

## WS1: PREPARATORY COURSE FOR IFBA BIORISK MANAGEMENT PROFESSIONAL CERTIFICATION

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The International Federation of Biosafety Associations (IFBA) offers professional certification in biorisk management for biosafety professionals worldwide. This professional certification not only could enhance the credentials of certificants, it is also very vital for career advancement and essential for recognition among colleagues and employers. In view of the importance of professional certification in biorisk management, Asia Pacific Biosafety Association (APBA) in collaboration with IFBA organise a preparatory course for IFBA professional certification examination for biosafety professional from this region. The course covers the fundamental topics that include Fundamental of Biorisk Management, CWA 15793 Laboratory Biorisk Management, Implementing a Biorisk Management System and Roles and Responsibilities for Biorisk Management. Case studies is integrated in this course to enhance effective learning among participants. Upon the completion of the course, participants would acquire the body of knowledge in biorisk management. Through this professional certification, more certificants with high standard of excellence and technical competency will be engaged to implement biorisk management system in this region.

## WS2: WORKING IN BIO-CONTAINMENT LAB – CHALLENGES & SOLUTIONS FOR A SAFE & SUSTAINABLE LABORATORY

Mr Dan Yoong

Managing Director World BioHazTec Pte. Ltd. Singapore



Designing a containment facility is complicated especially for to-be-BSL3 project owners. To some, it feels like entering into an unknown arena of Guidelines, Certifications, Requirements and Engineering. This workshop is designed to provide professionals with such knowledge. In this highly interactive workshop, participants will discover with hands-on experiences & exercises the principles of BSL3 design and engineering. Each topic is inter-related and participants will have the opportunity to put together a BSL3 facility design applying these principles. It will also bring participants through the process of certification planning and execution. Participants will be trained to apply risk management and sustainability considerations throughout the course.

#### WS3: BIOSAFETY CABINET – WHAT YOU NEED TO KNOW TO KEEP YOU AND YOUR LAB SAFE

Mr Kenny Chee

Global Technical Support Manager Esco Micro Pte Ltd Singapore



Kenny has held a variety of engineering, service management positions; together with product management, quality assurance, and global service team in Esco. Having worked with Esco for the past 16 years, he has also gained extensive biological safety cabinet, laminar flow, fume hood, cleanroom and pharmaceutical equipment industry experience as he has installed and commissioned numerous of units while working with Esco. He has been involved with Esco's Safety Awareness Educational Program, where he has been conducting many seminars, trainings and workshops to promote awareness on biological safety and chemical fumes hazard containment at hospitals, universities, research centers, private laboratories and research facilities, worldwide. He had conducted talks in CETA (Cleanroom Environment Testing Association), in National University of Singapore (on Safety Awareness of Biosafety, Laboratory, Chemical Fumehood), in Philippine Society of Pathologists, Inc, etc. He is also a NSF and TUV NORD accredited biosafety cabinet certifier, an International Federation of Biosafety Associations (IFBA) Certified Professional for Biorisk Management and has also attained the National Environment Balancing Bureau (NEBB) test for cleanroom technicians. Besides that, he is also a recognised trainer for NSF49 accreditation program.

#### WS4: INSTITUTIONAL BIOSAFETY COMMITTEE: ROLES & LEADERSHIP TOOLS

Ms T.S. Saraswathy Subramaniam Biorisk Consultant, Malaysia & President, Asia-Pacific Biosafety Association



The Institutional Biosafety Committee (IBC) is a formal expert committee of an organization undertaking Research and Development (R & D) on biohazardous activities and modern biotechnology. The scope of the IBC may be extended as deemed necessary by the respective organization. This workshop provides guidance, on the setting up of an IBC, the roles and responsibilities of its members and the processes that are regulated by the committee expert panel to safeguard human and animal health, plant and the environment. Relevant international regulations, national policies and guidelines that govern biosafety and biosecurity in a country will be discussed to provide guidance on compliance of the organization. The workshop interactive discussions will cover the fundamental principles and elements of a biorisk management system, IBC roles in the biorisk management program of an organization, tools used in risk analysis strategies, responsibilities of the biological safety officer and leadership skills to carry out the broad scope of job responsibilities.

