



the global network of science academies

## **Statement by The Biosecurity Working Group of IAP: The Global Network of Science Academies December 2014**

Mister Chairman, Ambassador Muhammad, Ambassador Molnar, Distinguished Representatives, Ladies and Gentlemen:

It is an honor to have the opportunity to represent the Biosecurity Working Group of IAP: The Global Network of Science Academies. The members of the Working Group include the national academies of Poland, which is the current chair, as well as Australia, China, Cuba, Egypt, India, Nigeria, Pakistan, Russia, the United Kingdom, and the United States. Through the Working Group, IAP has become involved in a number of biosecurity activities. These initiatives continue to benefit from the regular attention that the BWC intersessional process is giving to science and technology (S&T) and to topics directly relevant to the scientific community. We are also pleased that representatives from a number of national academies are included in their national delegations for the Meetings of Experts (MXP) and States Parties (MSP).

I would now like to mention the results of two activities undertaken by IAP and Working Group member academies that seem particularly relevant to the deliberations during 2014 related to S&T and to strengthening the implementation of Article VII.

In October 2013, the national academies of Croatia, the United Kingdom, and the United States, in cooperation with the International Union of Microbiological Societies held an international workshop in Zagreb, Croatia on “Science Needs for Microbial Forensics: Developing an Initial International Roadmap.” More than 50 people from just over 20 countries and several international organizations, including the BWC ISU, took part. The report of the meeting was released in June 2014 and the results were discussed during a side event at the MXP. The report is available as a free pdf\* and some key messages maybe found in the “Highlights” at the end of this document.

On Sunday, 3 August 2014, the IAP Biosecurity Working Group hosted a technical workshop on “Understanding Pathogenicity,” in an effort to engage the experts coming to the MXP and Geneva-based delegation members. The workshop focused on two complementary strategies for combating infectious diseases: targeting pathogen virulence factors and modifying a host’s immune responses. The workshop brought together approximately 35 scientists from academia and industry, scientific and technical experts from BWC delegations, and members of stakeholder communities interested in BWC issues. A written summary of the event has been prepared and a few copies are available at this meeting. Some of the key messages may be found in the “Highlights” section. The workshop summary will also be available soon on the new IAP Biosecurity Working Group website that has been launched by the Polish Academy.† The website will be an important resource for those interested in the activities of the Working Group and of national academies and regional networks.

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\* The report is available at [http://www.nap.edu/catalog.php?record\\_id=18737](http://www.nap.edu/catalog.php?record_id=18737).

† The website may be found at <http://www.iapbwg.pan.pl/>.

The members of the IAP Biosecurity Working Group believe these examples underscore the contributions that national and international scientific organizations can make to the effective implementation of the BWC. The Biosecurity Working Group is already making plans for new activities during 2015 for the final MXP of this intersessional process and for providing input for the 8<sup>th</sup> Review Conference. As the States Parties begin to prepare for the 8<sup>th</sup> Review conference, the Working Group believes it will be important to consider ways in which contributions such as these can continue and be enhanced.

In closing, the Working Group wishes the States Parties every success in your work this week, and we thank you again for providing the opportunity to address you today.

### **Highlights of the Reports**

#### ***Science Needs for Microbial Forensics: Developing Initial International Research Priorities***

Among its conclusions, the report notes that despite its promise, the field of microbial forensics is still in the early stages of development. It faces substantial scientific challenges in providing a robust suite of technologies to identify the source of biological threats and to distinguish between natural and deliberate outbreaks. These capacities will be essential for supporting the effective implementation of Article VII. The report calls for collaboration among international scientific communities to identify, monitor and characterize global microbial species. This effort would benefit the entire discipline of microbial forensics, and help reduce complications that often arise when an investigation crosses international boundaries. It also underscores the need for communication and cooperation between the law enforcement, security, and public health communities and identifies a number of areas, such as significant improvements in global disease surveillance, that will benefit both the development of microbial forensics and global public health more generally.

#### ***Understanding Pathogenicity: A Workshop for the BWC Meeting of Experts***

An understanding of pathogenicity and immunology has the potential to be misapplied to create pathogens with increased virulence or to decrease the effectiveness of responses to infection. Alternatively, advances in this understanding offer promising new strategies in disease treatment. The workshop did not attempt to arrive at consensus conclusions, although several points were made by multiple participants, including the caution that novel approaches to alter host and pathogen responses are possible but enormously complex. The methods discussed present interesting opportunities, and would likely be used as additional lines of defense in concert with traditional therapeutics. The presentations at the workshop also raised the point that lines of research may have unexpected positive, as well as potential negative results for other fields of study. As a result, many participants highlighted the need for continuing communication between scientists and policy-makers and for members of the scientific community to be aware of how they present the findings and implications of their work. An open question of significant interest remains the issue of how to evaluate the risks and benefits of certain areas of research and the control of resulting information: who should determine whether the research is conducted, how the results are distributed, and based on what criteria?