

**THE BOSTON UNIVERSITY  
NATIONAL EMERGING INFECTIOUS DISEASES LABORATORIES  
COMBATING DISEASE, PURSUING CURES**

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**Cutting-Edge Research**  
DESIGNED TO SAVE LIVES

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**Rigorous**  
CITY, STATE, AND FEDERAL OVERSIGHT

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**Culture of Safety**  
STATE-OF-THE-ART FACILITY & ADVANCED SECURITY

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**Bolstering**  
THE CITY'S STATUS AS A RESEARCH HUB

## THE NEIDL: GROUNDBREAKING SCIENTIFIC RESEARCH

**Boston University is a top-tier, global research institution.** Our efforts in pushing scientific boundaries and tackling intractable medical challenges have placed us in the company of the world's elite research groups. Some of our most innovative and promising work lies ahead at the National Emerging Infectious Diseases Laboratories (NEIDL) Institute. The NEIDL is part of a small and exclusive national network of secure facilities studying ways to detect and treat infectious diseases that are—or have the potential to become—major public health concerns. We understand that with any ambitious and complex scientific endeavor, there will be questions. We're here to answer them.

### WORKING TOWARD TREATMENTS, CURES, AND VACCINES

**In today's global economy, the world is smaller than ever.** During this era of unprecedented global mobility, citizens of all countries have been confronted with a growing public health concern: newly emerging infectious diseases. Although the pathogens that cause these infectious diseases may originate halfway across the globe, they do not respect borders and have the potential to threaten populations in any part of the world within a matter of days. We're all vulnerable to these potentially devastating diseases, for which effective treatments and cures do not currently exist. The high-tech laboratories at the NEIDL are dedicated to the development of diagnostic tools, vaccines, and treatments. The building is designed to conduct research at Biosafety Level-2, -3, and -4 with the highest level of safety for researchers and the surrounding community.

- There will be no classified research conducted at the NEIDL.
- BU researchers recruited from around the world are currently conducting BSL-2 and BSL-3 work at the NEIDL, studying such diseases as tuberculosis. In the future, they plan to confront BSL-4 pathogens for which there are no cures, like Ebola, Marburg, and Lassa fever.

- All proposed research must be vetted and approved by appropriate University regulatory committees, as well as external agencies including the Centers for Disease Control and Prevention and the Boston Public Health Commission. Once approved, all research will be open and transparent to the public.

The NEIDL is training the next generation of researchers, as well as scientists from around the world, to work safely in high (BSL-3) and maximum (BSL-4) containment laboratories.

### RIGOROUS CITY, STATE, AND FEDERAL OVERSIGHT

**Since the blueprints for the NEIDL were first drawn up, we have strived to be an open book.** The facility has undergone comprehensive local, federal, and community scrutiny, including reviews by the National Institutes of Health's (NIH) Blue Ribbon Panel, the National Research Council, the Boston Public Health Commission (BPHC), the Massachusetts Executive Office of Energy and Environmental Affairs, and state and federal courts, and will undergo review from the Centers for Disease Control and Prevention (CDC) as well. The NEIDL has received necessary approvals for work at BSL-2 and BSL-3. Once fully operational, we will continue to proceed in a transparent manner and be subject to ongoing city, state, and federal oversight by the NIH, CDC, and BPHC.

- Under the Boston Public Health Commission's oversight, Boston boasts one of the strictest regulatory systems for infectious diseases research in the country.
- Rigorous and ongoing oversight by the Boston Public Health Commission includes annual as well as unannounced inspections, in addition to yearly inspections by the Centers for Disease Control and Prevention.
- In 2013, a federal court judge agreed in her ruling that a Final Supplementary Risk Assessment prepared by the National Institutes of Health adequately analyzes the risks associated with research involving pathogens at BSL-3 and BSL-4, and reasonably concludes that the building is safe to operate at the BU Medical Campus site.
- Boston police, fire, and EMS departments have conducted multiple emergency drills at the facility and will continue to do so.