#### WS5: BIOSECURITY AND BIOTHREAT REDUCTION: COUNTRY EXPERIENCES

Ms T.S. Saraswathy Subramaniam

Biorisk Consultant, Malaysia & President, Asia-Pacific Biosafety Association



Brigadier General (Dr) Saidur Rahman

Deputy Commandant and Director of Training Armed Forces Medical College Dhaka, Bangladesh

Biological threats from misuse of biological agents for hostile purposes pose a serious and complex threat to global health security. The revolution of biotechnology research and synthetic biology also raise concerns on the dual use potential and need for ethical responsibilities among life scientists. In recent years the Biological and Toxin Weapons Convention (BTWC) has focussed on the need for awareness raising on laboratory biosecurity and codes of conduct for life scientists. The objective of this workshop is to share information, perspectives and experiences on a wide range of aspects of biosecurity implementation and biothreat reduction. The workshop will commence with a brief discussion of the BTWC and United Nations Security Council Resolution 1540 (UNSCR 1540), that compel countries to strengthen their implementation of biosecurity. The forum will encourage discussions on measures for promoting awareness among the scientific community, including codes of conduct for scientists, biorisk management culture and ethics in research and publications. and participants will also share national legislations to enhance the security of pathogens and toxin, confidence building measures, as well as biosafety and biosecurity education and awareness.

#### WS6: ASSESSING AND INVESTGATING DISEASE OUTBREAKS: NATURAL AND DELIBERATE

Dr Julie E. Fischer

Director Elizabeth R. Griffin Program Center for Global Health Science and Security Georgetown University Medical Center, USA



Dr Asadulghani

Head Biosafety and BSL3, icddr, b, Dhaka, Bangladesh & President Bangladesh Biosafety and Biosecurity Society



The International Health Regulations and other global health security frameworks call upon national stakeholders to develop the capacities to detect, assess, and respond effectively to unusual or unexpected health events. What constitutes an “unusual or unexpected event,” and what capabilities and coordination mechanisms are required to investigate disease outbreaks identified as unusual or unexpected? This workshop will focus on multi-sectoral preparedness and planning to prevent, detect, and respond to biological threats, whether natural or deliberate. The workshop will focus on biopreparedness and will review special considerations for disease surveillance,

epidemiological investigations, and disease prevention and control measures in the context of an unusual or unexpected event. Case studies will be used to emphasize a shared understanding of concepts in biothreats, and the need to consider biosafety and biosecurity across sectors and levels from the first detection of an unusual event to the management and sharing of information, knowledge, and materials. The workshop will include interactive exercises, including scenario-based discussions and brainstorming sessions.

#### WS7: BIOSAFETY INSPECTIONS AND AUDIT

Mr David Lam

Assistant Director Singapore General Hospital Singapore



Laboratory safety audit is a systematic evaluation of the specific safety management system/process. The main purpose is to document the activities being carried out within the System complies with all necessary requirements such as accreditation standards and relevant legislative requirements. It is usually conducted by an independent group of personnel. Outcome of an audit provides laboratory managers and senior management a snap-shot of the current status. As a result, appropriate resources can be deployed to enhance the safety and quality of the work in laboratory. There are different approaches to a safety audit. This course shares with the participants some of the elements in laboratory audits.

