

# Implementing Biosecurity Education: The development of a pilot ISBEN up to 2027 Review Conference

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# Biological Security and its education gaps

- BWC has regular conferences and intersessions, code of conduct
- The Education and Awareness Gap (WHO)
- Survey of Biosecurity Education Projects (LMU) 2021

L. Shang, et al, (2022) *Key issues in the implementation of the Tianjin Biosecurity Guidelines for codes of conduct for scientists: A survey of biosecurity education projects*, **Biosafety and Health**

“...The **methods** of teaching in addition to developing **resources**... were diverse with delivering **lectures** using **active learning** processes, **seminars** and **presentations** being well represented. Other methods such as **interactive online courses** and **on-the-job training** were less evident.

It seems to us that to meet the scale of the awareness-raising and education requirements in biosecurity for life and associated scientists, much more effort will have to be put into finding ways of **engaging larger numbers of people** such as through developing **innovative methods**...” (Emphasis added)

- Implication of Emerging and Converging Technologies on Biosecurity and its Education

- **Security education in other CBRNe issues**

1. **International Nuclear Security Education Network by IAEA**

2. **ABEO of OPCW for chemical security education**

3. **WHO Frameworks and training**

4. **Broad efforts and new challenges from advanced science and technology**

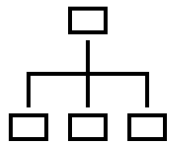
5. **No similar mechanism at BWC/ISU**

# International Biological Security Education Network

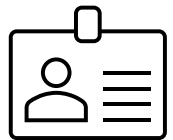
*Dual-use oversight: Is the scientific community fit for Purpose? What should be done if it is not? [Shang, et al. https://doi.org/10.1016/j.jobbb.2023.11.001](https://doi.org/10.1016/j.jobbb.2023.11.001)*

“The rapid advances in biology and the diversity of life sciences combined with technology development add extra challenges for biological security education, in particular how to keep up to date, as well as manage global dissemination and effectiveness. All these issues should be addressed during the development of the IBSEN. If this work is successful, it could significantly improve the possibility of implementation of the BTWC’s new strategy on the review of science and technology and State Parties’ national policy on the Biological Security Strategy in the coming years...”

# International Biological Security Education Network (IBSEN) Project



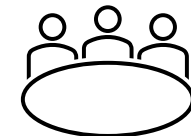
Structure



Contact Database



Website



Coordination meeting

# Structure of the IBSEN I

**Professor Lijun Shang**

Director BRSC,  
London Metropolitan  
University

**Professor Malcolm  
Dando**

Bradford University &  
London Metropolitan Uni

Research Assistants (x2),  
London Metropolitan  
University

**8 International Oversight Board Members** representing a broad geographic coverage

# Structure of the IBSEN II – The International Oversight Board

Dr Maria J. Espona

- Director of Argentina Information Quality (ArgIQ)

Prof Zabta K Shinwari

- Vice Chancellor of the Federal Urdu University of Arts, Science and Technology

Dr Dana Perkins

- Senior Science Advisor, Administration for Strategic Preparedness and Response (ASPR) U.S. Department of Health and Human Services

Prof Xue Yang

- Professor at Law School and a Senior Fellow at the Center for Biosafety Research and Strategy (CBRS), Tianjin University

Prof Brian Balmer

- Professor of Science Policy Studies at UCL

Prof Kathryn Nixdorff

- Professor in the Department of Microbiology and Genetics, Darmstadt University of Technology

Prof Halima Benbouza

- Director for Science and Technology at the National Council of Scientific Research and Technologies, Algeria

Dr Samira Senouci

- First Vice-President of the Moroccan Biosafety Association (MOBSA) and manager at LabSolutions

# The IBSEN Website

- The IBSEN website **live since March 2024.**
- It hosts the ***Quarterly Newsletter*** and the educational tools developed as part of the project.
- It is the **essential tool to engage with an academic community and policymakers** and raise awareness about the work of the IBSEN.



