DESCRIPTION
This intermediate-level course will teach participants diagnostic mycobacteriology principles and methods with an emphasis on Mycobacterium tuberculosis complex (MTBC). Lectures, hands-on laboratory exercises, and case studies will be taught by subject matter experts in mycobacteriology. State-of-the-art diagnostic molecular and growth-based methods for detection, isolation, identification (ID), and drug susceptibility testing (DST) of MTBC will be discussed and compared. Attendees will be provided with the tools necessary to determine appropriate risk assessment practices, testing algorithms, and methods to use within their laboratories. Case studies will highlight interesting tuberculosis case results including the importance of accurate result interpretation, collaboration with TB Control Programs and other laboratories, and lessons learned.

OBJECTIVES
At the conclusion of this program, the participant will be able to:
• Identify important risk assessment and biosafety practices for the mycobacteriology laboratory.
• Compare and contrast test methods for growth-based DST, ID, and molecular detection of MTBC.
• Describe mutations associated with drug resistance for MTBC and common correlations between mutations and growth-based results.
• Perform and interpret real-time PCR for the detection of MTBC.
• Discuss mycobacteriology case studies related to testing algorithms and interpretation of results.
• Explain the importance of assessing local data and quality performance measures for the mycobacteriology laboratory.
• Recognize accepted validation methods and regulatory standards for mycobacteriology testing.
• Describe next generation sequencing and its potential use in the mycobacteriology laboratory.

AUDIENCE
This course is intended for laboratorians with a minimum of one year experience in a laboratory that identifies MTBC and performs detection, isolation, ID, and DST with preference given to laboratorians working in public health laboratories.

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.

LOCATION
Centers for Disease Control and Prevention, Atlanta, GA

SECURITY CLEARANCE REQUIREMENTS
NON-US CITIZENS – These courses will be held at the training laboratory on the CDC Roybal campus. Due to CDC requirements for security clearance, all non-US citizens will be asked to provide information needed to obtain clearance. Detailed instructions will be provided upon acceptance into the course. Please do not make any nonrefundable travel plans until you have received confirmation of acceptance into the course and security clearance approval. The information you provide will only be used for the purposes of attending this course.

APPLICATION & REGISTRATION
Application Deadline: December 5, 2016
• The preliminary application is to be completed online.
• Only completed applications received by the deadline will be considered. Application does not guarantee acceptance. If you are unable to complete the application online, email Absala Mengestab or phone +1 240.485.2784.
• Public health applicants must have approval from their state or local laboratory director to apply. Students will be selected according to the degree to which the applicant’s job description, experience, and responsibilities are consistent with the prerequisites. Priority will be given for one applicant per public health laboratory, with a second person considered on a space available basis.
• Notification of acceptance status will be sent via email after December 20, 2016.
• Registration for this workshop is being offered at No Charge to the participants! Registration and logistical details will be provided upon acceptance into the course.
• Some states have lengthy travel approval processes so begin as soon as possible. Do NOT make travel arrangements until you are notified of acceptance into the course.
• Participants are responsible for lodging, meals, and travel costs. A group lodging discount is being negotiated at the current federal per diem rate of $148.00 (plus tax and fees) per night.
• Participants are required to bring a case study from their laboratory to the course to present to course participants. More details to follow with application acceptance.

QUESTIONS?
Please email Absala Mengestab, APHL Course Logistics Assistant.
PRELIMINARY AGENDA

**Day 1**  
**Tuesday, March 28, 2017**

8:00 a.m. Safety Briefing  
8:15 Introductory Remarks and Course Overview  
8:30 Pre-Course Test  
8:45 **Lecture:** Risk Assessment for Safety in the TB Laboratory  
9:45 Break  
10:00 **Split Session A**  
Group 1: Lab - Safe Biosafety Cabinet Practices  
Group 2: Group Exercise  
11:00 **Split Session B**  
Group 1: Group Exercise  
Group 2: Lab - Safe Biosafety Cabinet Practices  
12:00 p.m. Lunch (on your own)  
1:00 **Lecture:** TB Epidemiology in the United States  
1:30 **Lecture:** Considerations for Specimen Processing and Isolation of MTBC from Culture  
2:30 Break  
2:45 **Lecture:** False-Positive and False-Negative Results  
3:45 **Lecture:** Making the Pieces Fit: Combining Conventional and New Mycobacteriology Methods Using a Systems Approach  
4:45 Break  

**Day 2**  
**Wednesday, March 29, 2017**

8:00 a.m. **Lecture:** Mycobacterial Identification  
9:00 **Lecture:** Considerations for Conventional Drug Susceptibility Testing  
10:15 Break  
10:30 **Lecture:** Evaluation of MGIT Pyrazinamide Testing  
11:00 **Class Exercise:** Participant Sharing of Case Studies  
11:45 Lunch (on your own)  
12:45 p.m. **Lecture:** Monitoring the Performance of Your Laboratory  
Roundtable: Assessing Local Data  
2:45 Break  
3:00 **Lecture:** Method Validation and Regulatory Issues  
4:00 **Class Exercise:** Participant Sharing of Case Studies  
4:30 Break  

**Day 3**  
**Thursday, March 30, 2017**

3:00 **Roundtable:** Interpreting Results Through Case Studies Discussion  
4:00 **Lecture:** Interpretation of Real-Time PCR Assay Results  
4:30 Break  

**Day 4**  
**Friday, March 31, 2017**

8:00 a.m. **Lecture:** Beyond the Laboratory Walls: Enhancing Your Integrated System  
8:45 **Class Exercise:** Participant Sharing of Case Studies  
9:45 Break  
10:00 **Lecture:** Use of Whole Genome Sequencing in Molecular Epidemiology  
10:45 **Lecture:** Case Studies: Putting It All Together  
11:45 Final Question and Answer  
12:00 p.m. Post-Course Test and Evaluation  
12:30 Break  

FACULTY

Division of Tuberculosis Elimination (DTBE), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), CDC, Atlanta, GA

**Laboratory Branch, Reference Laboratory Team**
- Beverly Metchock, DrPH, D(ABMM), Team Lead  
- Jeff Driscoll, PhD, Sr. Service Fellow  
- David Sikes, BS, MT(ASCP), Microbiologist  

**Laboratory Branch, Laboratory Capacity Team**
- Stephanie Johnston, MS, Team Lead  
- Cortney Stafford, MPH, MT(ASCP), Laboratory Consultant  
- Frances Tyrrell, MPH, MT(ASCP), SM, Laboratory Consultant  
- Monica Youngblood, MPH, M(ASCP), Laboratory Consultant  

**Laboratory Branch, Applied Research Team**
- Lauren Cowan, PhD, Microbiologist  
- Glenn Morlock, MS, Microbiologist  
- Melissa Willby, PhD, Microbiologist  

**Surveillance, Epidemiology, and Outbreak Investigations Branch**
- Adam Langer, BS, DVM, MPH, Surveillance Team Lead  

**INVITED FACULTY**
- Eileen M. Burd, PhD, D(ABMM), Director, Clinical Microbiology, Emory University Hospital, Atlanta, GA  
- Robin Connelly, TB Laboratory Manager, Georgia Department of Public Health Laboratory  
- Jessica Gentry, TB/Serology Laboratory Supervisor, Indiana State Department of Health Laboratory  
- Tanya A. Halse, Research Scientist, New York State Department of Health, Wadsworth Center  
- Richard Oatis, TB Supervisor, Maryland Public Health Laboratory  

**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.