
- Advocate for Public Health Laboratory funding within their public health jurisdiction
- Describe realistic expectations, outcomes and challenges of advocacy efforts

**October 1, 2020** 2:30 pm – 3:30 pm

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

P.A.C.E. #588-809-20 (1.0 contact hour)

Competencies - Chemistry

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe the current landscape of cannabis testing in the US
- Identify the latest cannabis testing methodology and materials from other PHLs and the AOAC

**October 6, 2020** 11:00 am – 12:00 pm

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

P.A.C.E. #588-810-20 (1.0 contact hour)

Competencies – Chemistry, Communication

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe emerging issues facing environmental laboratories
- Explain the process that the DEQ laboratory uses to address an emerging issue from sampling to analysis to data communication

**October 6, 2020** 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**

P.A.C.E. #588-811-20 (1.0 contact hour)

Competencies – Emergency Management and Response, Informatics

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.

Learning Objective

At the conclusion of the session, the participant will be able to:

- Describe what informatics back up and recovery tool kits are available to ensure test results are secure in the event of a natural disaster

**October 6, 2020** 2:30 pm – 3:30 pm

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

P.A.C.E #588-812-20 (1.0 contact hour)

Competencies – Management and Leadership, Communication

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Identify critical needs of clinical laboratories in being able to adequately prepare for and respond to emerging biological threats
- Describe ongoing efforts, available resources and challenges of public health laboratories to engage with and train clinical laboratorians

**October 7, 2020** 1:00 pm – 2:00 pm

**Public Health 3.0: A 21<sup>st</sup> Century Model for 21<sup>st</sup> Century Challenges**

P.A.C.E. #588-813-20 (1.0 contact hour)

Competencies – Management and Leadership,  
Quality Management Systems

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.

Learning Objective

At the conclusion of the session, the participant will be able to:

- Describe how local/state public health laboratories can assist their local/state governments in addressing social/environmental/economic conditions that affect health and health equity

**October 8, 2020** 11:00 am – 12:00 pm

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

P.A.C.E. #588-814-20 (1.0 contact hour)

Competencies – Microbiology

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe bioinformatics tools specifically designed to detect antimicrobial resistance markers and sequence types from genomic sequences of *Neisseria gonorrhoeae*
- Explain novel methods to sequence pathogens associated with syphilis and lymphogranuloma venereum (LGV)

**October 8, 2020** 1:00 pm – 2:00 pm

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

P.A.C.E. #588-815-20 (1.0 contact hour)

Competencies – Emergency Management and Response

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Provide examples of APHL program coordination to implement lab systems strengthening internationally
- Identify challenges and opportunities encountered when conducting biosafety and biosecurity trainings in low resource settings

**October 13, 2020** 11:00 pm – 12:00 pm

**Case Studies: Laboratory Acquired Infection**

P.A.C.E. #588-816-20 (1.0 contact hour)

Competencies – Microbiology

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe the history of exposures and impact on working laboratorians
- Explore best practices including the role of risk assessment and competencies towards preventing exposures
- Review the cost of laboratory exposures to the facility and the individual

**October 13, 2020** 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**

P.A.C.E. #588-817-20 (1.0 contact hour)

Competencies – Workforce Training

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Describe the purpose of the VR laboratory training project
- Explain how the VR training course was developed
- Identify key findings from the project evaluation
- Explain implications for future laboratory training

**October 15, 2020** 11:00 am – 12:00pm

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

P.A.C.E. #588-818-20 (1.0 contact hour)

Competencies – Emergency Management and Response, Surveillance

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?

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Explain the challenges and critical needs for personal protection from Ebola
- Describe the possible solutions to managing clinical concerns to manage Ebola patient at home and abroad
- Identify the actions needed for preparedness and response at the domestic and international levels

**October 15, 2020** 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**

P.A.C.E. #588-819-20 (1.0 contact hour)

Competencies – Management and Leadership

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.

Learning Objectives

At the conclusion of the session, the participant will be able to:

- Explain the purpose and benefits of a CDC Lab-Aid
- Describe the process for requesting a Lab-Aid from CDC’s LLS Program
- Provide examples of laboratory-related activities suitable for a Lab-Aid

October 15, 2020 2:30 pm – 3:30 pm

**APHL President and CEO Discuss the Future**

P.A.C.E. #588-821-20 (1.0 contract hour)

Competencies - Communications

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.

Learning Objective

At the conclusion of the session, the participant will be able to:

- Discuss APHL successes in the past year and challenges seen in the future