QR code to the IBSEN website



# IBSEN Quarterly Newsletter

- *Quarterly Newsletters* over two years are **the main means of engaging a large number of interested people.**
- First Newsletter (**May 2024**) - lessons learned from the **International Nuclear Security Education Network (INSEN).**
- Second Newsletter (**Oct 2024**) - the work of **the ABEO & implication to IBSEN.**
- Third Newsletter (**March 2025**) - the work of the **WHO.**
- Fourth Newsletter (**May 2025**) - the work of **IFBA (the International Federation of Biosafety Associations)**
- Fifth Newsletter (**July 2025**) - **two case studies on biosecurity education implementation**
- Sixth Newsletter (**Sept 2025**) – **case study on iGEM**
- Seventh Newsletter (**Nov 2025**) – **case study on INSEN handbook**
- **Publication** mainly stored on the website and sent via email to contacts



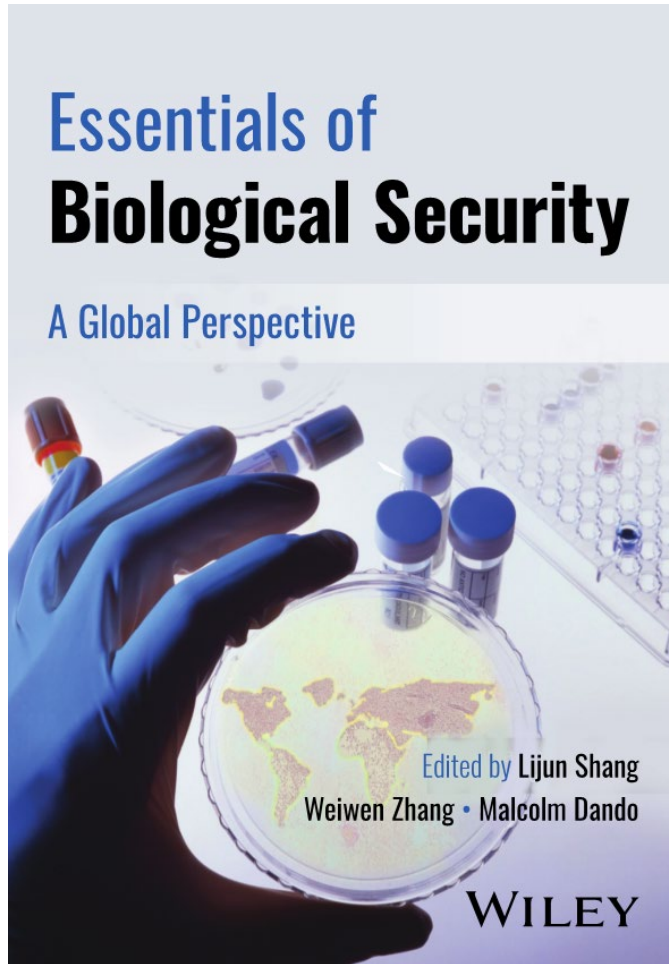
# IBSEN Contact Database

- *Objective:* create a **database of scholars, academics and policymakers who are interested in IBSEN** and have a background in biosecurity education.
- *Format:* The database is divided in **4 categories** to include High Schools, Universities, Continuing Professional Education, Government and International Organisations. It aims to have a **global coverage** to adapt the educational tools developed to different audiences and regions.
- *Current stage:* It currently has over 500 contacts in Nov 2025.

