DESCRIPTION
This three and one-half day basic to intermediate level workshop will feature in-depth presentations and hands-on sessions on bacterial foodborne illness. Experts will present the most current information on test methodologies including separation techniques, PCR technology, and toxin testing. The role of the public health laboratory (PHL) in foodborne illness investigation will be discussed. Strategies in laboratory safety and method validation will be presented. Participants will perform a variety of testing methods using selected foodborne etiological agents.

OBJECTIVES
At the conclusion of this program, the participant will be able to:
- Describe the challenges to detecting pathogens in food.
- Explain the process and methods for isolating bacteria in food samples.
- Discuss the advantages and barriers to detecting foodborne pathogens by molecular methods.
- Define the activities necessary to validate a new laboratory procedure.
- Provide an overview of laboratory accreditation.
- Perform procedures for the identification of *B. cereus*, Staphylococcal enterotoxin, *E.coli O157:H7*, *Salmonella* spp., and *Listeria monocytogenes*.
- Analyze and interpret results of identification assays.
- Define the role of the PHL in foodborne illness investigation.

AUDIENCE
This basic to intermediate level course is intended for laboratory personnel working in public health laboratories who have a minimum of one year experience performing microbiology testing and responsibility (or the potential) for conducting food microbiology testing.

CONTINUING EDUCATION
The Association of Public Health Laboratories (APHL) is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® Program. Participants who successfully complete this program will be awarded 27 contact hours. This course has been approved for 27 contact hours in the category (Microbiology/Mycology/Parasitology) for Florida Laboratory Licensees.
## PRELIMINARY AGENDA

### Day 1  
**Tuesday, May 23, 2017**  
8:00 a.m.  Welcome, Staff and Student Introductions  
8:45  Course Overview  
9:00  Pre-Test  
9:15  Break (provided)  
9:30  Lecture: Introduction to Foodborne Illness  
10:15  Lecture: Reference Methods  
10:45  Lecture: *Bacillus cereus* Method Algorithm, Making Dilutions  
11:45  Lunch (provided)  
12:30 p.m.  Lecture: Laboratory Safety Overview  
1:00  Laboratory: *Bacillus cereus* Set-Up and Plating  
2:30  Break (provided)  
3:15  Laboratory: Sample Processing, Set-Up *E. coli* O157:H7, *L. monocytogenes* and *Salmonella* Selective Enrichment  
5:00  Adjourn

### Day 2  
**Wednesday, May 24, 2017**  
8:00 a.m.  Lecture: Overview of PCR  
8:45  Lecture: Shiga Toxin-Producing *E. coli*: Enrichment Preparation, Cultural Isolation, and PCR Confirmation  
9:45  Break (provided)  
10:00  Laboratory: *E. coli* PCR using ABI, Demo BAX  
11:30  Lecture: *Salmonella* Methodology  
12:15 p.m.  Lunch (provided)  
1:00  Laboratory: Observe *E. coli* PCR Results; *E. coli* IMS and Plating  
2:30  Break (provided)  
2:45  Laboratory: *Salmonella* Selective Enrichment and *Listeria* 24h Plating and Transfer  
3:45  Laboratory: Observe *B. cereus* Plates  
4:30  Lecture: Chain-of-Custody: Don’t Break the Chain!  
5:00  Adjourn

### Day 3  
**Thursday, May 25, 2017**  
8:00 a.m.  Review Previous Day’s Activities, Question and Answers  
8:30  Lecture: Challenges to Detecting Pathogens in Foods  
9:30  Break (provided)  
9:45  Lecture: Foodborne Intoxication  
10:45  Laboratory: VIDAS  
12:15 p.m.  Lunch (provided)  
1:00  Lecture: Validation and Verification of Analytical Methods

### Day 4  
**Friday, May 26, 2017**  
8:00 a.m.  Lecture: Laboratory Detection of Viruses Transmissible by Food and Water  
9:00  Case Study  
10:15  Break (provided)  
10:30  Laboratory: Observe *Salmonella* and *Listeria* Plates  
11:00  Review of Differential, Selective Media Used in Course, Demo Plates  
11:45  Laboratory: Practical Exam  
12:00 p.m.  Post-Test, Wrap-Up and Evaluation  
12:30  Adjourn, Optional Laboratory Tour

### FACULTY
- **Matthew Forstner, BS**  
  Microbiology Supervisor, Minnesota Department of Agriculture, Laboratory Services Division, St. Paul, MN
- **Darcy Hanes, PhD**  
  Captain, United States Public Health Service, Food and Drug Administration, Division of Virulence Assessment, Laurel, MD
- **Kirsten Larson, MPH**  
  Manager, Food Safety, APHL, Silver Spring, MD
- **Kristina McCallum, BS**  
  Deputy Lab Manager, Biochemistry Laboratory, CO Dept. of Agriculture, Denver, CO
- **Yvonne M. Salfinger, MS**  
  FL Department of Agriculture & Consumer Services, (retired)  
  Bureau Chief, Bureau of Food Laboratories, Denver, CO
- **Bryanne Shaw, BS**  
  Biology Section Manager, Minnesota Department of Agriculture, Laboratory Services Division, St. Paul, MN
- **Christopher Waggener, PhD**  
  Lead Scientist, FERN Training Coordinator, Division of Consolidated Laboratories, Richmond, VA

### SPECIAL NEEDS
In compliance with the Americans with Disabilities Act (ADA), individuals seeking special accommodations should submit their request in writing at least three weeks prior to start date of the workshop to APHL Customer Support. For more information phone +1 800.536.6586 or +1 240.485.2746.

---

*This training was supported by Cooperative Agreement # NU60HM000803 funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC or the Department of Health and Human Services. This project was 100% funded from a federal program with federal funds of $1,722,464.00.*