

MEMOS ON INTERNATIONAL  
BIORISK MANAGEMENT NETWORKS

# Biosafety Level 4 Zoonotic Laboratory Network (BSL4ZNet)

## Purpose

---

BSL4ZNet is a network of laboratories focused on detecting, preventing, and responding to outbreaks of zoonotic origins.

BSL4ZNet aims to be a global alliance that fosters collegiality, information-sharing, and collaboration between BSL4 laboratories. More specifically, BSL4ZNet seeks to highlight research advances in zoonotic pathogen diagnostics, enable sharing of best practices, and provide training in safety and security at high-containment laboratories.

## Formation

---

BSL4ZNet traces its origins to an international meeting of biosafety experts, BSL4 personnel, and policymakers from Australia, Canada, Germany, the United Kingdom, and the United States, hosted by the Canadian Centre for Human and Animal Health in 2016 in Winnipeg, Manitoba.

The initial membership included over 60 participants representing 12 partner labs.



## Structure

---

### Secretariat

The governance and structure of the BSL4ZNet is composed of multiple layers, with the secretariat located in Canada's Department of Defence and the Canadian Safety and Security Program.

### Working Groups

Under the strategic direction of a steering committee are four working groups, named according to function: training world-class personnel, scientific excellence, institutional cooperation, and international response.

### Partner Labs

Activities defined by the working groups, including hands-on training and personnel exchanges, are implemented by partner organizations and their associated laboratories.

## Membership

---

### Australia

Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Centre for Disease Preparedness

### Canada

National Centre for Foreign Animal Disease, Canadian Food Inspection Agency (CFIA); National Microbiology Laboratory, Public Health Agency of Canada; Canadian Safety and Security Program, Department of National Defence; Threat Reduction Agency, Global Affairs Canada

### Germany

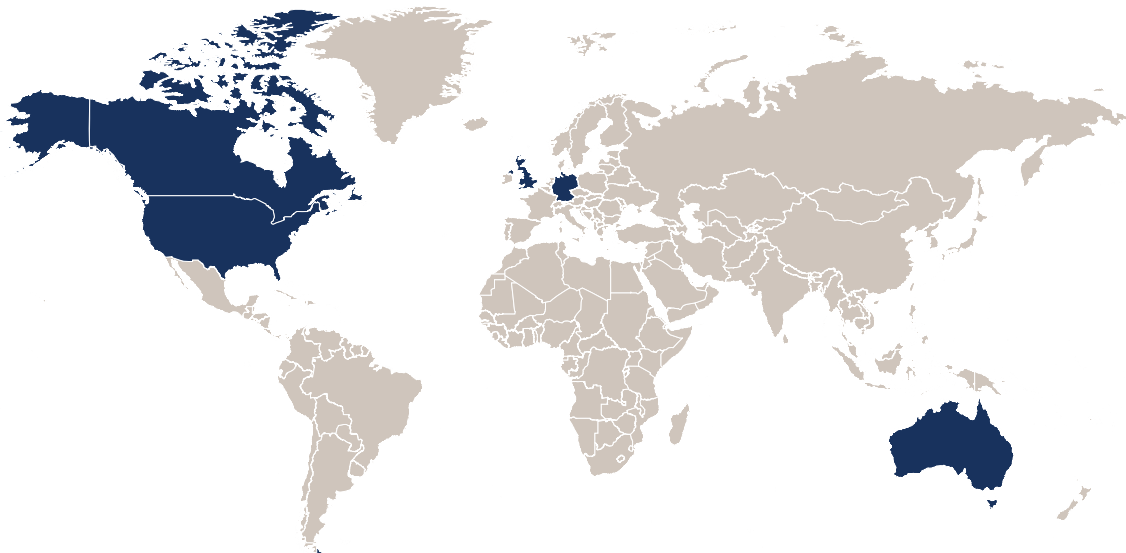
Novel and Emerging Infectious Diseases, Friedrich Loeffler Institute National Research Institute for Animal Health; Centre for Biological Threats and Special Pathogens/ Biosafety Level 4 Laboratories, Robert Koch Institute

