IBSEN Second Quarterly Newsletter

October 2024

Executive Summary

This Second Quarterly Newsletter will address the achievements of the International Biological Security Education Network (IBSEN) during its first six months and LMU BSRC's future projects on strengthening global biosecurity education.

The feature column within this Newsletter analyses the development of the Advisory Board on Education and Outreach (ABEO), of the Organisation for the Prohibition of Chemical Weapons (OPCW). This *Special Topic* examines the good practices of the ABEO, compares its work with the International Nuclear Security Education Network (INSEN) and analyses the regional applications of education on chemical weapons and the responsible use of chemistry. It also draws implications for the International Biological Security Education Network.

The Quarterly Newsletter also aims to gather the latest initiatives in biosecurity education from the LMU BSRC and other regional and international actors. The section *News in Global Biosecurity Education* is designed for this purpose.

As part of the IBSEN, the LMU BSRC encourages any people who are interested in biosecurity education to contact the IBSEN team and discuss potential collaborations.

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1. Note from Professor Lijun Shang, Director of the Biological Research Centre at the London Metropolitan University.

We started this project on building an International Biological Security Education Network (IBSEN) six months ago in February 2024. Since that date we have set up our team structure with key members of myself and Professor Malcolm Dando as the project leaders, Miss Iris Magne as research assistant and Miss Olivia Ibbotson as additional team member. We have also organised an Oversight Board consisting of 8 international experts from around world to help us to monitor and develop the project.

We envisage a two-stage working plan to deliver our objectives for the project. In the first year of the project, we aimed to mainly analyse and compare the other security education networks and initiatives over the CBRN field. This included, in our first Newsletter, an analysis of the International Nuclear Security Education Network (INSEN), a partnership through which the IAEA, educational and research institutions, as well as other stakeholders cooperate to promote sustainable nuclear security education. Now, in this second Newsletter, we present an analysis of the Advisory Board on Education and Outreach (ABEO), an organisation providing specialised advice in areas of education and outreach relevant to the OPCW's mandate. I hope that you will enjoy reading this new analysis. It firstly provides a short introduction to the history of CWC-related security education, secondly focuses on the development of ABEO through interviews with two Chairpersons, and then discusses the challenges faced by ABEO; thirdly we examine some case studies to illustrate the good practices in chemical security education adapted to local environments. Finally, we suggest some lessons gained from these other endeavours that could be useful in the future development of IBSEN.

We will make a further analysis of the efforts by the World Health Organisation (WHO) on security education in our third Newsletter. Along with these analyses, we successfully held a policy workshop in London entitled "Toward a collaborative, collective and integrative international CBRN security education". The report and details of workshop are available on

our project website. Additionally, Professor Dando and I were invited to the 16th Session of the Advisory Board on Education and Outreach (ABEO) in April 2024 to present and discuss the work of IBSEN. We are exploring further collaborations with those interested in this new vision of collaborative, collective and integrative approach. More information will be followed in our next Newsletter.

In the second stage of our work during next year, we will be focusing the developing the education materials, exploring novel teaching methodologies, and implementing the developed materials and exploring methods of evaluation. In this regard we published our first biological security education recourse book: *Essentials of Biological Security: A Global Perspective* with Wiley in April 2024, and a successful book launching event was held in London and online. A special interview on the book with the editor of *CBRNe World* should be published shortly. The publication of this book is intended to provide a foundation for the second stage of our work. We have also initiated a translation project for the book. This aims to translate it into a number of major languages across the world. At the moment, a formal contract has been signed for a Chinese translation and we expect the Chinese version to be published next year. Discussions for translating the book into Portuguese, Spanish, French are all underway. I hope to have more news to report in our next Newsletter. I also encourage you to get involved in this project if you have passion to help us to translate the book into your own native language.

The broadening our network is also reflected our interaction and collaboration with colleagues from Latin American, African and local NGOs in the UK. You can have a view of these in our second section of the newsletter, and there will be more to reports in our next Newsletter. There are numerous other biosecurity education activities being carried out by experts across the world, and some of these activities are included in the news section of this Newsletter. Miss Iris Magne and Olivia Ibbotson have been heavily involved in promoting our projects through attending conferences, and making presentations locally. In particular, Iris attended

the BTWC meeting in Geneva in August. We will make more presentations in the following months and hope to meet you to share information and perspectives.

I don't have space to list all of the work we have done during the past 8 months, but I hope you can follow our project closely and to get involved in the project through this and future Newsletters.

2. IBSEN after 6 months: achievements and future actions

The International Biological Security Education Network (IBSEN) was founded in February 2024 with the aim of addressing the numerous gaps in biosecurity education around the world. The IBSEN is supported by the Joseph Rowntree Charitable Trust (JRCT). For more than six months, IBSEN conducted projects structured in three pillars: development of education material, outreach and plan for long-term engagement.

The First IBSEN Quarterly Newsletter was published in May 2024 in three languages and was sent to the contact database of the network. This First Quarterly Newsletter was accessed worldwide by policymakers, scholars and people interested in biosecurity education. Although it was in majority accessed in English, almost one fourth of the readers read the Newsletter in either Spanish or French. The First IBSEN Quarterly Newsletter is still available to access on the IBSEN website.

This work was paired with outreach and awareness raising. This included exploring potential partnerships with regional and local institutions, presenting the project at a side event of the BTWC and at various conferences.

Continuing the work of IBSEN, this Second Quarterly Newsletter offers a new valuable approach to biosecurity education. By pursuing the review of 'good practice' in CBRN education, IBSEN proceeds with the first phase of the project focused on learning from existing initiatives. These strong foundations are essential to develop a sustainable network and create resources in biosecurity education adapted to regional, national and international needs. As IBSEN will soon be entering its second phase, the network will concentrate on the development of educational material and resources.

3. *Special Topic:* Learning from the Advisory Board on Education and Outreach, OPCW[1]

Chemical and Biological Disarmament efforts have been interrelated for the most of the twentieth century.[1] These efforts led to two prohibition treaty regimes, the Biological and Toxin Weapons Convention (BTWC) in 1972 and the Chemical Weapons Convention (CWC) in 1993.[1] The interrelated history of these distinct regimes calls for the analysis of education and outreach initiatives in chemical security to inform biological security education. Established in 2015 at the Conference of State Parties, the Advisory Board on Education and Outreach (ABEO) provides 'specialised advice in areas of education and outreach relevant to the Organisation for the Prohibition of Chemical Weapons' (OPCW) mandate'.[2] *How did the ABEO approach and develop chemical security education as part of the OPCW's mandate?* This article analyses the history of the ABEO, including its achievements and challenges, compares it with the International Nuclear Security Education Network (INSEN) and draws lessons for IBSEN.