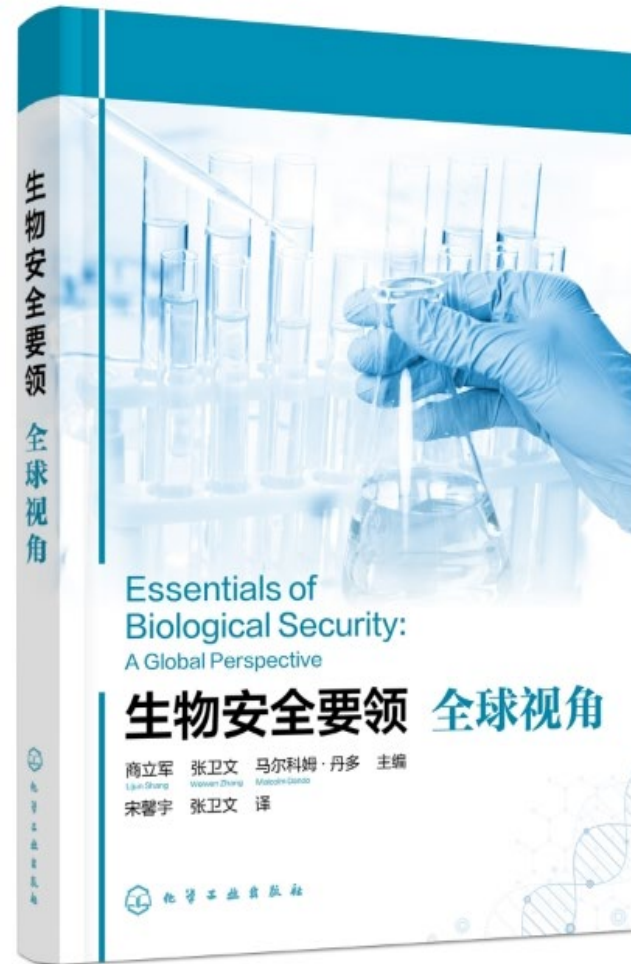
# coordination meetings and workshops

- Policy Workshop 16 March 2024 *'Toward a collaborative, collective and integrative international CBRN security education: Coordination of International Policy Initiatives on Biosecurity Education'*.
- *Biosecurity in agribusiness workshops in London (June 2024) and in Amsterdam (Aug 2024)*
- Implication of Emerging and Converging Technologies on Biosecurity and its Education workshop, 3-4 Oct 2025, London
- Implementation of Biosecurity Education workshop on 14 Nov 2025, London
- Regular dedicated workshops for further coordination are vital to strengthening global and regional biosecurity education.

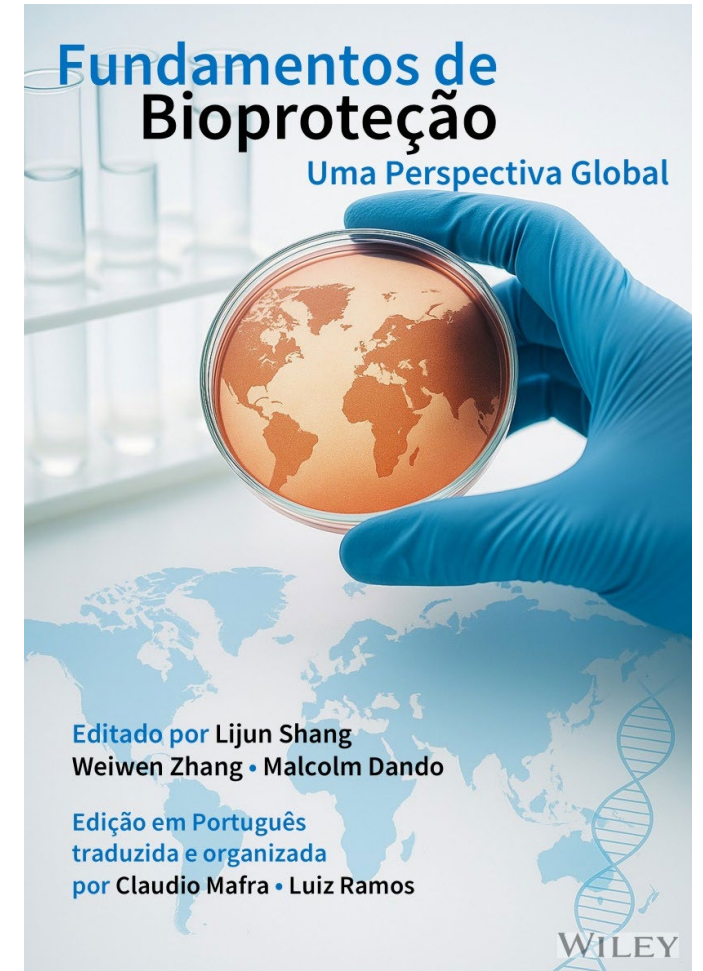
# Essentials of Biological Security: Textbook Required



Book launch in London in June 2024



Chinese Translation



Portuguese Translation



# IBSEN stage one

**The first stage** was designing the IBSEN with intensive studies on security education across the CBRNe range and envisioning the structure of IBSEN. This was funded by a two-years Joseph Rowntree Charitable Trust (JRCT) project (2024-2025). We are in the process of finishing that stage of the project. Outcomes from the project are the Newsletters, reports and journal papers we produced, and in our dedicated webpage, side events and invited talks at a wide range of meetings, such as at the BWC in Geneva, CWC in The Hague.

# IBSEN stage two

**The second stage** of the project is implementation of the designed IBSEN structure and vision by producing a solid programme of materials and trials for different stakeholders. **From concept to implementation.** Some of the work has been initiated in stage 1, for example we produced a first biosecurity education textbook (*Essentials of Biological Security: A Global Perspectives*, Wiley 2024). The main body of stage 2 work has been detailed in a follow-on grant application submitted to the JRCT recently (Aug 2025). This application summarises the expected further pilot project in implementation over the next two years (2026 -2027).

