

Information Note¹

- Event:** *Biological Weapons Convention (BWC) Meeting of Experts (MX) side event on “Recent advances in Biosecurity education”*
- Organizers:** Bradford University (UK); National Academies of Sciences (US); and Landau Network-Centro Volta (Italy)
- Date and venue:** 13 August 2013, Geneva, Switzerland
- Participants:** Representatives of the BWC States Parties, signatory States and of States granted observer status; representatives of the scientific, professional, commercial, academic, and other non-governmental organizations registered as participants in the BWC Meeting of Experts

1. Objectives of the BWC MX side event

To facilitate discussions of States Parties on the BWC intersessional topics by providing updates on the current status and challenges of biosecurity education and training. The life sciences and associated biosecurity education and training are crucial elements of several topics and sub-topics of the BWC Standing Agenda, as follows. The Standing Agenda item on the *Review of developments in the field of science and technology related to the Convention* includes a subheading on: (e) education and awareness-raising about risks and benefits of life sciences and biotechnology; the Standing Agenda item on *Strengthening national implementation* includes a subheading on: (d) national, regional and international measures to improve laboratory biosafety and security of pathogens and toxins; in addition, the Standing Agenda item on *Cooperation and assistance with a particular focus on strengthening cooperation and assistance under Article X* includes two subheadings: (e) education, training, exchange and twinning programs and other means of developing human resources in the biological sciences and technology relevant to the implementation of the Convention, particularly in developing countries, and (f) capacity-building through international cooperation, in biosafety and biosecurity ...

2. Background

The Biological Weapons Convention’s central prohibition is to prevent the misuse of the life sciences for weapons purposes, and thus ensure that the life sciences are used only for those purposes permitted under the Convention. Globally, there is a need to enhance awareness of the universal prohibition against biological weapons and of the international non-proliferation efforts in order to minimize the risk that life sciences products or knowledge may be misused or misapplied for weapons.

3. Highlights

The 1540 Group of Experts was invited to participate in the panel discussions on “*Recent advances in Biosecurity education*” during the side event organized by the University of Bradford, the US National

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Academies and the Landau Network-Centro Volta (Italy) and chaired by Ambassador Urs Schmid (Switzerland).

In his opening remarks, Ambassador Schmid noted that *“Life sciences and corresponding technologies have been experiencing exponential growth over the past years and brought extraordinary advances in healthcare. At the same time, they are also accompanied by unprecedented threats to biosecurity as the same knowledge and technologies can be misused to cause harm. The dual-use nature of life science research therefore requires awareness-raising among life scientists of the potential dangers linked to their work and the promotion of a culture of responsibility. Biosecurity education constitutes a crucial element for achieving responsible conduct of research and that is an important measure for the implementation of the Biological Weapons Convention”*.

Tatyana Novosiolova (University of Bradford) addressed the issue of effectively and efficiently leveraging active learning for teaching biosecurity in higher education institutions. She emphasized in her presentation approaches to biosecurity education through active and team-based learning which stress “collaboration, enquiry and critical thinking” and enable participants to take control of their own learning. She noted that the Team-Based Learning format could significantly enhance the effectiveness of biosecurity education and contribute to its sustainability and that a short course on dual use issues/biosecurity based on the Team-Based Learning format could be used in many different places and thus allow use of the most efficient and effective method to be applied to fostering a culture of responsibility in the life sciences.

Gerald Walther (University of Bradford) described the experiences from a series of workshops held in 2012 and 2013 to discuss science ethics education. The goal of this project, which is in its final phase, was to develop an ethics course for neuroscience that incorporates both classical neuroethics as well as dual-use neuroethics. He emphasized that the discussion on biosecurity education needs to expand beyond microbiology and include other science fields, e.g. neuroscience; when engaging with these scientific fields, it is important to include the scientists in the debate as well as in the process of developing education programs.

Jo Husbands (US National Academies of Sciences) discussed the recent strategic educational activities of the US National Academy of Sciences to encourage education about biosecurity in the context of responsible science. She noted that biosecurity education must compete with many other topics for space in the curriculum and initial outreach is often best done via tailored modules that can be used as part of courses that address research integrity, biosafety, bioethics, or other topics related to the responsible conduct of science. She also emphasized that lessons of efforts to introduce new topics underscore that sustainable implementation of biosecurity education would benefit from creating networks of faculty and trainers who are able to present the material effectively and support each other’s activities.

The 1540 expert presented on *“Sharing of experience, lessons learned and effective practices in the area of non-proliferation of biological weapons, related materials and their means of delivery”*; she noted that since the Biological Weapons Convention and Resolution 1540 (2004) are mutually reinforcing, there is value in sharing of experiences, lessons learned and effective practices in national implementation measures in the respective convergent areas, in line with resolution 1977 (2011). Accordingly, promoting the development of training and education programs on biological risk management and encouraging the promotion of a culture of responsibility amongst national professionals would serve to complement the legislative and enforcement measures specifically mandated by the Security Council in resolution 1540 (2004) for effectively countering biological threats. She also highlighted the educational value of the UNODA disarmament education website at <http://www.un.org/disarmament/education/> but noted the overall scarcity of biosecurity educational materials on the site and the lack of educational or training

materials specifically on resolution 1540 (2004). In that regard, the statement of the Secretary-General in his 2002 “United Nations Study on Disarmament and Non-Proliferation Education” (A/57/124) that “*Education and training remain important but underutilized tools for promoting peace, disarmament and non-proliferation*” is as valid today as it was more than a decade ago.

In his concluding remarks, Ambassador Urs Schmid (Switzerland) noted that “*a coherent long-term coordinated effort by States is required to implement biosecurity education at a number of levels. It is also important that States Parties report on their efforts to meetings of the Biological Weapons Convention, both to facilitate the development of best practice in biosecurity education and to increase confidence in compliance*” and that “*it would be desirable that common understandings could be developed in the BWC intersessional process on the issue of implementing biosecurity education nationally, and that specific action would be adopted in this respect*”.

4. **Additional comments**

For further information, please contact the 1540 Committee’s Group of Experts by e-mail at 1540experts@un.org.