

Biosafety Education & Credentials: From Awareness to Implementation

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Time changes and so does the requirements; at times the scenarios transform the perception. The associated intricacies provoke the thoughts to deal and these thoughts are put in to action through education and practicalities achieved through structured training.

One such event post-September 11 was the anthrax letters which changed the perspective of understanding the magnitude of biological agents. If we look back since then, each year has been better equipped to deal any eventuality rather more stress has been on safeguards. Meanwhile, the transformation in biotechnology and molecular biology with decoding of DNAs and evolution of genetically modified organisms, and finally danger associated with dual use technology remain persistent points of concern. Awareness and education have been pivotal in imparting knowledge and curtailing the occurrence of any substantial event. Thus immense efforts were launched towards biosafety training.

Today all the institutes dealing with education related to microorganisms in any form ensure student awareness and training regarding biosafety. The basic training is mandatory before dealing with microorganisms, and training regarding transportation of infectious samples has to be repeated after specified period.

Students and even professionals often face problems about finding available opportunities especially meant for excelling in this field; briefly these would be narrated:

American Biological Safety Association (ABSA) [1] took the lead and devised two credentials:

- Registered Biosafety Professional (RBP); based upon accreditation of previous credentials and trainings. Now there is periodic renewal after five years based upon specified criteria mainly continuous professional development.
- Certified Biosafety Professional (CBSP); based on prior clearance of National Registry for Certified Microbiologist (NRCM) examination administered by American Society for Microbiologists (ASM).

Institute of Safety in Technology and Research (ISTR) [2] in the United Kingdom has developed two levels of acceptance based upon credentials and training:

- Level I Biosafety Practitioner; based upon comprehensively structured course designed by ISTR.
- Level II Biosafety Professional; based upon recognition of previous five years work in biosafety, and then CPD is an important component.

United Nations Industrial Development Organization (UNIDO) [3] launched e-learning masters/post-graduate course in plant biotechnology related biosafety with certain amount of contact time at universities including Gent University (Belgium) and Marche Polytechnic University (Italy).

Ample options for biosafety courses are available and are ever expanding [4]. Online courses are also available from various institutes especially to mention CDC, Atlanta [5]. ABSA is also progressively introducing online opportunities. Bradford University has been

focusing on dual-use biosecurity training [6]. Concentration is now directed towards developing leadership in the field.

Lot of hard work and dedication has been directed towards curriculum development for biosafety and its implementation in the developed countries [7-9]. The developing countries have also been keenly following the trend for biosafety curriculum development and implementation [10].

Meanwhile the role of biosafety associations was further strengthened under the umbrella of International Association of Biosafety Association [11]. IFBA is now in the process of developing biosafety credentials acceptable at international level. This would definitely reinforce excellent opportunities for the education seekers in the biosafety field.

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Received February 24, 2014; Accepted February 24, 2014; Published March 4, 2014

Citation: Ikram A (2014) Biosafety Education & Credentials: From Awareness to Implementation. Biosafety 3: e146. doi:10.4172/2167-0331.1000e146

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