#### WS8: RISK ASSESSMENT AND COMMUNICATION IN PUBLIC HEALTH

Dr William (Bill) Arndt International Program Lead Quality and Safety Systems Branch

Centers for Disease Control and Prevention Atlanta, USA



Dr Natasha K. Griffith

Chief Quality and Safety Systems Branch

Centers for Disease Control and Prevention Atlanta, USA



Global health is an international effort that depends on the local response of public health and clinical laboratories that function as the first line of defense during a pandemic response. Coordination of biosafety and biosecurity within laboratories and across borders is challenged by the ever-increasing array of 21st century health threats posed by emerging infectious diseases and new technologies. Furthermore, public health and clinical laboratories are unique environments in which the hazards associated with diagnostic specimens are often unknown. As a result, public health and clinical laboratories regularly encounter newly emerging and reemerging infectious agents during routine operations. The traditional guidance for biosafety in a clinical laboratory setting emphasizes the use of traditional BSL-2 facilities and Standard Precautions; however, this may not be sufficient in certain conditions. Risk assessment is the foundation for determining under what conditions work should be conducted and communication of the risks present is vital to ensure timely and accurate diagnosis. However, due to the nature and breadth of work performed in clinical laboratories, the risk assessment process requires a unique approach. This course will promote a biorisk management style approach to biosafety in clinical laboratories that emphasizes the importance of 1) conducting activity and laboratory specific risk assessments, 2) communicating relevant to key stakeholders, 3) implementing mitigation measures based on the risks present in a clinical laboratory setting, and 4) integrating a rigorous training and performance evaluation process that embraces continual assessment and improvement. Instructional methods will incorporate lecture, interactive activities, and case studies. This course will review risk assessment and communication for international implementation of biosafety and biosecurity in the global health response to infectious disease. Students will gain an appreciation of risk assessment approach and the importance of risk communication to all relevant stakeholders that play a role in a facility's biorisk management program. Course objectives: 1. Understand what is risk assessment and communication and why should we care 2. Understand theories and ways for effective risk assessment and communication 3. Communicate relevant risks within public health and clinical laboratories settings 4. Practice risk assessment and communication skills

WS9: ANIMAL AND ARTHROPOD BIOSAFETY AND CONTAINMENT

Mr Steve Breslin Senior Architect and Chief

Standards and Policy Branch Office of research Facilities National Institute of Health, USA



Biocontainment is a challenging aspect of any laboratory design, and has additional challenges in laboratory animal facilities. Biocontainment is further complicated in insect facilities, where insects are small, mobile, highly unpredictable vectors for the agents being studied. This workshop will provide an architect's perspective on designing for containment, particularly the challenges of facilities for laboratory animals and insects. Areas of interest include:

Good lab design to optimize lab procedures and Standard Operating Procedures (SOPs). □ BL vs. ABL vs. ACL (Biosafety Level vs. Animal Biosafety Level vs. Arthropod Containment Level) □ Animal facility planning and design considerations: ABL-2 and ABL-3 □ Insect facility planning and design considerations: ACL-2 and ACL-3

#### WS10: BIOLOGICAL WASTE MANAGEMENT – TOWARDS AFFORDABLE AND SUSTAINABLE STRATEGIES FOR ON-SITE AND OFF-SITE BIOWASTE TREATMENT

Dr Philippe Stroot General Manager and Principal Expert

XIBIOS Biosafety Consulting, Tournai, Wallonia Belgium



The management of biological (including hospital) waste is a major problem in many resource limited countries. Most of these are indeed confronted to a severe lack of capacity for on-site and off-site treatment, and a number of practices appear suboptimal, resulting in possible exposure of the waste handlers, populations and the environment. The main purposes of this half-day course are (1) to provide a global overview of the main issues related to biological waste management; (2) to focus on some common bad practices, limitations and difficulties related to the treatment of biological waste, and propose solutions to correct or mitigate them; (3) to present and discuss some alternatives to current waste treatment approaches; (4) to consider and discuss two possible, opposite strategies for biological waste management plans at national level. The workshop will be based on examples from Southeast Asia and other regions, and shall include a case study as a basis for discussion. It should be as interactive as possible, depending on the audience.