

*Working together to strengthen the norms
against chemical and biological weapons.*



CBW Challenges Radar no. 6

Working Paper: Chemical and Biological Terrorism and the Norms of the CBW Prohibition Regimes

Our latest publication offers a synopsis of the wide-ranging presentations held at the [recent CBWNet expert workshop](#) in Berlin. The summaries provided by speakers at the workshop are reflecting a multidisciplinary dialogue on the complex issues surrounding chemical and biological weapons (CBW) terrorism. With presentations covering a broad spectrum of topics—from science and technology as a factor in BW terrorism to INTERPOL's initiatives in bolstering chemical security—the workshop provided a thorough exploration of the evolving norms governing the CBW prohibitions.

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Working Paper: The OPCW and Civil Society: Considerations on Relevant Themes and Issues

The paper by CBWNet Associate Researcher Alexander Ghionis explores key elements of the relationship between the Organisation for the Prohibition of Chemical Weapons (OPCW) and civil society, with the aim of supporting ongoing discussions at OPCW regarding options and mechanisms to enhance that relationship. The paper takes an empirical approach to expand the evidence base available to inform these deliberations. Reflecting on different 'modes of engagement' that connect civil society with the OPCW the paper proposes some

short-term efforts in several areas that could provide a firm basis to strengthen the OPCW-civil society relationship over the longer-term.

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What's new at CBWNet

Veronika Klymova joined CBWNet as a Researcher at the Peace Research Institute Frankfurt (PRIF) in the Research Department "International Security". Her research focuses on the nonproliferation and disarmament of biological and chemical weapons.

CBWNet network coordinator Dr. Alexander Kelle organized a [workshop in Berlin on CBW terrorism](#), which featured a keynote speech by former OPCW Director Ahmet Üzümcü. The event, spanning two days, included discussions on the evolution of terrorism, responses to CBW threats, and practitioner insights. Highlights featured OPCW's anti-terrorism efforts post-9/11, CW investigations by the OPCW-UN Joint Mechanism, INTERPOL's role in chemical security, and expert insights on CW and BW terrorism from industry and academia, reflecting on BWC and CWC review conferences' outcomes.



At the [Annual European Non-Proliferation and Disarmament Consortium Conference](#) in Brussels on December 4 - 5, CBWNet was prominently represented

through both Kristoffer Burck and CBWNet Associated researcher Dr. Alexander Ghionis, discussing the youth's role in non-proliferation and chemical disarmament, respectively. The "Next Generations" Workshop saw contributions from CBWNet Associated researchers Almontaser Albalawi and Dr. Monica Chinchilla.

News

- Workers and technicians at the U.S. Army's Pueblo Chemical Depot in Colorado and the Blue Grass Army Depot in Kentucky were named the [2023 Arms Control Persons of the Year](#) for safely eliminating the last of the U.S.'s declared chemical munitions stockpile in January 2024
 - The U.S. National Security Council and the UK Cabinet Office announced a new [Strategic Dialogue on Biological Security](#) on January 16
 - The Bulletin of the Atomic Scientists announced that the Doomsday Clock remains at 90 seconds to midnight in 2024, releasing [this](#) analysis of biological threats on January 23
 - The Nuclear Threat Initiative launched the [International Biosecurity and Biosafety Initiative for Science](#) (IBBIS), an independent organization with the goal of strengthening international biosecurity governance, at the Munich Security Conference on February 15
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Publications of interest

Publications by CBWNet researchers

- A non-proliferation and disarmament paper by CBWNet Associate Researcher Alexander Ghionis and Network Coordinator Alexander Kelle examines [the European Union's role in key issue areas for the implementation of the Chemical Weapons Convention \(CWC\)](#) following its Fifth Review Conference in 2023.
- The newly released book [Essentials of Biological Security: A Global Perspective](#) features two contributions from CBWNet researchers, namely chapter 6: *The Problem of Dual Use in the Twenty-First Century* by Kathryn Nixdorff and chapter 8: *Convergence of Science Technology* by Ralf Trapp