### United Kingdom

The Pirbright Institute, Biotechnology and Biological Sciences Research Council; Weybridge Veterinarian Laboratories, Animal and Plant Health Agency; Porton Down Laboratory, Public Health England; Defence Science and Technology Laboratory, Ministry of Defence

### United States

Animal and Plant Health Inspections Services, Agriculture Research Services, National Bio and Agro-Defense Facility, US Department of Agriculture; Emerging Infectious Disease Laboratory, Centers for Disease Control and Prevention; National Biodefense Analysis and Countermeasures Center, Science and Technology Directorate, Department of Homeland Security



## Key Activities

---

### Training and Workshops

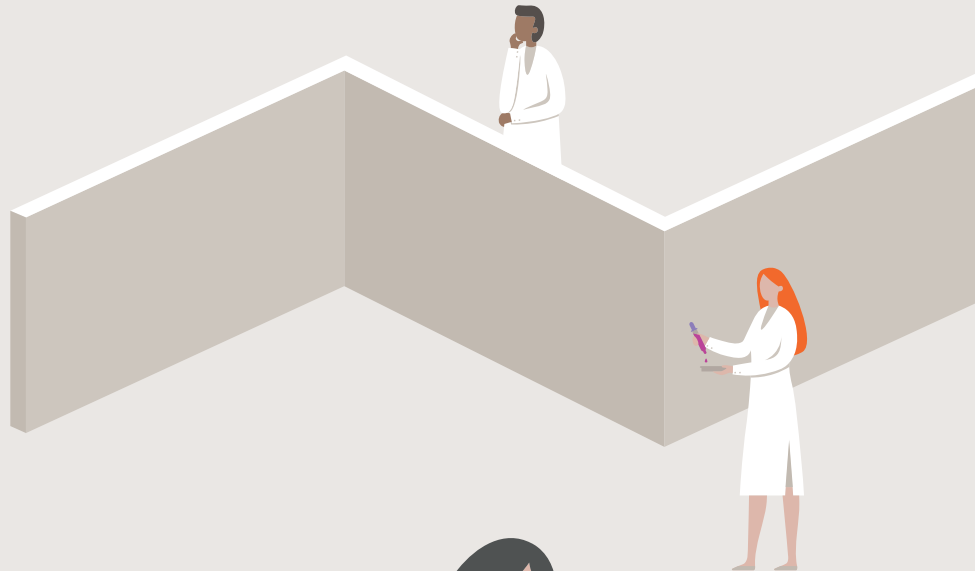
The 'Training world-class personnel' working group has developed tools and workshops to help address gaps in BSL4 personnel competency and to exchange best practices. The tools produced include a catalog of BSL4 international training opportunities and a survey on current gaps in training. The working group has hosted discussion-based workshops led by subject matter experts on 'Train-the-trainer,' 'Animal residency' and 'Onboarding training.'

### Personnel Exchanges

Personnel exchanges also facilitate training, with hosts providing training on BSL4 suits, daily operations, animal work, laboratory procedures, validation testing, security, onboarding, and certification.

### International Conference

BSL4ZNet hosts an annual international conference, bringing together experts and organizing panels on a variety of topics, including emerging and re-emerging pathogens, BSL3 and BSL4 biosafety and biosecurity, One Health, and zoonotic outbreaks.



## Key Resources

---

BSL4ZNet website  
[inspection.canada.ca/science-and-research/science-collaborations/biosafety-level-4-zoonotic-laboratory-network/eng/1597148065020/1597148065380#a1](https://inspection.canada.ca/science-and-research/science-collaborations/biosafety-level-4-zoonotic-laboratory-network/eng/1597148065020/1597148065380#a1) ▶

Pickering et al., 'The Biosafety Level 4 Zoonotic Laboratory Network (BSL4ZNet): Report of a Workshop on Live Animal Handling' [doi.org/10.1016/j.antiviral.2019.104640](https://doi.org/10.1016/j.antiviral.2019.104640) ▶

