

## Information Note<sup>1</sup>

- Event:** *Biology, Chemistry, and Biosecurity: Implications of Convergence for Biosecurity and Recent Advances in the Education of Life Scientists*
- Organizers:** The Wellcome Trust, Universities of Bath, Bradford and Exeter in the UK and Australian National University
- Date and venue:** 14-15 October 2013, Bradford, UK
- Participants:** *States:* Switzerland (Spiez Laboratory)  
*International organizations:* 1540 Committee Group of Experts (by video), OPCW  
*Non-Governmental Organizations, Industry, Academia, and Other Entities:* Georgian Agrarian University (Georgia); London School of Economics and Political Science (UK); National Academies of Sciences (US); Open University (UK); Quaid-i-Azam University (Pakistan); Taras Shevchenko National University (Ukraine); University of Bath (UK); University of Bradford (UK), University College London (UK); University of Exeter (UK); University of Georgia (US); University of Manchester (UK).

### 1. Objectives of the conference

The conference was to mark the conclusion of a major five-year Wellcome Trust-funded research project, *Building a Sustainable Capacity in Dual-use Bioethics*. The project has been carried out by experts from the Universities of Bradford, Bath and Exeter in the UK, and from Australian National University, Canberra. The conference aimed to review the increasing convergence of biology and chemistry in research and development and the growing importance of crosscutting science and technology issues which has been reflected in assertions within the Biological and Toxin Weapons Convention (BTWC) and the Chemical Weapons Convention (CWC) Review Conferences. The conference also aimed to review activities and practices in biosecurity education, sharing experiences in lessons learned on introducing biosecurity education into scientific curricula.

### 2. Background

The conference was organized under the auspices of the Wellcome Trust-funded research project, Building a Sustainable Capacity in Dual-use Bioethics, an interdisciplinary and collaborative activity aiming to build a sustainable capacity in dual-use bioethics both by facilitating analysis of the dual-use bioethics problem now and by training young scholars to continue such work in the future. Specific project objectives included:

- Providing an interdisciplinary framework for analysis of the ethical responsibilities of life scientists for the dual-use aspects of their work;
- Translating these responsibilities into means of professional conduct;
- Analyzing policies in several countries to define and implement the identified ethical responsibilities, with a special attention to developing countries;
- Assisting in the development of the national and international governance mechanisms and norms related to dual-use issues /bioethics and biosecurity.

These efforts contribute to the development of effective national and international policies and practices in the life sciences to prevent the misuse for hostile purposes of benignly-intended knowledge, materials and technologies being produced in the ongoing revolution in the life sciences (reference: <http://www.brad.ac.uk/bioethics/about/>).

Conference details are available online at: <http://www.brad.ac.uk/bioethics/bradford-conference-2013/>

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<sup>1</sup> For information –not an official report. The views expressed here do not necessarily represent those of the 1540 Committee or of the organizers or participants in the event.

### 3. Highlights

The conference was officially opened by the Vice Chancellor of the University of Bradford and a keynote presentation was delivered by Dr. Stefan Mogl, Head of Chemistry, Spiez Laboratory (Switzerland)—who served until recently as the Chair of the OPCW Scientific Advisory Board (SAB). Issues related to the convergence of biology and chemistry in research and development and their consideration under the BTWC and CWC have been introduced by speakers from University of Bradford and OPCW. The session on biosecurity education and practices featured speakers from Georgia (Georgian Agrarian University), Pakistan (Quaid-i-Azam University), Ukraine (Taras Shevchenko National University); UK (London School of Economics and Political Science, University of Bath, University of Bradford and University of Manchester); and US (National Academies of Sciences).

The 1540 expert delivered a presentation by video entitled *Multi-Disciplinary Convergence in Life Sciences: is the Overarching CBRN Security Culture the Answer to Governance?* to bring to the attention of the participants the obligations on all States relating to resolution 1540 (2004) to adopt, *inter alia*, legislation to prevent the proliferation of biological and chemical weapons and their means of delivery, and establish appropriate domestic controls over related materials to prevent their illicit trafficking but also promote complementary measures such as adoption of codes of conduct; building a security culture and responsible conduct of science; societal vigilance approaches; and education, training and awareness raising initiatives. She also pointed out the role civil society, academia, industry, and professional organizations could play a role in identifying effective practices on implementing resolution 1540 (2004) and technology governance, identifying relevant science and technology developments that require policy action, as well as promoting the integration of education on resolution 1540 obligations into training curricula related to WMD non-proliferation, risk management, and building a culture of responsibility.

The video presentation will be posted online on the University of Bradford website and it is also available at: <https://docs.google.com/file/d/0B5y3f4J7qPBINS1IX3NJUW9oMIE/edit?usp=sharing&pli=1>

Participants identified a number of key points with regard to the issues discussed during the two-day conference that will be later published and posted on the University of Bradford website. These key points included *inter alia*: BTWC and CWC should study and consider the potential benefits of adopting a ‘Synergies’ process comparable to that adopted by the Basel, Rotterdam and Stockholm Conventions<sup>2</sup> (particularly opportune now with the increased OPCW emphasis on preventing re-emerging CW; synergies evident in addressing S&T advances and convergence; synergies evident in education and outreach); there is a need for top-down and bottom-up approaches, States need to implement obligations arising from all treaties as well as resolution 1540 (2004) and those engaged in the life sciences and chemistry whether in government, academia or industry or elsewhere need to be aware of those obligations; implementation of Article VI of the CWC needs to address both traditional chemical production facilities and any novel production processes, such as biological mediated processes; there is a clear value in promoting responsible conduct of science as a framework for education and awareness of biosecurity and of dual use issues; there is a need for top-down and bottom-up approaches, as States need to implement obligations arising from all treaties including resolution 1540 (2004) and those engaged in the life sciences and chemistry whether in government, academia or industry or elsewhere need to be aware of those obligations.

### 4. Additional comments

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

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<sup>2</sup>The Basel, Rotterdam and Stockholm conventions are multilateral environmental agreements, which share the common objective of protecting human health and the environment from hazardous chemicals and wastes.