I. Short history of the Chemical Weapons Convention (CWC) and chemical security education

Image 1 The OPCW Fifth Review Conference 2023

The Chemical Weapons Convention (CWC) entered into force on the 29th of April 1997 and was ratified by 65 nations.[2,3] This followed the work from 1993 of the Preparatory Commission and the debates on chemical weapons which increased after the two World Wars.[4] The Cold War context led to a rise of policies and influences towards global

[1] We would like to acknowledge the contributors to this article, particularly Prof Alejandra Suárez, retired Professor at the Universidad Nacional del Rosario, Argentina, Dr Jean Pascal Zanders, First Chairperson of the ABEO, Prof Magda Lidia Bauta Solés, current Chairperson of the ABEO. We are also grateful to Professor Natalia Lorena Pacioni from the University de Cordoba, Argentina, for enabling me to attend the workshop 'Duality of knowledge: social responsibility of scientists and professionals'.

disarmament. However, these initiatives concerned mainly nuclear weapons, followed by the ratification of the Biological Weapons Convention (BWC) in 1975. Negotiations to ban chemical weapons continued in the following decades and the sense of urgency for prohibition increased after the Iraq-Iran War in the 1980s.[5]

Image 2 Entrance of the headquarters of the OPCW, The Hague

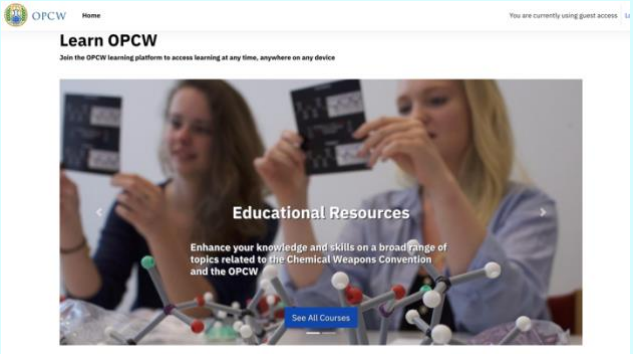
The Organisation for the Prohibition of Chemical Weapons (OPCW) was established to implement the CWC and is formed of three main bodies: the Conference of States Parties, the Executive Council and the Technical Secretariat.[2] Education and Outreach (E&O) are integral parts of the OPCW's mandate, and the objectives in E&O evolve with the Convention. Following the destruction of all chemical weapons, E&O is also part of the future priorities of the post-destruction phase of the CWC. Furthermore, dual-use of research is significant in chemistry as new chemicals also give the opportunity to create chemical warfare agents.[3]

Recognising the importance of E&O for the OPCW, the Scientific Advisory Board (SAB) established a Temporary Working Group (TWG) on Education and Outreach on Science and Technology Relevant to the Convention between 2012 and 2014.[3] This TWG recommended the establishment of an advisory group which was implemented by the Conference of States Parties in December 2015 (C-20/Dec.9). The role of the ABEO was defined as providing 'specialised advice in areas of education and outreach relevant to the Organisation mandate' and will be composed of 15 expert members (C-20/Dec.9). The First session of the ABEO took place on April 2016 with the aim to provide recommendations and establish the areas of future work of the board.

II. The Advisory Board for Education and Outreach (ABEO)

Since 2016, the ABEO has developed a broad portfolio of activities covering both E&O. Significant achievements of the ABEO are:

Image 3 OPCW website



- Review and evaluation of the OPCW website and e-learning modules. This led to the transition in 2023 to a new learning management system on the Moodle platform.
- Establishment of common definitions of education, outreach and public diplomacy.
- Involvement of the ABEO in the 20th anniversary of the CWC.
- The creation of the Report On The Role Of Education And Outreach in Preventing The Re-emergence of Chemical Weapons (ABEO-5/1) which identifies E&O approaches relevant to the OPCW. By reviewing teaching strategies and methods, the report demonstrates the need to focus on active learning, technology-enabled learning and professional development when developing resources and courses. A user-friendly brochure of the report was created for State Parties.
- Collaboration with other international organisations such as the BTWC, the IAEA and UNESCO.
- Mock class on disarmament for secondary school students.
- The review of the United Nations Sustainable Development Goals (SDGs) and link the successful implementation of the CWC to those goals.
- Supporting the ChemTech Centre (OPCW Centre for Chemistry and Technology) through the development of a 'Bluebook' of experts and institutions.
- Projects 5A and 5B funded by the European Union. The project 5A focuses on the development of e-learning modules. The Project 5B focuses on translation and dissemination of material enabled the translation of the whiteboard videos 'Did you know – OPCW?' available on YouTube and the OPCW Basic videos.

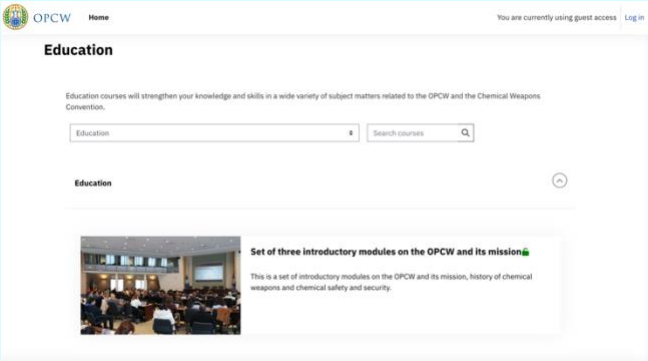


Image 4 Modules for universities on the OPCW Moodle platform

- Creation of an 'ABEO Alumni Network'.
- Development of three modules for universities. Module 1: OPCW and its mission, Module 2: The history of chemical weapons and Module 3: Chemical Safety and Security, and Ethics.
- Model Convention simulation based on the Model United Nations (in 2025).
- Publication of a curriculum on the CWC in partnership with the National Autonomous University of Mexico. The OPCW website will have links to the relevant resources of the curriculum (this project is in progress).

The activities carried out by the ABEO in almost a decade are multiple and touch upon various fields and methodologies and combine both E&O. This broad portfolio brings flexibility to the approach of the ABEO to its mission. However, it also questions if these activities follow a clear vision of the role of the ABEO with short- and long-term goals.

Evolution of the vision and objectives of the ABEO

The evolution of the vision and mission of the ABEO can be analysed through the comparison of the 2021 and 2024 strategic plans respectively available in reports ABEO-10/1 and ABEO-17/1. The two documents follow the same structure, but the second one is more detailed, highlighting the increasingly organised work of the Board in the later years. The vision of the ABEO mission evolved with a focus on 'a network of global educators and outreach activities dedicated to maintaining a world free of chemical weapons' in addition to the E&O expert advice in the document of 2024. The first strategic plan did not have clear priorities but rather a list of priorities of the Board, followed by a list of priorities of the Director-General. The 2024 updated strategic plan draws from a contextual analysis highlighting the rise of artificial intelligence and the completion of the destruction of all declared chemical weapons. It then emphasises the Director-General's priorities and the objectives of the board. This

demonstrates the ability of the Board to adapt to a shifting context with the rise of new technologies and to adjust its strategy.

Furthermore, both strategic plans listed their target audience. The main differences in the 2024 strategic plan compared to the earlier version are the approach of scientists and academia as one audience (namely 'academia and the scientific community') and the absence of 'media'. The section on key audiences of the 2024 strategic plan is also more defined with key priorities in engaging with each audience.

Comparison of key target audiences 2021 and 2024 strategic plans	
Target audience - 2021 strategic plan	**Target audience - updated 2024 strategic plan**
Industry	Policymakers
Scientists	Academia and the scientific community
Academia	Industry
Civil Society	Civil Society
Policy makers	General public
General public	Youth and future generations
Youth/Next generation	
Media	

The analysis of the 2021 and 2024 strategic plans highlights that the ABEO was still in the process of defining its vision and work in the early 2020s. However, this was more structured and organised in the updated 2024 strategic plan with a clear vision of the ABEO work.

