



Diagnostic Molecular Parasitology

November 19–21, 2008 - Richmond, Virginia

December 3–5, 2008 - Atlanta, Georgia

Sponsored by the National Laboratory Training Network

588-234-08, 588-250-08

DESCRIPTION

Certain aspects of parasitic agents present unique considerations for the use of polymerase chain reaction (PCR) for diagnostic parasitology. Techniques and processes that are successfully used to identify bacteria and viruses may not be applicable to parasites. This hands-on workshop will provide you with the tools necessary to make science-based decisions relative to implementing and using molecular PCR parasitology in your facility. The course instructors are from the Centers for Disease Control and Prevention (CDC) and the Virginia Division of Consolidated Laboratory Services and have years of extensive research and practical experience in molecular parasitology.

AUDIENCE

This intermediate-level hands-on workshop is intended for parasitologists, molecular biologists, or other laboratorians with experience in performing PCR. Instructors teaching molecular methods are also invited to apply. Candidates for this class must currently teach or perform diagnostic molecular techniques or be considering the implementation of molecular parasitology PCR in the next 18 months. Priority will be given to applicants employed in public health laboratories. Candidates must also complete a pre-study to demonstrate familiarity with the PCR process and the parasites discussed in this course.

OBJECTIVES

At the conclusion of this program, the participants will be able to:

- Develop systems needed to respond more rapidly and effectively to a naturally occurring parasitic outbreak or an intentional release of a harmful parasite.
- Discuss if and when PCR is an appropriate diagnostic technique for use in the parasitology laboratory.
- List factors that contribute to the successful use of PCR in diagnostic parasitology.
- Discuss advantages and disadvantages of using various PCR protocols and platforms relative to selected parasites.
- Write a plan for quality control and the test verification process for in-house developed assays as required by Clinical Laboratory Improvement Amendments (CLIA) regulations.

FACULTY

Parasitic Diseases Branch, Division of Parasitic Diseases, National Center for Zoonotic, Vectorborne and Enteric Diseases
Centers for Disease Control and Prevention, Atlanta, GA

Rebecca Bandea, MS, Guest Researcher

Kakali Bandyopadhyay, PhD, Guest Researcher

Alexandre da Silva, PhD, Senior Service Fellow

Stephanie Johnston, MS, Microbiologist

Virginia Division of Consolidated Laboratory Services, Richmond, VA

Debbie Craft, BS, Scientist

Denise M. Toney, PhD, Lead Scientist

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 22 contact hours.

REGISTRATION FEE

\$350.00 (payable to APHL)

Registration, payment, and logistical details will be provided upon acceptance into the course. Please do not make travel arrangements until you are notified of acceptance into course.

The National Laboratory Training Network is a training system sponsored by the Association of Public Health Laboratories (APHL) and the Centers for Disease Control and Prevention (CDC).

For a complete list of courses, visit www.nltn.org/courses.



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APPLICATION INFORMATION AND DEADLINES

The preliminary application is to be completed online at www.nltn.org/molpara.htm. If you are unable to complete the application online, notify the NLTN at 240-485-2727 or email registrar@nltn.org. Only completed applications received by the deadline will be considered. Application does not guarantee acceptance. Students will be selected according to the degree to which the applicant's job description, experience, and responsibilities are consistent with the prerequisites.

Course held at Virginia Division of Consolidated Laboratory Services (588-234-08)

- Application deadline - September 19, 2008
- Acceptance notifications sent via email - October 3, 2008
- Security Clearance process, once accepted - November 5, 2008
- Registration and payment deadline - November 7, 2008

Course held at the Centers for Disease Control and Prevention (588-250-08)

- Application deadline - October 3, 2008
- Acceptance notifications sent via email - October 17, 2008
- Security Clearance process, once accepted - November 5, 2008
- Registration and payment deadline - November 21, 2008

SPECIAL NEEDS

In compliance with the Americans with Disabilities Act (ADA), individuals requiring special accommodations should notify APHL at 240-485-2727 at least three weeks before the program.

LOCATIONS OF WORKSHOPS

Virginia Division of Consolidated Laboratory Services
Richmond, Virginia

Centers for Disease Control and Prevention
Atlanta, Georgia

SECURITY CLEARANCE

Upon acceptance to the course you will be asked to complete an online security form for security clearance to both VA DCLS and CDC. If you cannot provide this information, are unwilling to provide this information, or do not get the information to us by the deadline, your security clearance request will be denied and you will not be able to attend the course.

The National Laboratory Training Network is a training system sponsored by the Association of Public Health Laboratories (APHL) and the Centers for Disease Control and Prevention (CDC).
For a complete list of courses, visit www.nltn.org/courses.

Upcoming Training Opportunities

Diagnostic Parasitology: Intestinal Organisms

October 20-21, 2008 - Atlanta, Georgia
Registration Deadline October 6
www.nltn.org/232-08.htm

Diagnostic Parasitology: Blood and Tissue Organisms

October 22-23, 2008 - Atlanta, Georgia
Registration Deadline October 6, 2008
www.nltn.org/233-08.htm

For additional program information, email customersupport@nltn.org.

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AGENDA

DAY 1

- 7:30 a.m. Registration
- 8:00 a.m. Introduction and Pretest
- 8:30 a.m. Laboratory Safety Lecture
- 9:00 a.m. Public Health Applications of Diagnostic Methods in Parasitology Operational Considerations
- 10:00 a.m. Diagnostic Molecular Parasitology; the Perspective from DCLS
- 10:45 a.m. Break
- 11:00 a.m. Specimen Collection, Storage, Shipping, and Preservation Considerations for Molecular Parasitology
- 11:30 a.m. Basic Principles of Real-time PCR and Luminex Technology
- 12:00 p.m. Lunch
- 1:00 p.m. DNA Extraction from Stool Samples*
- 3:00 p.m. Break
- 3:15 p.m. DNA Extraction from Blood Samples*
- 5:00 p.m. Adjourn

DAY 2

- 8:00 a.m. Real-time PCR for Detection of *Plasmodium* spp.*
- 9:45 a.m. Break
- 10:00 a.m. Real-time PCR for Identification of *Cryptosporidium hominis* and *C. parvum**
- 12:00 p.m. Lunch
- 1:00 p.m. Real-time PCR for Detection of Free-living Ameba
- 2:45 p.m. Break
- 3:00 p.m. Luminex-based Detection of *Cryptosporidium hominis* and *C. parvum**
- 5:00 p.m. Question and Answer Session
- 5:30 p.m. Adjourn

DAY 3

- 8:00 a.m. Analysis of Results and Group Discussion of Real-time PCR for Detection of *Plasmodium* spp.*
- 9:30 a.m. Analysis of Results and Group Discussion of Real-time PCR for Detection of *Cryptosporidium hominis* and *C. parvum**
- 10:45 a.m. Break
- 11:00 a.m. Analysis of Results and Group Discussion of Real-time PCR for Detection of Free-living Ameba*
- 12:00 p.m. Lunch
- 1:00 p.m. Analysis of Results and Group Discussion of Luminex-based Detection of *Cryptosporidium hominis* and *C. parvum**
- 2:30 p.m. Validation of PCR-based Tests for Detection of Parasites
- 3:00 p.m. Break
- 3:15 p.m. Validation of PCR-based Tests for Detection of Parasites performed at DCLS
- 3:45 p.m. Question and Answer
- 4:00 p.m. Posttest and Evaluation
- 4:30 p.m. Adjourn

* Indicates laboratory exercise