- Transportation of infectious materials is governed by strict national and international regulations.
- The minutes from Boston University's Institutional Biosafety Committee review process are available to the public through the NEIDL website: [www.bu.edu/neidl](http://www.bu.edu/neidl).
- The NEIDL's Community Liaison Committee, a nine-member group comprising representatives from the community, meets regularly to discuss NEIDL-related issues.
- More than 780 people, who represent a broad cross section of community groups, civic leaders, city and state elected officials, business leaders, and middle and high school students, have toured the NEIDL to see firsthand the state-of-the-art facility and learn about the important research that will be conducted there.
- All real or potential laboratory exposure or injury incidents, subsequent reviews, and safety procedures, as well as minutes from our Community Liaison Committee meetings are posted at our website: [www.bu.edu/neidl](http://www.bu.edu/neidl).

## **CULTURE OF SAFETY: STATE-OF-THE-ART FACILITY & ADVANCED SECURITY**

**Safety is our top concern at the NEIDL and that priority permeates every aspect of the NEIDL, from personnel practices to the facility's design.** Completed in 2008, the seven-story, secure, 192,000-square-foot research facility is located on Albany Street within BioSquare, a biomedical research and business park on the Boston University Medical Campus. The NEIDL's state-of-the-art BSL-2, BSL-3, and BSL-4 laboratories will host 30 or more principal investigators, along with other faculty, postdoctoral fellows, graduate students, and technical staff.

These BSL-2, BSL-3, and BSL-4 laboratories were all designed and constructed to meet and exceed federal, state, and local standards. In more than 100 years of combined experience, BSL-4 laboratories in North America have operated safely and have never had an environmental release or incident.

### **Researchers**

- Researchers undergo thorough background checks and must complete an extensive training program, which includes instruction and practical simulations before being admitted to a rigorous mentoring program.
- Depending upon the laboratories' level of risk, researchers will work in pairs as an added security measure.

### **State-of-the-art facility**

- The facility is built into bedrock for maximum stability and set back from the street for maximum security.
- Barriers that are certified to meet US Department of State security ratings protect the perimeter.
- The facility uses state-of-the-art technologies in safe and secure environments that have been scrutinized and approved by state, local, and federal health organizations.
- All critical building systems, such as HVAC and power, within the NEIDL have a redundant backup system to ensure safety and uninterrupted operations at all containment levels.

### **Advanced security through cutting-edge technology**

- Access to all spaces in the facility is restricted by a continuous series of security checks, including proximity card readers and iris scans. This makes it possible to closely control access and permit only trained persons with clearance to the spaces, including the containment laboratories.
- All BSL-4 and BSL-3 agent samples designated as "select agents" are delivered via exclusive-use vehicles and tracked by GPS. All vehicles and background-checked drivers are inspected by NEIDL security prior to entry.
- Public access is restricted and the grounds are enclosed by intrusion-prevention fencing.
- A dedicated security force patrols the facility and grounds around the clock, and an extensive video camera system monitors the exterior and interior at all times.

### **Secure labs**

- The BSL-4 laboratory at the NEIDL operates as a self-contained unit with its own filtration, decontamination, and waste disposal systems. It is designed and constructed as "a building within a building."

- All air that comes out of the NEIDL, including the BSL-4 labs, is double-filtered through high-efficiency particle (HEPA) filters. In effect, the air that leaves the NEIDL is cleaner than the air that comes in.
- In the unlikely case of a leak or spill, the laboratory spaces can be independently sealed and fully decontaminated.
- Drainage pipes are double-walled and equipped with breach sensors, and multiple decontamination tanks disinfect laboratory liquid waste.

### **BOLSTERING THE CITY'S STATUS AS A RESEARCH HUB**

**Simply put, Boston is a global research center and not one to turn its back on scientific innovation and development.** The location of the NEIDL in the South End, adjacent to our Medical Campus and Boston Medical Center, not only allows us to engage and involve the best health research experts in the country, but provides immediate access to an extensive medical and public health infrastructure that is ideal to support this type of facility. The NEIDL's proximity to the University also allows for the next generation of scientists in infectious disease research to be trained, as well as for close collaborations with engineers, mathematicians, chemists, and other researchers critical to today's infectious disease research. ■





Since 1873, with the creation of the Boston University School of Medicine, we have been proud to be part of the South End community. As a direct result of the NEIDL's construction and operations, Boston University has contributed more than \$3.3 million to the neighborhood, in addition to a variety of University programs and services. To learn more about Boston University's community resources, please visit [www.bu.edu/community](http://www.bu.edu/community).



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