In recent years, the ABEO entered a new phase focused on the application of the updated strategic plan and other ideas learnt from the review of other international organisations' E&O mechanisms, such as the IAEA, UN and WHO. The work in progress includes the creation of an inventory of universities with a programme on the CWC. This survey aims to determine the potential of chemical security education in States Parties. The ABEO will also publish a curriculum for a postgraduate course developed in partnership with the National Autonomous University of Mexico. Links will be established between the OPCW website and the relevant parts and resources of the curriculum. This curriculum will include The Hague guidelines and a legal and political approach which makes it relevant to both social scientists and chemists. Consequently, in the past years, the ABEO evolved to efficiently organise its activities in

accordance with the Director-General's priorities and the shifting international and scientific contexts.

The challenges faced by the ABEO in implementing chemical security education

Multiple challenges have arisen since the establishment of the ABEO. Many of the early challenges were linked to the absence of a clear vision of the ABEO activities. The first strategic plan of the ABEO was created in 2021, five years after its first session. In addition, the ABEO received demands from different branches of the OPCW to address issues and develop activities, such as the Public Affairs branch or the Office of Strategy and Policy. The request of the Director-General to produce a report on E&O approaches and best practices brought more structure to the mission of the Board. The publication of the report in 2018 enabled the members of the ABEO to work together towards a clear goal. However, this structured approach with clear objectives is mostly seen in the updated strategic plan of 2024.

Furthermore, the ABEO was faced with difficulties in translating the OPCW website and other resources in non-official languages. The affiliation of the ABEO to the OPCW means that the resources developed are in priority translated into the six official languages. The issue of funding also prevents on occasion the translation of materials. The OPCW provides the ABEO funding to organise its two annual sessions but projects such as translation of resources are conducted using separate funding. This was the case, for example, of the Project 5B which was funded by the European Union and aimed to translate and disseminate the whiteboard videos 'Did you know – OPCW?' and the OPCW Basic videos. The issue of securing a sustainable source of funding therefore impacts the work of the ABEO by preventing the conduct of some projects such as the translation of resources.

Finally, one of the main enduring challenges is the difficulty faced by the ABEO in creating a better dialogue with the National Authorities (NAs). Although the NAs are interested in the work of the ABEO, there are no clear mechanisms to survey their national experience in E&O and include them in the work of the ABEO. State Parties expressed their interest in receiving

more frequent briefings on the ABEO and 'having more structured dialogue with the Board' (report ABEO-15/1). The absence of this 'structured dialogue' would prevent the efficient dissemination of the resources developed by the ABEO and a lack of interest of NAs to sponsor projects such as the translation of materials. The in-progress inventory project aims to address this issue by strengthening the link with NAs.

The ABEO faced numerous challenges since its establishment particularly as it struggled to clearly define its vision and key priorities. Recent developments enable the Board to overcome these challenges and reassert its objectives. However, some issues persist such as the lack of sustainable funding.

III. Regional applications: the case study of Argentina[2]

Examples of effective education and outreach initiatives on the responsible use of chemistry took place in many States Parties. However, Argentina and its National Authority have been particularly involved in the CWC and as pioneers to incorporate the responsible use of chemistry and the CWC within the university curricula.[6] To better understand the regional and national implementation of E&O initiatives and their relations with the ABEO, this section will emphasise two different projects taking place in Argentina.

The first initiative was conducted by the Faculty of Pharmaceutical and Biochemical Sciences of the National University Del Rosario. Under the leadership of Prof Alejandra Suaréz at the School of Chemistry, ethics were included in the curriculum in 2011. The first-year undergraduates had a short course on the idea of ethics and second-year students had a course on organic chemistry. These compulsory courses are composed of lectures from invited speakers and exercises. There are also special courses which are not compulsory in chemistry, bioethics and sustainability.

[2] We would like to thank Prof Alejandra Suárez, retired Professor at the Universidad Nacional del Rosario, Argentina, and Professor Natalia Lorena Pacioni from the University de Cordoba, Argentina for their time and insights regarding these two initiatives.

The second initiative is the workshop 'Duality of knowledge: Social responsibility of scientists and professionals' organised in a hybrid format at the University of Córdoba. This short workshop of three weeks is open to all, and particularly undergraduate students in their fourth and fifth year of Biochemistry, Pharmacy, Chemistry, Biotechnology and other, postgraduate students, university teachers, teachers-researchers and professionals in areas related to the Chemical Sciences. This activity is a compulsory seminar for students taking the Practicanato Profesional de la Licenciatura en Química of the Faculty (Bachelor's degree in chemistry). The workshop has been conducted on a regular basis since 2014 and active learning is a significant part of the methodological approach used here. This inclusion of active learning in education on chemical weapons and the responsible use of chemistry was therefore prior to the 2018 report of the ABEO on the topic. Some of the materials presented in the workshop are adapted from resources available on the OPCW website. Representatives for Argentina to the ABEO have also made suggestions to the content of the workshop. Although the initiative started before the establishment of the ABEO, some resources were relevant to its development.

	Structure of the workshop
Week 1	Intro-Science and Ethics. Historical context of emergence, evolution, present day of Chemical Weapons. Control bodies. Legislation.
Week 2	Toxicology and Chemical Weapons... how do they work? Dose relations, concept of risk, examples. How do we communicate results? Social responsibility and media.
Week 3	Professional responsibility and ethics. <u>Workshop activity</u>: *The role play was about an example country 'Xanadu' which was deciding whether to ratify the CWC. Its population belongs to three ethnic groups, the Zods, Yods and Xuds, which in the past constituted independent states but were unified after the Second World War. Its chemical industry is the main source of income since it exports various products to NATO countries. The students play one of the roles of the Xanadu Congress Commission (member of chemical weapons company, of UN peacekeeping forces, OPCW staff, etc) which decides if Xanadu must sign and ratify the CWC.*
Assessment	Participation in the workshop activity and essay (between 500 and 2000 words) on the case of Carl Patterson vs. Kehoe.

In both cases, these courses highlight the importance of a multidisciplinary approach and develop courses which could be included in an already crowded curriculum. The design of these courses and modules focused on the utilization of methodologies such as active learning and new technologies (particularly for the second initiative). These utilizations of active learning methodologies were challenged during the COVID-19 pandemic as the courses had to move online. These methodologies and approaches were also chosen to efficiently bring the topic of the CWC and responsible use of chemistry to students in a country that is geographically far from war conflicts where chemical weapons have been used. For example, the first initiative introduces dual-use and bioethics in chemistry with the issues of illegal drugs and chemical contamination. This illustrates the necessary adaptability of courses and resources to the regional and national needs and experiences.

In both these case studies, questions are raised regarding the evaluation of the courses. For both these initiatives, there are no formal evaluation mechanisms. The professors rely on the feedback from the students during and after the class, active student participation and career prospects. Some students who followed the course from the National University del Rosario continue to in doctoral studies in fields related to the responsible use of chemistry or apply to work at the OPCW. Furthermore, there also does not seem to be evidence of the ABEO being involved in the development of these courses, sharing these initiatives as part of a global network or learning from these experiences to develop other resources.

IV. Two approaches to security education: comparison between the ABEO and INSEN[3]

Chemical and nuclear security education have been both initiated at the global level by international organisations: the International Nuclear Security Education Network (INSEN) is affiliated with the International Atomic Energy Agency (IAEA) and the ABEO is part of the OPCW. Analysing the similarities and differences of the ABEO and INSEN allows to better understand the contexts for the development of their education strategies.

