

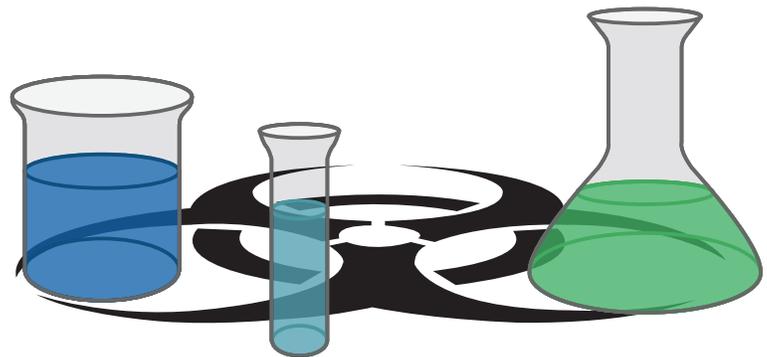
International BIOLOGICAL THREAT REDUCTION

Enhancing US National Security by Reducing Biological Threats Globally



Sandia National Laboratories' International Biological Threat Reduction (IBTR) program has a new mock BSL2 training laboratory and associated training course. The IBTR Biosafety and Biosecurity Training Course is a one week introductory formal training course on laboratory biosafety and biosecurity. It aims to give participants an understanding of the importance of these topics. Since the target audience is representatives from international laboratories, the course takes an integrated approach to the topics as endorsed by the World Health Organization (WHO). In the 3rd edition of the Laboratory Biosafety Manual, WHO writes "security precautions should become a routine part of laboratory work, just as have aseptic techniques and other safe microbiological practices."

Topics are taught through lectures, case studies, structured discussions, and lab activities. Each of these aspects reinforces students' understanding of a core set of learning objectives. Participants' success is measured through a test given before and after the course. Daily quizzes are used to monitor their progress, and to identify any learning objectives from the day that need to be reinforced. Participants in the course study the three components of biosafety (primary barriers,



**BIO SAFETY AND BIO SECURITY
TRAINING COURSE**

secondary barriers, and work practices) and the five tenets of biosecurity (physical security, information security, transport security, material control and accountability, and personnel security).



The laboratory is designed as a mock BSL2-enhanced laboratory; the lab has directional airflow and appropriate equipment to demonstrate the use of BSL3 practices in a BSL2 workspace. The lab has access controls, a Class II A2 Biological Safety Cabinet, a high speed centrifuge, an incubator, an autoclave, and other standard biological equipment. The mock lab is different from other normally functioning laboratories in that it has a viewing window so that visitors, instructors, and other course participants can observe those training in the laboratory. Next to the window, a monitor displays views from four cameras, enabling those at the window to see different perspectives and close-up shots of the work going on in the lab. Viewers can control a ceiling mounted, pan-tilt-zoom camera. There is a fixed camera on a workbench, giving viewers a close-up perspective of procedures on the bench-top. A third camera is located inside the biological safety cabinet so observers can view procedures. Another camera covers the anteroom, where course participants don and doff their personal protective equipment.

We hope that the laboratory and accompanying training course will be a valuable resource to scientific communities in the US and abroad. Custom tailored training courses can also be designed to meet the needs of specific audiences. To inquire about using the laboratory or to get more information about a training session, please contact Jacqueline Smith at jacsmit@sandia.gov.

