

# DIAGNOSTIC PARASITOLOGY: BLOODBORNE AND INTESTINAL PARASITES

*DIVISION OF PARASITIC DISEASES AND MALARIA*

CENTERS FOR DISEASE CONTROL AND PREVENTION  
SEPTEMBER 24–28, 2018 • ATLANTA, GA



**U.S. Department of  
Health and Human Services**  
Centers for Disease  
Control and Prevention

P.A.C.E. ® Course #: 288-016-18

## Sponsored by:

- Division of Parasitic Diseases and Malaria, Center for Global Health, Centers for Disease Control and Prevention, CDC
- Division of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases, CDC
- Division of Laboratory Systems, Center for Surveillance, Epidemiology, and Laboratory Services, CDC

## Location

Centers for Disease Control and Prevention, Atlanta, GA

## Faculty

Parasitic Diseases Branch, Division of Parasitic Diseases and Malaria, Center for Global Health, CDC, Atlanta, GA

- **Henry Bishop**, Microbiologist
- **Richard Bradbury, PhD**, Biologist
- **MacKevin Ndubuisi, PhD**, Biologist
- **Mark Fox, MS**, Fellow

## Course Organizers

Division of Laboratory Systems, Center for Surveillance, Epidemiology, and Laboratory Services, CDC

- **Rebecca Bandea, MS**, Health Scientist, E-mail: [rbandea@cdc.gov](mailto:rbandea@cdc.gov)
- **Karen Ching, PhD**, Health Scientist, E-mail: [kching@cdc.gov](mailto:kching@cdc.gov)

## Course Objectives

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

- Explain how to prepare and stain thick and thin blood smears.
- Review the morphologic characteristics of *Plasmodium* spp., *Babesia* spp., *Microfilariae*, *Leishmania* spp., and *Trypanosoma* spp.
- Detect and identify *Plasmodium* spp., *Babesia* spp., *Microfilariae*, *Leishmania* spp., and *Trypanosome* spp. in clinical specimens.
- Discuss rapid diagnostic tests available for identifying *Plasmodium* spp., *Babesia* spp., *Leishmania* spp., and *Trypanosoma* spp.
- Review the morphologic characteristics of intestinal helminths and protozoa of public health concern.
- Microscopically detect and identify helminths and protozoa.
- Detect *Cyclospora cayetanensis* using fluorescence microscopy.
- Describe the process for clearing or staining proglottids with lactophenol cotton blue or India ink.

## Description

Diagnosis of most parasitic infections is based upon the morphologic characteristics of the different stages of parasites in and out of their human hosts. Therefore, it is necessary to correctly process, examine, detect, and identify parasitic organisms from clinical specimens. During this five-day intermediate-level hands-on workshop, faculty from the Centers for Disease Control and Prevention will instruct participants on how to detect and identify blood and tissue organisms as well as medically important intestinal helminths and protozoa.

## APPLICATION & REGISTRATION

### \* FREE REGISTRATION

### Application Deadline: July 11, 2018

#### NEW TWO-PART APPLICATION PROCESS!

Both parts must be submitted by **July 11, 2018** to be considered.

1. Complete the application form [online](#) by **July 11, 2018**.
2. Submit a brief **CV or resume** highlighting your experience in the area of laboratory testing relevant to this course by **July 11, 2018**. Email CV or resume to [kching@cdc.gov](mailto:kching@cdc.gov). Type "288-016-18 Diagnostic Parasitology: Bloodborne and Intestinal Parasites" in the subject line of the email.

If you are unable to complete the application online, notify Karen Ching at 404-498-6403 or email [kching@cdc.gov](mailto:kching@cdc.gov).

- Click this [link](#) for an example of a brief CV.
- Participants will be selected according to the applicants' job description, experience, and responsibilities.
- Notification of acceptance status will be sent via email by **July 17, 2018**.

## Audience

This intermediate-level, hands-on program is intended for laboratorians who work in public health or clinical microbiology laboratories, are proficient using a microscope, and have experience identifying intestinal parasites.

## Security Clearance Requirements

**NON-US CITIZENS** —This course 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.

**US CITIZENS**—If you are a US citizen, there is no extra clearance process required.

## Continuing Education Credits

The Centers for Disease Control and Prevention, Division of Laboratory Systems is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® Program. This course is approved for **33.5** contact hours.

## Disclosure

CDC, our planners, and our presenters wish to disclose they have no financial interests or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters. Presentations will not include any discussion of the unlabeled use of a product or a product under investigational use.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the Division of Laboratory Systems, Center of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention, or the U.S. Department of Health and Human Services.