[3] A full review of the work and development of the International Nuclear Security Education Network (INSEN) is available in the First Quarterly Newsletter.

	Comparison of the characteristics of the ABEO and INSEN	
	INSEN	**ABEO**
Affiliation	IAEA	OPCW
Date	2012	2015
Structure	Three Working Groups: WGI Exchange of information and development of teaching materials for nuclear security, WGII Faculty development and cooperation among universities, and WGIII Promotion of nuclear security education and of INSEN. 204 institutions from 72 member states and 13 observers constitute the network.	15 independent experts selected by the Director General and including 10 nominees by Member States. The ABEO also has working groups, such as the working group on Assisting National Authorities to carry out education and outreach or Engagement with other international organisations. These working groups were established following the work and focus of the ABEO.
Relation with local, regional and national actors	Bottom-up approach The INSEN was created following the initiative of the IAEA and global universities. This directly impacts the structure of the network as resources and materials are developed by the network and universities and used regionally and locally. Members of the network have the opportunity to be involved in the Working Groups and are therefore well placed to promote the work of INSEN in their home institutions and countries. They also know the requirements for education materials and initiatives in their home institutions and countries and can bring this expertise to their work within the network.	Top-down approach The ABEO is a deliberative body which makes recommendations to the OPCW's Director-General and advocates for actions. Although the ABEO learns from other international organisations and some national initiatives in E&O, National Authorities are not directly involved in the development of resources and materials. The work of the ABEO is centralized, and the input of National Authorities is not considered as key for the development of its projects such as the e-learning modules and curriculum.
Education resources	• MSc program detailed in IAEA Nuclear Security Series No 12 – Educational Programme in Nuclear Security (2010) and revised in 2021, • Two-weeks school including the Joint ICTP-IAEA International School on Nuclear Security,	• Three modules for universities available on the Moodle platform and short videos on the OPCW available in 6 languages. • Publication of a curriculum on the CWC in partnership with the National Autonomous University of Mexico.

	• Professional Development Courses (PDCs) and Faculty Development Courses (FDCs). Resources are also developed by members of the network (institutions or others) and shared using the NUSEC platform. The resources are available in multiple languages.	
Main challenges	• Sustainability of funding • Different vision of nuclear security education with the IAEA • Issue of interdisciplinarity with the combination of social sciences and nuclear science. • Geographical distribution of the members with only 3% from Latin America. • Relative inactivity of 75% of the INSEN members. • Issue of implementing the MSc program due to regional and national specificities.	• Sustainability of funding • 'List of wishes' from various branches of the OPCW, representing competing projects for the ABEO which does not have the resources to address them all. • Lack of clear vision on the goals and role of the ABEO in the first years. • Difficulty in creating a dialogue with National Authorities.

The INSEN and ABEO have a common objective: strengthening their respective treaty regimes through education and outreach. However, their structure and developments shaped their approaches to nuclear and chemical security education. One of the main differences is the centralized and top-down approach of the ABEO compared to the INSEN. INSEN is first and foremost a network of more than 200 universities and other institutions from all over the world. This structure allowed the network to create a membership and to directly include its members in the working groups and leadership of INSEN. Contrary to that, the ABEO is a top-down organisation with 15 board members which makes recommendations to the OPCW's Director-General. The National Authorities are not directly involved with the work of the ABEO which raises questions regarding the regional and national applications of the resources

developed. Although both the INSEN and the ABEO are affiliated with international organisations, their modes of operation are distinct.

Both initiatives faced similar challenges such as the difficulty to secure sustainable funding. This demonstrates that the sustainability of security education also relies on its capacity to develop long-term projects with limited available resources.

V. Lessons from the ABEO for the IBSEN

Analysing the development and work of the ABEO and comparing it with INSEN draws significant lessons for biosecurity education and the International Biological Security Education Network (IBSEN). The review of the achievements and challenges faced by the ABEO highlighted the difficulty for a top-down organisation to form a membership. IBSEN is also a top-down organisation with its leading team based at the London Metropolitan University and the International Oversight Board consisting of eight members. IBSEN will therefore have to develop strong partnerships with universities and other institutions and rely on local 'champions' who will raise awareness of the network and biosecurity education in their languages and on local communication channels. This will ensure that the educational resources designed are in accordance with the needs of each country and region.

One of the main challenges faced by the ABEO is the lack of a clear mission during its first years. This was amplified by the high number of competitive objectives given by different branches of the OPCW and the DG. It is important that IBSEN defines early its vision and focuses on key objectives. This will allow IBSEN to have the most impact in its first two years using the limited resources and funding available.

Contrary to the INSEN and ABEO, IBSEN is not affiliated with an international organisation. Although an affiliation can help with funding and international recognition, the analysis of the ABEO and INSEN demonstrates that they also faced financial and bureaucratic constraints. The independence of IBSEN can allow it to focus on the development of a global membership which will feedback on the national and regional requirements in biosecurity education. Not

being limited to the agenda of an organisation will enable the network to focus on its vision. However, IBSEN will have to develop mechanisms to guarantee its long-term sustainability.

Collaboration between the ABEO and the IBSEN

The OPCW Director-General H. E. Fernando Arias stated that 'chemistry and biology cannot be treated as separate sciences anymore' at the 2024 Artificial Intelligence and Weapons of Mass Destruction meeting in Berlin. The revolution in life sciences and the synergy between chemistry and biology raise questions regarding the future of chemistry and biosecurity education. This overlap is also visible with 'toxins' which fall within both categories of biological and chemical weapons.[1] Areas of collaboration are therefore possible between both fields, without losing the distinctive features of each. The participation of Professors Malcolm Dando and Lijun Shang in the Sixteenth Session of the ABEO in April 2024 emphasises this willingness to find areas of potential collaboration between chemical and biological security education.

Image 5 Professor Lijun Shang and Professor Malcolm Dando present the book Essentials of Biological Security: A Global Perspective to the Chair of the ABEO, Professor Magda Lidia Bauta Solés

VI. Conclusion

Learning from the experience of both the INSEN and ABEO, IBSEN's objective is to work with its members to raise awareness of the need for biosecurity education and develop a global platform for institutions and other stakeholders to design relevant educational resources. Both the INSEN and ABEO provided useful models to IBSEN and demonstrated the utility of bodies focusing on E&O.[7] However, they faced multiple challenges which undermined their efforts on nuclear and chemical security education, at least in the first years following their establishment. IBSEN's objective is to address these challenges early in order to have a significant and lasting impact on biosecurity education.