Chemical and biological terrorism

- RAND released [this](#) report by Daniel M. Gerstein and Erin N. Leidy, analyzing the potential for synthetic pandemics through the deliberate or accidental release of engineered pathogens in the context of advancements in biotechnology and the threat of bioterrorism
- [This paper](#) by Zhang et al. in *Trends in Analytical Chemistry* reviews recent advancements in using metal-organic frameworks (MOFs) for the sensitive and selective detection of hazardous chemicals, crucial for counter-terrorism efforts, outlining the mechanisms, research progress, current challenges, and future directions in the field
- A [recent paper](#) in *Nurse Education Today* by Mingi Chang and Yujeong Kim analyzes mobile-based bioterrorism response programs for clinical nurses and their effectiveness using a quasi-experimental study design
- [This chapter](#) by Andrew W. Artenstein and Sarah Haessler in *Ciotton's Disaster Medicine* examines the global threat of bioterrorism and managing attacks with high-priority biological agents

AI

- [This editorial](#) by David Baker and George Church in *Science* explores the impact of AI-driven computational protein design on biosecurity
- Open AI published their research "[Building an early warning system for LLM-aided biological threat creation](#)", developing a blueprint to evaluate the risk of large language models (LLMs) assisting in biological threat creation.
- [This paper](#) by Matthew E. Walsh analyzes the impact of AI on deliberate biological threats
- The Federation of American Scientists released their [policy recommendations](#) for the intersection of biology and AI

Counter-measures & attribution

- [A recent RAND report](#) by Tracey Rissman and Annette Prieto discusses how to strengthen DOD capabilities to investigate and attribute bioweapon attacks
- Doodipala Samba Reddy writes about the progress and challenges in developing medical countermeasures to CBRN in [this article](#) in the *Journal of Pharmacology and Therapeutics*

Country perspectives

- Karl Dewey explores Chile's secret chemical and biological weapons programs during its military dictatorship (1973–1990) in [this paper](#) in *Intelligence and National Security*.
- A new [Nolan Center Report](#) by Christine Parthemore and Andrew Weber from the Council of Strategic Risks looks into lessons from Kazakhstan for 2024, analyzing the country's role in biological and nuclear non-proliferation

Miscellaneous

- [Issue 38 of the Defense Dossier](#), released by the American Foreign Policy Council, focused on Pandemic Preparedness and Biodefense, including Articles on China's biosecurity policy, biotechnology export controls, and more
- [This chapter](#) from the book *Ciottone's Disaster Medicine*, written by Frederic Berg and Shane Kappler, focuses on the risks of creating advanced biological and chemical weapons due to biotechnological advancements
- Chapter 19 of [Essentials of Biological Security: A Global Perspective](#) by Nancy Connell and Gigi Gronvall looks into the governance of dual-use biology
- The Bulletin of the Atomic Scientists's Independent Task Force on Research with Pandemic Risks published its [final report](#), addressing the benefits and risks of virology research and recommending guidelines

Multimedia

- The [Poisons and Pestilence](#) podcast released an interview with Professor Alastair Hay about his work as a toxicologist related to the prohibition of chemical weapons
- The American Association for the Advancement of Science published a new [podcast](#) episode, interviewing Dr. Harshini Mukundan on rethinking our defense against unknown biothreats
- Johns Hopkins University's podcast, the [BWC Global Forum](#), released a new episode on gene synthesis screening
- The podcast *Hear This Idea* published a new episode featuring Sonia Ben Ouagrham-Gormley on [Barriers to Bioweapons](#)

- There is a new [SIPRI video series](#) on promoting chemical security, which features CBWNet Associate Researcher Mónica Chinchilla

Coming up!

- [106th Session of the Executive Council of the OPCW](#), The Hague, 9–12 July 2024
- [4th session of the Working Group on the strengthening of the Biological Weapons Convention](#), Geneva, 12 Aug - 23 Aug
- [BWC Meeting of States Parties](#), Geneva, 09 Dec - 11 Dec



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