



**Left:** The design starts with identification of users' needs (design brief development) **Middle:** The engineering and systems design and set-up is one of the core design tasks **Right:** Architectural and engineering options must be risk-adequate, and tailored to the individual budget available.

# Design a functional BSL-3 lab

For architects, engineers, and biosafety specialists

## Facts and figures

### Form of course

- \_ full-day workshop
- \_ any size of audience possible

### Instructor

- \_ Dr Felix Gmuender

### Information and bookings

- \_ Call 6339 9884: Ms Chongwei Qiu will assist you.
- \_ Drop a line at [biotech@bh.com.sg](mailto:biotech@bh.com.sg) : We will get back to you and assist you.

## Background and aim

With the increased risks emanating from emerging and re-emerging infectious diseases in the Asia-Pacific, there is an urgent need to build and operate high-containment biosafety laboratories (BSL-3). BSL-3 labs need to be designed following state-of-the art architecture and should include appropriate engineering and integrated systems for their safe operation. In fact, good design and quality construction by itself are not sufficient. For the successful and sustainable operation of a BSL-3 lab, it is indispensable to provide sufficient funding of running cost and set-up and maintain a biosafety and biosecurity programme. This latter includes administrative risk control elements, personal protection equipment, appropriate training, staff competence development and assessment, and the validation (certification) of the facility as a whole. This workshop familiarizes the participants with all necessary aspects from the design to the sustained operation of a high-containment biosafety lab in a one-stop workshop run by a competent biosafety professional and certifier.

## Form of course

This full-day workshop can be delivered to any size of audience.

## Topics

- \_ Definitions and biosafety levels; types of BSL- laboratories
- \_ Guidance documents, legal requirements
- \_ Design and construction approach and phases
- \_ Architectural features and options
- \_ Engineering and system features and options
- \_ Commissioning, testing and validation (certification)
- \_ Administrative risk controls, PPE, competences
- \_ Facility maintenance

## Instructor

Dr Felix Gmuender, Registered Biosafety Professional, International Facility Certifier, Certified Specialist for Workplace Safety

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