VII. Annex: Summary of reports of ABEO sessions

Summary table of ABEO reports		
Date	**Report**	**Summary**[4]
29 April 2016	Report of the First Session of the Advisory Board on Education and Outreach	The report highlights the importance of **funding and engagement strategies** for education. It is difficult to stimulate education and outreach by National Authorities given different national structures and resources. Different **audiences and geographical zones** require different approaches. Chemical security education is also faced with challenges to efficiently communicate with scientific communities. **Future work** of the ABEO includes: - establish common definitions and strategies - outreach at regional, national and local levels - OPCW website evaluation - EU-funded project on youth outreach **Recommendations**: - evaluate e-learning modules OPCW - increase the reach of those modules
6 October 2016	Report of the Second Session of the Advisory Board on Education and Outreach	Regional meetings revealed that several State Parties were undertaking **valuable initiatives** on education and outreach but that they also have a **limited understanding**. State Parties would benefit from **strategic guidance**. This highlights the importance of **high-level political engagement** and the need for a **strategic framework**. The document reports the presentation on the status of the **e-learning system of the organisation**. The importance of evaluation and defining a clear purpose and target group is highlighted. The Board also received a briefing on the evaluation of the OPCW website. The report also focuses on the preparation of the **20th anniversary year**. Questions are raised on how the OPCW could support State Parties and National Authorities in carrying out education and outreach work and on working definitions (education, outreach, public diplomacy…). **Future work**: - Outreach to industry and establishment of a working group considering the engagement with industry - Establishment of 5 working groups: Assisting National Authorities to carry out education and outreach, Overarching theme, Engagement of stakeholder communities, Immediate challenges to the Convention regime, Engagement with other international organisations - Agreement on working definitions

[4] The summaries of the reports are non-exhaustive and focus on the role of the ABEO regarding Education and Outreach.

		Recommendations: - OPCW publicises any communication it receives condemning the use of toxic chemicals as weapons - Celebration of the OPCW's 20th anniversary - Competition to build a network of OPCW Youth Ambassador - Civil society engagement - Review of the OPCW's public diplomacy strategy
16 March 2017	Report of the Third Session of the Advisory Board on Education and Outreach	The report emphasises the importance of **basic scientific and technical literacy for policymakers**, diplomats and the wider public. It gives updates on the preparations for the 20th anniversary (including a special microsite). The European-Union funded project on youth outreach aims to recruit video-bloggers to create short YouTube videos on the OPCW. The role of the ABEO in identifying best practices and latest advances in educational theory is discussed. The ABEO needs to capture the richness and regional diversity, and its priorities are to study previous tools and network and locate regional advocates. The target could also include **civil society and non-governmental organisations**. The question of translation of material was raised. It mentions the collaboration with other international organisations to develop a youth network and the possible introduction of video games. **Recommendations**: - OPCW raises special funds for the translation of material - Organise a basic set of instructions for National Authorities on how to use education on material from the OPCW - Translation in all OPCW official languages - Material available on a microsite developed by the OPCW - Organise a workshop of National Authorities active in Education and Outreach to share experience and lessons learnt - Develop a series of issue briefs for publication on the OPCW website - Systematic process of public diplomacy initiatives should include the press and opinion makers to create mutual trust and enhance the understanding of OPCW responsibility - Establish a network 'Friends of the Convention' to facilitate informal briefings with stakeholders of each state party - Public diplomacy strategy should make efficient use of NAs
31 August 2017	Report of the Fourth Session of the Advisory	The report discusses the success of the **20th anniversary of the CWC** and the progress on the **EU-funded next generation outreach**. A new website will be launched in 2018. The report also emphasises the challenges of translating the website to non-official languages.

	Board on Education and Outreach	
12 February 2018	Report On The Role Of Education And Outreach in Preventing The Re-emergence of Chemical Weapons	The report identifies E&O approaches to help the OPCW to achieve its goals. It aims to develop interactive approaches and assess effectiveness of teaching and training. It highlights the need to review teaching strategies (such as active learning approaches, technology-enabled learning and teaching the teacher). However, the NAs have varied experiences and capacity to carry out E&O. The report also discusses the adoption of the organising theme '**Prevention of the re-emergence of chemical weapons'** to appeal to the responsibility of stakeholder community. The report discusses the different **teaching methods** and, particularly, active learning approaches (Team-based learning from the University of Bradford is cited), technology-enabled learning, professional development (train-the-trainer programmes). The role of **social sciences, public communication in outreach theory and public diplomacy** are also mentioned. **Recommendations:** - Develop more interactive approaches and greater emphasis on assessing effectiveness of teaching and training. - OPCW take advantage of its existing processes to support NAs to help them build the capacity to carry out E&O and to adapt E&O material. - The Secretariat should systematically develop more interactive approaches to audiences across the full range of its E&O activities. This should include a greater emphasis on assessing the effectiveness of teaching or training. Courses and other activities thus need to be designed with clear goals and measurable objectives. - The OPCW should take advantage of its existing processes for supporting the NAs to assist them in building the capacity to carry out E&O. In addition, existing E&O materials need to be augmented to enable them to be used more effectively.
1 March 2018	Report of the Fifth Session of the Advisory Board on Education and Outreach	A workshop on international chemical security coordination took place in the intersessional period. An update on the work of the SAB was given, particularly regarding the four international workshops that have been held in 2016 and 2017 and funded by the EU 'reaching out to communities in a highly trans-disciplinary manner'. The complementarity of this work with the ABEO was discussed. The Board highlighted the need to balance **bottom-up and top-down approaches** for priority selection in designing interventions, to design messages for audiences to be used by NAs, to assist in locating target audiences and to design guidance to use OPCW material on E&O.

30 August 2018	Report of the Sixth Session of the Advisory Board on Education and Outreach	The Board discussed the role of history in E&O and the importance of **media outreach**. The discussion and presentation of the work of the SAB outlined the potential for experience-sharing between the **SAB and the ABEO** in the use of engaging infographics and informational materials. Members of the ABEO presented their work with the BWC on a workshop organised in Tianjin University, an interactive procedure to accompany **The Hague Ethical Guidelines** on the OPCW website, the development of a "massive online open course" entitled "Chemistry, War and Ethics" and other book projects on chemical weapons. An original course entitled "The Chemistry of War from the Perspective of the Humanities and Social Sciences" was also tested with a group of chemistry students of the Marie Curie-Sklodowska University in Poland. The report also discusses the creation of a user-friendly brochure to transform the relevant parts of report ABEO-5/1 for State Parties.
28 February 2019	Report of the Seventh Session of the Advisory Board on Education and Outreach	The session started by the exploration of linkages between the OPCW's E&O activities and the **United Nations Sustainable Development Goals**, and the United Nations Secretary-General's disarmament agenda. Reports from members included: - reaching out to younger generations through a mock class on disarmament issues carried out by undergraduate students for secondary school students; - National Authorities sharing their developed E&O resources (in different languages) through the new OPCW website; - Encouraging engagement with international organisations such as the UNESCO and ISU BWC. The Board also discussed the need for a strategic framework to **prioritise E&O activities and ensure the greatest impact**. This would include a 'priority matrix', in which target audiences are defined by being a key or minor audience and by being easy or hard to reach and using existing networks and synergies and developing materials that can best be used and re-purposed across the framework. The board 'encouraged National Authorities of States Parties to continue to raise the **general purpose criterion** in their interactions with national stakeholder communities as part of their efforts to raise awareness about unscheduled chemicals'. **Future work**: - The Board also set up a working group 'to explore the topic of the "history of chemical weapons use" as a possible educational tool'. - prepare a new list of 'Other Resources' for the E&O resources page as part of the Board's 2019 Work Plan.

