Detect, characterize, and respond to biological threats.

National Laboratory Contributions

- Planning response and recovery for an aerosol release
- Operational impact of pandemic flu outbreak modeling
- Rapid biodetection for facility monitoring
- Assessment of government building vulnerabilities and development of response plans for biological attacks
- Rapid detection in food or water supplies
- Identification of biological material sources for bioforensic purposes
- Development of reagents and assays for improved performance of biodetectors
- Development of detection platforms
- Response procedures for biological detection event scenarios

Capabilities

PLANNING AND RESPONDING TO BIOTHREATS
- Hands-on training and education for biothreat understanding, indicators, and handling
- Guidelines for first responders
- Atmospheric modeling
- Scenario modeling
- Requirements definition
- Vulnerability assessment

BIODETECTORS (STATIONARY AND MOBILE)
- Testing and evaluation of commercial systems
- Integrated systems development

CHARACTERIZATION AND DISTINGUISHING OF BIOTHREATS
- Laboratory research to understand and treat specific organisms critical to public health
- Select agents and toxins laboratory (e.g., ricin, botulinum toxin)
- Vaccine strains of bacterial agents (e.g., Bacillus anthracis, Yersinia pestis, Francisella)
- Pathogens (e.g., Norovirus, E.coli O157:H7, Salmonella, Brucella)

INVESTIGATIVE TOOLS
- Experimental design and data analysis
- Sampling strategies
- Tools and methods for analysis
- Processing signatures — source tracking

Collaborations

- DOE National Laboratories
- Washington State Department of Health
- Universities (e.g., University of Arizona Biological Design Institute, University of Washington, Washington State University, Oregon Health Sciences University, Texas A&M University)

For more information, contact:
Northwest Regional Technology Center, http://nwrtec.pnl.gov/
Steve Stein, Director, steve.stein@pnl.gov, (888) 347-6983