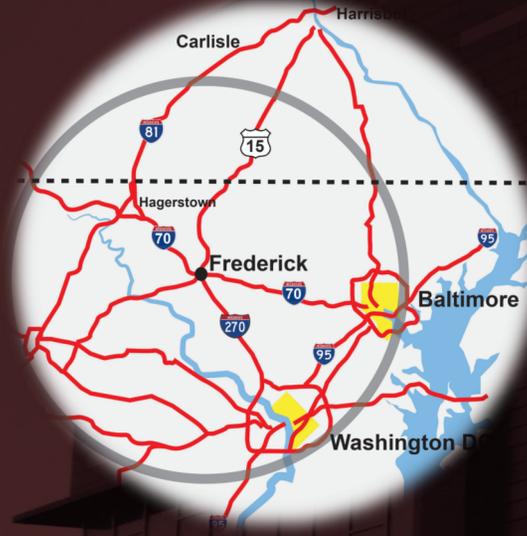




NOTE: Any reference to specific instruments, manufacturers, or processes does not imply endorsement by USAMRIID or the US Army.

## USAMRIID's MISSION

To provide leading edge medical capabilities to deter and defend against current and emerging biological threat agents.



Fort Detrick is located in Frederick, MD, approximately 48 miles northwest of Washington, DC and 54 miles west of Baltimore, MD. There are three major airports that service the metropolitan area and provide access to Fort Detrick:

Dulles International  
BWI Marshall International  
Reagan National



# FIBWA

Field Identification of Biological Warfare Agents



## Laboratory Training Services Branch

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<http://www.usamriid.army.mil/education/fibwacourse.htm>



**USAMRIID**  
United States Army  
Medical Research Institute  
of Infectious Diseases  
Biodefense Solutions To Protect Our Nation

In the late 1990's, development and deployment of advanced biological warfare (BW) agent diagnostic and detection assays required the development of a program to train laboratory personnel to perform the complex, specialized tasks required for the new assays. In 2012, the mission expanded from BW detection to a broader range of threats, including a terrorist attack involving a biological agent, the spread of infectious diseases, and food-borne illnesses, now collectively known as bio-surveillance (BSV).

USAMRIID's Field Identification of Biological Warfare Agents (FIBWA) programs provide foundation and advanced training to support both the traditional BW detection and broader scope BSV missions that are of interest to the Department of Defense, federal and state agencies, and US foreign partners. FIBWA trains attendees to set up, maintain, and operate deployable laboratories under field conditions for both BW and BSV missions. The courses offer training in the most advanced technologies as well as the concepts of operations that are needed for effective diagnostic/detection missions. Training provided includes operational biosafety and in-depth background knowledge for mission success in austere or challenging environments. The FIBWA courses focus on an integrated application of multiple technologies as well as in-depth laboratory knowledge for timely, high-confidence solutions.

Equipment and technology are largely integrated with the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). Concepts of Operations and reagents are continually evaluated and transitioned to the field and into the training programs to ensure all FIBWA courses remain relevant and on the cutting edge of scientific knowledge.

The FIBWA program consists of five different resident core courses offered throughout the year:

- Manager's Course
- NGB CST
- Special Interest Training
- Foundation Techniques
- Advanced Techniques

The **FIBWA Manager's Course** is a three-day course designed to introduce leaders to the management of BW agent identification laboratories. It covers common operational concerns, neighbors in theater, troubleshooting, and integrating results from different testing modalities. Hands-on laboratory practice is offered to familiarize managers with various tasks.

The **FIBWA NGB CST Course** is provided exclusively for the National Guard Bureau Civil Support Teams (CST). The course, tailored to the mission-specific needs of each individual CST, consists of two weeks of instruction culminating in an independent Situational Training Exercise (STX).

**FIBWA Special Interest Training** courses are adapted to a customer's specific requirements. Courses can range from days to weeks depending on the breadth of information needed and any requirements for certification. Training on newly fielded systems and technologies, laboratory operations and process validations or competency assessments are the usual focus.

**FIBWA Foundation Techniques** course is a two-week course that provides an introduction to or review of the lab science and skills needed to master more advanced techniques commonly used for BW agent detection and identification. This course is for individuals who need refresher training or who have not had in-depth training in microbiological processes.

**FIBWA Advanced Techniques** course is a two-week course that provides advanced laboratory knowledge and skills required to independently perform highly complex testing for BW detection and identification. An STX provides an opportunity for attendees to independently exercise their training using real-world scenarios to challenge and reinforce their understanding, critical decision making and laboratory skills.

#### **Overview, Biosafety, Intro to Lab Operations:**

- Brief history of biological warfare
- Lab concepts
- Current techniques and skills overview
- Lab operations in a field environment
- Fundamentals of biosafety

#### **Nucleic Acid Extraction & Polymerase Chain Reaction (PCR):**

- Theory and practice of detecting agents
- DNA & RNA extraction protocols
- Operation and maintenance of various PCR instruments
- Data interpretation, troubleshooting and result confidence

#### **Electrochemiluminescence (ECL):**

- Theory and practice of detecting agents (bacteria, viruses, and toxins) utilizing immunoassay technology
- Review of protocols for major threat agents
- Preparation of a variety of sample matrices
- Operation of various immunochemistry analyzers
- Interpretation of results

#### **Field Operations Discussions:**

- Operational and regulatory issues
- The decision-making process
- Long-range support
- Laboratory design and sample flow
- Tabletop exercises

#### **Situational Training Exercises:**

- Set up and operate a lab under field conditions
- Practice problem solving
- Demonstrate an understanding of the Concept of Operations
- Conduct formative and summative evaluations