		- support the adoption of active learning approaches and contribute to the improvement of presentation skills of Secretariat staff - consult on and prepare new E&O materials by the end of 2019 The Board also noted that the 'access to the content on **e-learning**, the platform on which the support resources are hosted, as well as data statistics on usage of the e-learning modules, could be greatly improved'.
22 August 2019	Report of the Eighth Session of the Advisory Board on Education and Outreach	The discussion addressed the issue of **better engaging with different stakeholders**, the possible interactions with the chemical societies and associations and the budgetary constraints of the Secretariat. The role of the ABEO in re-focusing the attention of stakeholders to the post-destruction phase was also mentioned. The report also highlights the value of updating the **Wikipedia page** relevant to the OPCW, dissemination of articles on the OPCW using social media channels and 'the need to determine the target audience, purpose, sustainability, and quality control mechanisms for a potential series of ABEO 'issue briefs''. **Future work**: - Board members were asked to evaluate all proposed projects in a SMART assessment (strategic, measurable, achievable, realistic, timely). - proposal to develop an educational resource entitled 'History Use without Abuse' drawing on the medium of history of chemical weapons use to engage with young people on issues related to chemical weapons and the work of the OPCW. These future works raised questions regarding the **inclusion of academia as a key stakeholder**, awareness of political sensitivities, useful of having educators involved in the development of educational material and the importance of developing a framework of reference for 'history of chemical weapons use'. A proposal for **training OPCW staff** on **active learning** approaches was also presented. The report discussed the work of the working group on 'New E&O Materials' reviewed the 17 United Nations SDGs and identified targets that could be used to show how the successful implementation of the Convention is of relevance to the SDGs. It suggested to create **YouTube videos** to support different projects undertaken by the ABEO. The Broad recommended to have the Wikipedia on the OPCW pages updated as soon as possible (including editing the page in other languages than English).
11 December 2020	Report of the Ninth Session	The 9th Session of the ABEO took place online due to the COVID-19 pandemic. The Board was briefed on the work of the **Temporary Working Group on E-Learning**, including the review of the modules. Discussion on the ABEO's strategic plan also took place.

	of the Advisory Board on Education and Outreach	
10 February 2021	Report of the Tenth Session of the Advisory Board on Education and Outreach	The DG started the session by highlighting that the OPCW Centre for Chemistry and Technology ('the **ChemTech Centre'**) will be a priority for 2021 with the goal to become a 'centre of excellence in research, analysis, training and knowledge'. The DG also emphasised the role of the ABEO in supporting the ChemTech Centre, such as identifying institutions and people who would promote the centre. Enhancing the e-learning of the Secretariat will also be a focus of this year as well as '**awareness-raising** about chemical safety and security in meetings with chemical industry representatives.' The TWG on e-learning presented its progress and suggested the development of a MOOC (massive open online course). Policy questions such as the **fight against misinformation** were also discussed. The priorities of the ABEO were reflected in the **Strategic Plan** which was adopted by the Board. The **Project 5B** on translation and dissemination of material is funded by the EU and enabled the translation of the whiteboard videos 'Did you know – OPCW?' which could lead to a higher level of engagement of NAs. Board members have also highlighted that COVID-19 changed the dynamics of training. **Strategic plan:** - The key goals are organised around advice on E&O activities and latest theories or best practices, development of portfolio of E&O activities, awareness-raising and outreach of OPCW's activities. - Objectives include the development of material, advice on effective e-learning strategies, development of a network and evaluation of all the work of the Board. These objectives are completed by priorities of the DG including increasing the knowledge of State Parties, identify material to be translated and develop a 'bluebook' of experts and institutions to support the ChemTech Centre programmes. - This is followed by a SWOT analysis (Strengths and weaknesses). The weaknesses identified in the plan include the lack of clear guidance regarding the work of the ABEO and needs of Secretariat staff, lack of sustainable funding, varied commitment of board members and difficulty to measure the results of the projects. - The key audience is identified: industry, scientists, academia, civil society, policy makers, general public, youth/next generation and media (including social media).

		- Finally, the budget limitation and need for evaluation are mentioned.
27 July 2021	Report of the Eleventh Session of the Advisory Board on Education and Outreach	The Session started with a presentation from the **International Cooperation and Assistance Division (ICA)** and the cooperation with the ABEO. The Director of the ICA mentioned the delivery of events and training after the pandemic, combining online and in-person training. The TWG on e-learning gave its recommendations which include developing e-learning modules and building a **unique strategy** for the Secretariat to respond to the lack of coordination. The creation of a better dialogue with NAs was discussed as part of **Project 5A** on the development of e-learning modules. The creation of a '**ABEO Alumni Network'** was also proposed. This was followed by a presentation on the 'Impact of COVID-19 in teaching and how to use active learning via videoconferencing'. The Board Members gave an update on their intersessional activities and discussed further work for the upcoming intersessional period.
10 February 2022	Report of the Twelfth Session of the Advisory Board on Education and Outreach	The **challenges due to the COVID-19 pandemic** regarding outreach were discussed, as well as the adaptation that the Secretariat made. This was followed by a presentation of a board member on public outreach and the OPCW's online presence. An update on **Projects 5A and 5B** on e-learning modules and translations funded by the EU was also given. The Board then discussed the development of modules for universities and how e-learning resources could be included in modules. Then, the Office of Strategy and Policy (OSP) emphasised the role of the ABEO in raising awareness of **professional opportunities at the OPCW** as it would then lead to greater public awareness of the OPCW itself. Contribution of the ABEO to the United Nations Secretary-General's report on disarmament and non-proliferation education 2022 was also discussed. The objective of the intersessional work would be to focus on the priorities set out in the **Strategic Plan**.
21 July 2022	Report of the Thirteenth Session of the Advisory Board on Education and Outreach	The Deputy DG started the Session by emphasising the need for raising awareness, particularly among the younger generations, and the work of the ABEO on e-learning. A presentation was made on chemistry communication and its importance in raising the organisation's profile and in fighting disinformation. Board members organised different working groups for the peer review of university modules. **Duration of the modules and type of licenses** (to enable users to adapt materials) were discussed. The process of including these modules into university curricula was also discussed, through the provision of guidelines for professors. A select number of universities were chosen for a **pilot study**.

		The Board Members reported their work during the intersessional period, including presentations and initiatives in various countries. The topic of gender and diversity was also raised, and the Secretary highlighted the various initiatives of the OPCW in that area.
9 February 2023	Report of the Fourteenth Session of the Advisory Board on Education and Outreach	The Deputy DG mentioned the transition of the OPCW to a **new learning management system on the Moodle platform** funded by the EU and the inauguration of the ChemTech Centre in May 2023. Three interactive modules for universities will be completed by April 2023. The Secretary of the Board highlighted the role of the Board in disseminating these modules, maybe in identifying one university per region. NAs could play a significant role in connecting with academia at the domestic level. Project 5B will focus on the translation in **OPCW languages of OPCW Basic videos**. Following the complete destruction of chemical weapons by September 2023, greater emphasis will be placed on preventing their re-emergence. Discussion on the role of the ABEO in this new period took place. Cooperation with **other international organisations** were mentioned. The Board discussed the preparations for the Fifth Review Conference and the broader cooperation with universities to include other institutions and think tanks. The ABEO proposed the formation of an **international network of universities** to organise regular summer school programmes (with the aim to also increase number of participants from Asia and Latin America. The TWG on e-learning stressed the importance of having the modules for universities available through online platforms such as EdX and to have an open license. This would permit the module to be reused and remixed. Due to COVID-19 and the changes it led in training, the SAB advised the Secretariat to further embrace e-learning and hybrid events. The Head of Political Affairs and Protocol Branch presented the **synergies with other international organisations** to address global security challenges. Best practices from other international organisations were discussed, such as UNODA. An update on the development of modules for universities was given. The target audience for these modules were first teaching staff and students. **Gender balance and geographical diversity** were addressed by the Head of Human Resources Branch and how the collaboration with the ABEO could improve the achievements. Following this, the Head of the public Affairs Branch highlighted the role of social media in outreach and countering disinformation and how this could be relevant for the ABEO. Finally, the Board Members reported their work during the intersessional period, including initiatives in their home countries.

