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A Training Hub

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With advanced capabilities and innovative facilities, Kansas State University’s Biosecurity Research Institute is helping universities, businesses and organizations prepare for work in biocontainment facilities.

“The multidisciplinary research, training and educational activities that exist at the BRI make it a truly unique facility,” said Stephen Higgs, institute research director, university associate vice president for research and Peine biosecurity chair. “The capacity to work on diseases of plants, humans and other animals and pathogens that contaminate the food chain, all under one roof, is quite extraordinary.”

With more than 10,000 square feet of training and education facilities, the institute is equipped with the latest technology and ample space for research presentations and meetings. Some of these facilities include conference rooms with distance learning capabilities, a modern lecture hall and an integrated training suite, which is a combined classroom-laboratory for interactive learning.

Because of these facilities, the institute is able to offer high-quality training opportunities on important topics including basic biosafety level-3 — or BSL-3 — practices, handling and identification of high-consequence pathogens, diagnosis of animal and plant disease, and containment facility operations.

“The ability to conduct hands-on training scenarios under the direction of biosafety professionals in a fully equipped laboratory promotes a critical safety culture for the institute,” said Scott Rusk, who organizes training sessions and manages the facility operations as director of Pat Roberts Hall, home of the institute. “Conducting training in the absence of hazardous biological materials allows research teams to practice and develop necessary skills that help them stay safe and secure in their workplace.”

Through training sessions, the institute provides researchers with knowledge and experience specific to working in a BSL-3 facility. Since 2008 the institute has developed and offered 24 sessions of BSL-3 laboratory training, which is a required 30-hour training course for all staff, researchers, collaborators and scientists from outside agencies to enter BSL-3 laboratories. More than 100 participants — including research teams, BRI research support employees and the university’s Comparative Medicine Group — have completed this training.

Kansas State University researchers who have trained for work in BSL-3 facilities are affiliated with either of two colleges: the College of Veterinary Medicine, including
the department of anatomy and physiology, department of diagnostic medicine and pathobiology, and the Veterinary Diagnostic Laboratory; and the College of Agriculture, including the Food Science Institute as well as the department of animal sciences and industry and the department of plant pathology.

To make the training process effective, the institute developed an online pretest in 2009 for BSL-3 training and an online training needs assessment to identify appropriate training for specific employee and researcher roles.

Collaborative researchers also have been involved with training. These researchers are from outside organizations, such as Manhattan-based NanoScale Corp.; the University of Nebraska-Lincoln; Auburn University; and the Arthropod-Borne Animal Diseases Research Unit of the Center for Grain and Animal Health Research, which is part of the Agricultural Research Service division of the U.S. Department of Agriculture.

National and international organizations have used the institute’s training facilities as well. The National Biosafety and Biocontainment Training Program has conducted open training sessions at the institute, while institute staff have assisted with presentations to more than 13 universities and organizations. The USDA National Animal Health Laboratory Network has had high throughput robotics diagnostics training sessions at the institute for organizations from more than 20 states.

In recent years, the institute has expanded the training courses it offers. Administrators developed three training courses in 2009, seven training courses in 2010 and 17 training courses in 2011.

The institute also assists with emergency response training. In 2010, personnel presented special emergency training to more than 100 first responders, including the Manhattan Fire Department, Riley County Emergency Management Services and Mercy Regional Medical Center.

The institute has the additional potential to help train personnel who will work at the National Bio and Agro-Defense Facility, said Julie Johnson, biosafety officer who is in charge of internal biosafety and biosecurity training programs.

“We hope to expand our training capabilities in the future to address the biocontainment training needs of more campus departments as well as external customers,” Johnson said.

By Jennifer Tidball, Communications and Marketing