## Special Needs

In compliance with the Americans with Disabilities Act (ADA), individuals seeking special accommodations should submit their request in writing to [rbandea@cdc.gov](mailto:rbandea@cdc.gov) or phone 404-639-4554 at least three weeks prior to the start date of the course. This will allow sufficient time for CDC to make the necessary arrangements

## QUESTIONS

Please contact Karen Ching at 404-498-6403 or email [kching@cdc.gov](mailto:kching@cdc.gov).

## AGENDA

DAY 1—Monday, Sept. 24, 2018			
TIME	TYPE	ITEM	SPEAKER
8:00 am	Lecture	Introduction	Karen Ching
8:15	Lecture	Safety Briefing	Becky Bandea
8:30	Lab	Pre-Test	Henry Bishop
9:30	Break	Break	
9:45	Lecture	<i>Plasmodium</i> spp – Overview	Henry Bishop
10:45	Lab	Smear preparation	DPDx Staff
11:30	Lunch		
12:30 pm	Lecture	<i>Plasmodium falciparum</i>	Henry Bishop
1:00	Lecture	<i>Plasmodium vivax</i>	Henry Bishop
1:30	Lecture	<i>Plasmodium ovale</i>	MacKevin Ndubuisi
2:00	Lecture	<i>Plasmodium malariae</i>	MacKevin Ndubuisi
2:15	Break		DPDx Staff
2:30	Lab	<i>Plasmodium</i> spp (smears)	DPDx Staff
4:00	Lecture	RDT's for malaria + Q & A	DPDx Staff
4:30	Adjourn		

DAY 2—Tuesday, Sept. 25, 2018			
TIME	TYPE	ITEM	SPEAKER
8:00 am	Lecture	<i>Babesia</i>	Henry Bishop
8:30	Lab	<i>Babesia</i> (smears)	DPDx Staff
10:00	Break		
10:15	Lecture	<i>Microfilariae</i>	Richard Bradbury
11:30	Lunch		
12:30 pm	Lab	<i>Microfilariae</i> (smears)	DPDx Staff
2:45	Break		
3:00	Lab	All organisms to date + Q & A	DPDx Staff
4:30	Adjourn		

DAY 3— Wednesday, Sept. 26, 2018

TIME	TYPE	ITEM	SPEAKER
8:00 am	Lecture	Trypanosomes	Richard Bradbury
8:30	Lecture	<i>Leishmania</i>	Richard Bradbury
9:15	Lab	<i>Trypanosomes/Leishmania</i> (smears) + all organisms to date	DPDx Staff
10:00	Break		
10:30	Lab	Post-test	Henry Bishop
11:30	Lecture	Post-test evaluation/discussion	DPDx Staff
12:00	Lunch		
1:00 pm	Lab	Pre-test	Henry Bishop
2:00	Lecture	<i>Flagellates, Ciliates, Blastocystis</i>	DPDx Staff
2:45	Break		
3:00	Lecture	Intestinal Amoebae	DPDx Staff
3:30	Lab	Protozoa (slides) to date	DPDx Staff
4:30	Adjourn		

DAY 4—Thursday, Sept. 27, 2018

TIME	TYPE	ITEM	SPEAKER
8:00 am	Lecture	<i>Coccidia</i>	DPDx Staff
8:30	Lecture	<i>Microsporidia</i>	Richard Bradbury
9:15	Break		
9:30	Lab	Protozoa and microsporidia (slides)	DPDx Staff
11:30	Lunch		
12:30 pm	Lecture	Nematodes	DPDx Staff
1:15	Lab	Nematodes (slides)	DPDx Staff
2:15	Lecture	Cestodes	DPDx Staff
3:00	Break		
3:15	Lab	Cestodes (slides)	DPDx Staff
4:30	Adjourn		

**DAY 5—Friday, Sept. 28, 2018**

<b>TIME</b>	<b>TYPE</b>	<b>ITEM</b>	<b>SPEAKER</b>
<b>8:00 am</b>	Lecture	Trematodes	DPDx Staff
<b>8:30</b>	Lab	Trematodes (slides)	DPDx Staff
<b>9:15</b>	Break		
<b>9:30</b>	Lab	Review all intestinal organisms to date (slides)	DPDx Staff
<b>11:30</b>	Lunch		
<b>12:30 pm</b>	Lab	Helminth Procedures (lacto-phenol clearing); Review	Henry Bishop
<b>1:45</b>	Break		
<b>2:00</b>	Lab	Post-test	Henry Bishop
<b>3:00</b>	Lecture	Post-test evaluation; Q & A	DPDx Staff
<b>3:30</b>	Lecture	Post-course evaluation; Comments, critique	Karen Ching
<b>4:30</b>		Adjourn	