22 June 2023	Report of the Fifteenth Session of the Advisory Board on Education and Outreach	The Deputy DG referred to the role of the ABEO in preventing the re-emergence of chemical weapons. The Board then addressed the priorities of the ABEO, particularly building a network of institutions and creating institutionalised links between the OPCW, academic institutions and think tanks in order to make the Convention 'more attractive to youth'. A member presented the international organisations which have synergies with the ABEO's mandate and potential areas for cooperation. An update on the three modules for universities was given and on the translations in **OPCW languages of the Basics videos**. A member then presented the educational programs developed by UNODA and how the organisation is promoting their programs to younger generations. The Board discussed the **role of AI** and scientific developments in education and outreach. **Future work**: - Review strategic plan - Prepare a blue book register of members who can promote the ChemTech Centre - Follow-up on ethical perspectives regarding AI - Review content modules for university - Explore avenues of collaboration with NAs An update was given from the Public Affairs Branch regarding **multilingualism** and on the role of Board Members in promoting the ABEO through interviews, news and initiatives. The Board acknowledged that the development of material in various languages would ensure that they are broadly used. As NAs are often composed of a small team, it might be difficult for them to raise awareness with academia. Following the ABEO's briefing, **State Parties** expressed their interest in receiving more frequent briefings on the ABEO and **'having more structured dialogue with the Board'.** Moreover, 'Some States Parties highlighted support for the development of a network with academic institutions and the idea of connecting relevant universities with the ChemTech Centre'. The Board discussed the importance of combining both training and education as a methodology. This was followed by a report of the intersessional work of the members of the board.
18 April 2024	Report of the Sixteenth Session of the Advisory	The Chairperson discussed the implementation of the **Strategic Plan** of the ABEO and the short-, mid-, and long-term goals. One important aspect is to 'measure the usefulness of the activities suggested and their impact'. To do so, the ICA was testing 'the knowledge of participants both before and after event or trainings.' Important working areas of the Board:

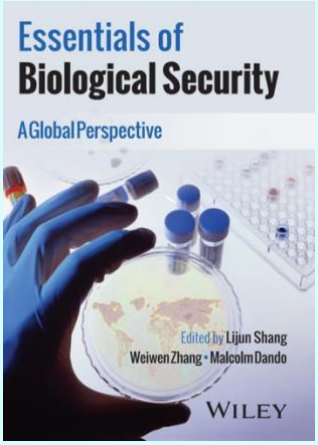
	Board on Education and Outreach	- synergies with capacity-building activities - blue book to promote the ChemTech Centre as a centre of excellence - identification of strategic partners - development of a stable, growing, and sustained working relationship with National Authorities - development of a core syllabus to provide support to universities The work of the Board was divided between **3 working groups** which would meet during the intersessional period: - WG1: update of the strategic plan - WG2: inventory of academic institutions and core syllabus to encourage universities to offer courses on the OPCW - WG3: ChemTech Centre blue book to promote the Centre through academic programmes or fellowships The **three modules for universities** are available in the new Moodle platform. The ICA has also developed nine general e-learning modules available to NAs and general public. A presentation on effectively reaching out to youth was given by the **Model United Nations** Coordinator. A presentation was also made on international cooperation projects by the IAEA, the IBSEN at the London Metropolitan University and the UNESCO. An update on the inventory of academic institutions with courses on the OPCW was given. The role of NAs in building a network of institutions was stressed. This was described as a key task of the Board. The Session concluded by a summary of the key takeaways including the creation of an academic network and enhancing educational portfolio of the Secretariat and promoting the ChemTech Centre. It was also stated that 'collaboration with relevant international organisations was essential to reach out effectively to target audiences.'
13 August 2024	Report of the Seventeenth Session of the Advisory Board on Education and Outreach	The Board Members discussed the update of the strategic plan whose last version dated of February 2021, particularly to adapt the plan to the context of the OPCW in the post-destruction phase. A presentation on implementing the Model United Nations was made and the Board agreed to a **Model Convention simulation** in 2025. A member shared an outline of possible **core syllabus** which could serve as a tool for educators to implement courses on the Convention. The target audience would include States Parties, chemistry and international relations students and general public. The Blue Book for the ChemTech Centre was also discussed, including the list of individuals and institutions which would help promote the Centre.

		An update on informal consultations regarding the **engagement with the civil society** was given. The recent briefing to States Parties was discussed and the interest of States Parties in the work of the ABEO was mentioned. **<u>Updated Strategic Plan</u>**: - The vision is to facilitate 'a network of global educators and outreach activities dedicated to maintaining a world free of chemical weapons' and provide expert advice on E&O. - The Plan highlights the changes since the last version, include the opening of the ChemTech Centre, the rise of AI and digital learning. - Priorities of the ABEO include considering the rise of AI on E&O practices, contributing to the work of the ChemTech Centre, provide advice on the Blue Book, raising awareness, establish digital learning and identify tools and materials for translation. - The key target audiences are policymakers, academia and the scientific community, industry, civil society, general public, youth and future generation. - Strategies of the ABEO are categorised in short-, mid- and long-term goals and each will be assigned to a champion within the Board. - The Strategic plan also mentions evaluation of ABEO activities.

4. News in Global Biosecurity Education

I. News from the LMU BSRC

Book launch *Essentials of Biological Security* (Shang, Zhang and Dando, 2024) and translation.

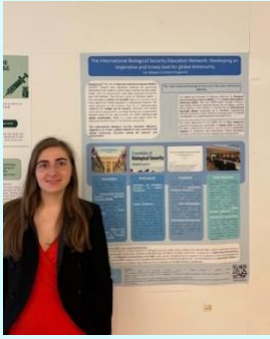


On the 24th of June 2024, the **Interdisciplinary Research Forum** hosted the book launch of **Essentials of Biological Security: A Global Perspective** published by **London Metropolitan University's Biological Security Research Centre** (LMU BSRC) and Wiley. This book aims to be a one-stop-shop resource to help people teach biological security in support of the Tianjin Guidelines that have been developed by some States Parties to the BTWC Review Conference in December 2023. It is the first of a series of books in biosecurity education we plan. This hybrid workshop was an opportunity for authors to present their chapters, and editors to talk about the promotion plan for this book, including translations, workshops, and future publications. The leading editor Professor Lijun Shang also explained the strategy plan for using the book to implement biosecurity education and as the first stepping stone for the ongoing project of the International Biological Security Education Network (IBSEN).

Furthermore, the translation of the book into Chinese has been agreed upon with the publisher Wiley in September 2024. Other translation projects are currently under discussion. Professor Lijun Shang and Professor Malcolm Dando also gave an interview to CBRNe World, highlighting the need and impact of the book *Essentials of Biological Security* for both scientists and policymakers.

The recording of the event and the videos of the chapter authors can be found here.

Presentation at a side event of the BTWC organised by NTI and UNODA.



