## Laboratory For Infectious Disease Research

More info: <https://research.missouri.edu/laboratory-for-infectious-disease-research>

The University of Missouri Laboratory for Infectious Disease Research (LIDR) is a Regional Biocontainment Laboratory located on the MU campus. LIDR is a critical resource for University of Missouri faculty and collaborating scientists who perform research on infectious diseases and is part of the nation's effort to protect public health. Built to the highest state and federal safety standards, this building aids researchers in the discovery and development of new ways to fight bacterial and viral infections.

LIDR includes biosafety research laboratories and associated research-support areas. LIDR is one of 13 similar structures in the United States, each built with partial federal grant support from the National Institute of Allergy and Infectious Disease to fulfill a critical need for improved research space and educational programs that allow safe handling and containment of biohazards. In addition, the LIDR presents a resource for local and regional health officials in the event of an infectious disease outbreak in the United States.

LIDR was initiated in 2003 with funds awarded through a competitive grant from the National Institute of Allergy and Infectious Diseases (NIAID), a division of the National Institutes of Health (NIH). Design and construction began in the fall of 2006 and the building received certification from the Centers of Disease Control and Prevention (CDC) and became operational in 2010. LIDR houses 10,000 square feet of state-of-the-art laboratories for infectious disease research at biosafety levels (BSL) -2 and -3. LIDR is designed to protect researchers and the environment from any release of biohazards. Access to the LIDR is strictly controlled, limited to a small number of MU faculty, staff, and students. Access to the LIDR requires initial and ongoing comprehensive training in handling biohazards as well as a requirement for a security background check.

**Aerobiology Core**

LIDR offers custom designed aerosol exposure services for BSL-2 and BSL-3 agents. All challenges are performed within a custom-designed and built GermFreeTM Class III biological safety cabinet for optimal containment and user protection.

Services include:

* CH TechnologiesTM inhalation exposure system for research on lower respiratory tract infections.
* Pathogen and small animal aerosol model development.
* Characterization of particle size distribution and real-time monitoring via a Palas WelasTM white light aerosol spectrometer.
* Dose determination, viability of infectious agents and animal evaluation services.

**Immunology Core**

The LIDR Immunology Core offers flow cytometry, cell sorting, and fluorescence microscopy services for fixed or live BSL-1, BSL-2, and BSL-3 samples.

Instruments:

* Bigfoot Cell Sorter (Thermo Fisher).
* Tyto Cell Sorter (Miltenyi).
* MACSQuant 10 Flow Cytometer (Miltenyi).
* Lionheart FX Automated Microscope (Agilent/BioTek).

**Microbiology Core**

LIDR has over 10,000 square feet of state-of-the-art laboratory space available for scientists and collaborators for the performance of molecular biology, cell biology, and microbiology research under BSL-2 and BSL-3 conditions.