# Fill in the gaps

## More Teaching Materials

Textbooks, Videos, Animations

## Diverse Audiences

Short courses, School,  
Undergraduate, Masters and CPE  
courses

## More Teaching Methods

Lectures, TBL Exercises, Simulations,  
Games, Online Methods

## Evaluation System Innovations ?

How to do evaluation and  
assessment

## More Language Translations

Six UN Official Languages, Many  
Others

WHAT IS MISSING: Towards a Biosecurity Programme in Support of the Tianjin Guidelines for Codes of Conduct under the BTWC Some work known to us in this area; Little work known to us in this area; Probably not a priority now.					
	Uni Under Grad	Uni Post Grad	Con Prof Devel	Upper School	Public And Media
Common Terminology (Glossary)	Need	Need	Need	Need	Need
Basic Textbook(s)	Need More	Need More	Need More	Need More	Need More
Advanced Textbook(s)	Need	Need	Need	No Need	No Need
Course Teaching Method(s)	Need More	Need More	Need More	No Need	No Need
Course Evaluation System(s)	Need	Need	Need	No Need	No Need
Material: UN Languages Translations	Need More	Need More	Need	Need	Need
Other Languages Translations	Need	Need	Need	Need	Need
Diverse Following Fellowships	Need	Need More	Need	No Need	No Need

# IBSEN stage three

**The third stage** is intended to scale up the pilot IBSEN project designed and implemented in stages 1 and 2 to a global level, and this will overlap with the 2027 BWC Review Conference. We envisage further development and trials of the key resources needed to transition across to the BWC Implementation Support Unit (ISU) during 2027 - 2029. The stage will include more teaching materials, experiments on methods of teaching and evaluation systems, and at least one regional expansion (for example with Fellowships and demonstration projects) needed to illustrate a rational expansion of an official IBSEN at 2027 BWC Review Conference.



# IBSEN Report to Geneva BWC meeting

- Reporting IBSEN developments to **the meetings of the BTWC States Parties in Geneva** is central to consolidating the network.
- Essential to stress the link to the effective and efficient implementation of the **Tianjin Guidelines**.
- Further development of global network through regular meetings and broad **the range of stakeholders (industry and policymakers)** to add to the contacts database.
- Collective and collaborative work with ABEO and INSEN through regular **Side Events**.
- Make official **Statements** at relevant international fora if possible.
- Will have hard copies of **Quarterly Newsletters** for distribution.

# Recommendation from Chair's rolling text

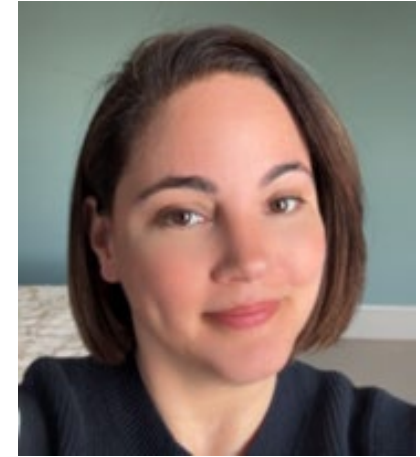
Rolling Text by the Chairperson of the Working Group on the Strengthening of the Convention (28 July 2025)

## A. Measures on international cooperation and assistance under Article X

3.The Working Group recommends **that the Implementation Support Unit cooperates with relevant stakeholders to establish an International Biosecurity Education Network.** This Education Network would serve as a forum to further promote the harmonization of curricula and the evaluation of biosecurity education. It would develop freely accessible teaching materials such as MOOC-style online courses and support biosecurity education at the national level which is informed by best practices. Furthermore, the Education Network would serve as a platform for student and faculty exchanges with the aim of fostering and facilitating international scientific exchange and collaboration for peaceful purposes.

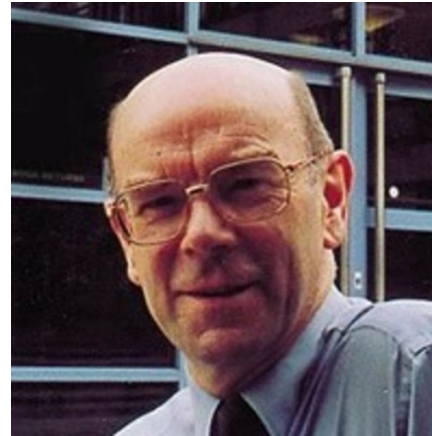
[https://docs-library.unoda.org/Biological Weapons Convention - Working Group on the strengthening of the ConventionSeventh session \(2025\)/2025-1201 BWC WG7 CRP 1 draft final report 1.pdf](https://docs-library.unoda.org/Biological_Weapons_Convention_-_Working_Group_on_the_strengthening_of_the_ConventionSeventh_session_(2025)/2025-1201_BWC_WG7_CRP_1_draft_final_report_1.pdf)

# Thank you!



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