As a Nuclear Threat Initiative | biosecurity (NTI|bio) Next Generation Delegate, Ms Iris Magne presented the work of the IBSEN during a side event of the BTWC Working Group. She introduced the recent achievements of the network, such as the publication of the book *Essentials of Biological Security: A Global Perspective* and of the First Quarterly Newsletter, to the state delegation from the UK, France, Uganda and Argentina and discussed potential collaboration. This opportunity also enabled her to meet with other Next Generation delegates from the NTI|bio and UNODA programmes.

British Academy funded Biosecurity risks in Agribusiness workshop – London & Amsterdam

The Biological Security Research Centre hosted two BA-funded workshops in London and Amsterdam to discuss Biosecurity risks affecting Agribusiness in preparation for a Horizon Europe bid. The workshops, held between June and August 2024, and organised by Miss Olivia Ibbotson and Professor Lijun Shang, with the assistance of Miss Iris Magne, deliberated on biosecurity risks affecting animals, food and plants/environment, such as the rising cases of H5N1 Avian Bird flu and Bluetongue in the UK. After key biosecurity risks were established, participants to the workshop discussed how to implement biosecurity into already established curricula.

Professors Lijun Shang, Malcolm Dando and Weiwen Zhang published a commentary 'Addressing the biological Security Educational gap' in the Journal of Strategic Trade Control.

In this commentary, the authors provide an overview of the book *Essentials of Biological Security: A Global Perspective.* They emphasise that this book is a pivotal tool in addressing the gap in biosecurity education and the crucial role of scientists as highlighted by the WHO's Global Guidance Framework for the Responsible Use of the Life Sciences. The authors demonstrate that this significant resource is the first step to developing the International Biological Security Education Network (IBSEN).

The full commentary is available here.

Presentation of IBSEN at the London Metropolitan University 'Past-Present-Future: Research at London Met'.

Ms Olivia Ibbotson and Ms Iris Magne presented the work of the Biological Security Research Centre and IBSEN at the Student and Staff Research Conference which took place in July 2024. The presentation of the project was welcomed with interest and initiated discussion on the expansion of the initiative through translations of the book and newsletter in other languages and involvement of international organisations.

The summary of the conference is available following this link.

Professor Lijun Shang presented at the conference SynBio 3.0.

During the SBA3.0 SynBio Africa Conference 2024, Professor Lijun Shang gave a talk titled 'Close the biological security education gap'. The conference was organised around the theme 'Connecting industry, academia, community, policymakers and other stakeholders in synthetic biology, AI, and biosecurity in Africa' and brought together experts and researchers from over 17 countries. This conference was also the opportunity to learn more about new initiatives in biosecurity including:

- AI-Bio Global Foreign (NTI|bio)
- Bio-Funders Compact
- INTERPOL Biotracker Project
- WHO Technical Advisory Group on Biosafety (TAG-B)

- International Science Council (ISC) Expert Group for BWC
- International Biosecurity and Biosafety Initiative for Science (IBBIS)
- India-US initiative on the Critical and Emerging Technologies (iCET)
- Community Statement on Responsible Development of AI for Protein Design

Interviews with chemical security education experts.

Ms Iris Magne and Ms Olivia Ibbotson interviewed experts in chemical security education including the first Chairperson of the ABEO, Dr Jean Pascal Zanders and the current Chairperson, Prof Magda Lidia Bauta Solés. Prof Alejandra Suárez from the Universidad Nacional del Rosario (retired), and Prof Natalia Lorena Pacioni from the University de Cordoba also provided us with valuable insights on chemistry education initiatives in Argentina. These interviews enabled them to draw a complete picture of the global and regional initiatives in chemical security education.

Biosecurity education in High School.

Miss Olivia Ibbotson has begun the early stages of developing a Secondary School Biosecurity Education project. The project aims to develop educational materials and implementation methodologies to introduce students to biosecurity, drawing upon topics already embedded into the curriculum such as gene editing and vaccines. Following on from a previous visit to a secondary school, Olivia has discussed the project with the secondary school's leadership department and has confirmed collaboration with the International Biological Security Education Network.

II. Other news

We encourage and welcome all members from IBSEN to send us news relevant to this Quarterly Newsletter. Please note it would be your responsibility to ensure the reliability of the information sent and therefore that the edited news section is from open accessed sources and does not represent the LMU BSRC's views.

Publication of the WHO's Laboratory Biosecurity Guidance.

The 2006 WHO's Laboratory Biosecurity Guidance has been revised to improve the protection of laboratories against biosecurity threats. This document is key in both enhancing biological risk management and preventing biosafety and biosecurity incidents. The revised WHO's Laboratory Biosecurity Guidance is the result of a collaboration of international experts to identify and address biosecurity needs at the laboratory, institutional and national levels. The WHO Technical Advisory Group on Biosafety (TAG-B) played a significant role in creating this document and new guidelines.

Access here the document.

The WHO published the second issue of the Responsible Science and Emerging Technologies newsletter.

The Responsible Science and Emerging Technologies newsletter shares recent publications, activities and events relevant to the WHO's Global Health Foresight function. It also highlights the good practices of member states and other stakeholders. The second issue of the newsletter reports on the establishment of the Technical Advisory Group on the Responsible Use of the Life Sciences and Dual-Use Research and the Global Guidance Framework for the Responsible Use of the Life Science. The issue also emphasises the pivotal project coordinated by Uganda on responsible use of the life sciences.

Access here the Responsible Sciences and Emerging Technologies newsletter.

A recent academic article addresses the role of national ethics committees in oversighting dual-use research at the national level.

The recently published article 'Oversight of Dual-Use Research: What Role for Ethics Committees?' (Guraiib et al., 2024) examines the role of national ethics committees in addressing one of the key components of the WHO's Global Guidance Framework for the

Responsible Use of the Life Sciences: ethics. The authors demonstrate that the role of ethics committees regarding the oversight of dual-use research was only in a limited number of countries (10 high-income countries and 1 upper middle-income country). The authors recommend establishing coordinated mechanisms at the national and international levels and involving ethics committees.

Access here the article 'Oversight of Dual-Use Research: What Role for Ethics Committees?'.

The Council on Strategic Risks launches the Global Biosecurity Accelerator.

As part of the Helsinki Biosecurity Dialogue in June 2024, the Council on Strategic Risks (CSR) launched the Global Biosecurity Accelerator. The mission of the Global Biosecurity Accelerator is to accelerate global resilience to natural, accidental and deliberate biological threats. It will both promote strong biosecurity strategies and raise insights into the approaches taken by nations. The CSR's objective is that the Global Biosecurity Accelerator helps 'jumpstart a 'whole-of-globe' approach to resilience against biological threats.' To reach this objective, the CSR will work with governments, multilateral organisations and non-traditional partners.

Learn more about the Global Biosecurity Accelerator.

IFBA and Global Affairs Canada established an ASEAN Women's Network for Biosafety and Biosecurity.

As part of the IFBA's initiative to foster collaboration with women's networks in the African, Latin American and Caribbean regions, IFBA established, in partnership with Global Affairs Canada, the ASEAN Women's Network for Biosafety and Biosecurity. This network aims to empower local women as contributors to sustainable health security in the region. The Network's governance structure, operational framework and priority activities will be defined during the 17th Asia-Pacific Biosafety Association (A-PBA) Conference in September 2024.

More information on the ASEAN Women's Network for Biosafety and Biosecurity can be found here.

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Announcements: The *Special Topic* of the Third Quarterly Newsletter will focus on WHO Global Framework and its implications for the work of IBSEN.

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