



# OPCW Update on International Chemical Education and Science

Ladislava Navrátilová





# OPCW

= Implementing body for the Chemical Weapons Convention,  
= Oversees the global endeavour to permanently and verifiably eliminate chemical weapons.

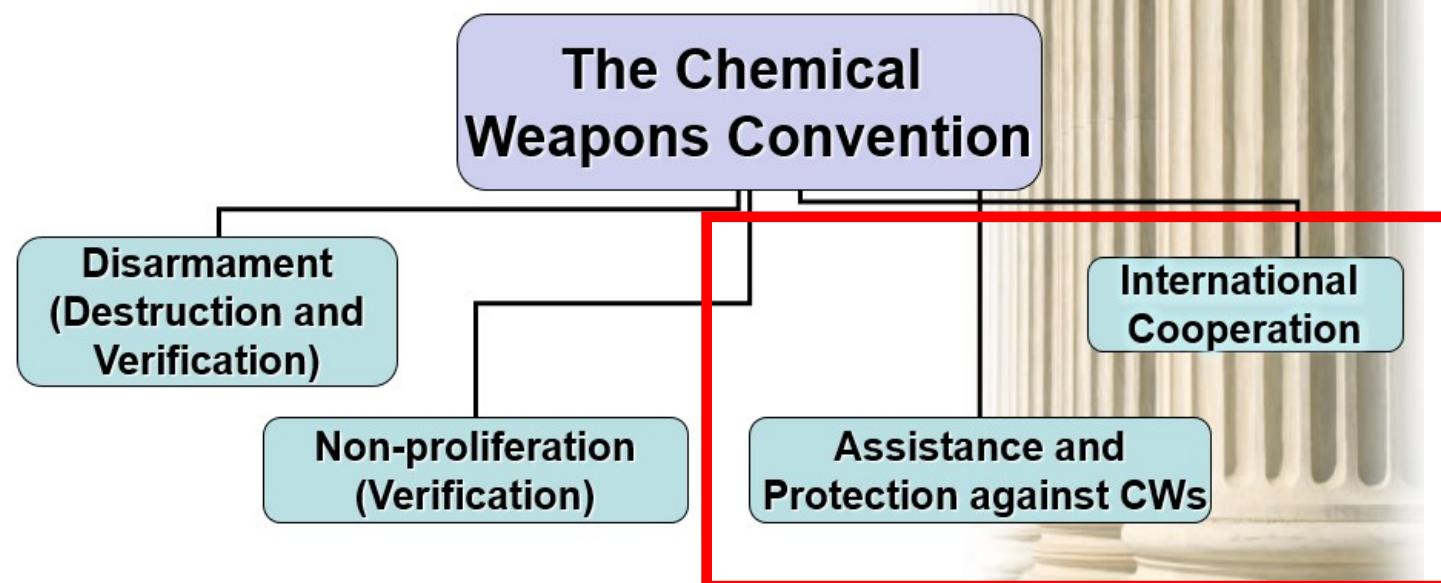
## OPCW by the Numbers

- 193 States committed to the Convention (CWC)
- 98% of the global population live under the protection of the Convention
- 100% of the chemical weapons stockpiles declared by possessor States have been verifiably destroyed



# OPCW

## Core Activities of the OPCW



# OPCW Scientific Advisory Board

# Scientific Advisory Board (SAB)

SAB is made up of 25 independent experts from OPCW Member States

## Role

- Assess and report to the Director-General developments in scientific and technological fields that are relevant to the Convention.
- SAB **provides advice on technical matters** related to the implementation of the Convention, including on co-operation and assistance to the Technical Secretariat.



# SAB Temporary Working Group „On Chemical Forensics“

OPCW  
Organisation for the Prohibition of Chemical Weapons

Sarah Clapham  
Peter Hotchkiss  
Office of Strategy and Policy

## Introduction to chemical forensics



A large, colorful cluster of molecular models and data charts, representing the complex nature of chemical forensics analysis.

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OPCW OFFICIAL 10

## Applications of chemical forensics



A collage of scientific icons including a gas mask, test tubes, a fingerprint, a magnifying glass, a lightbulb, and a graph, set against a blue grid background.

## Analytical equipment



A scientist in a white protective suit and mask is working at a computer in a laboratory, surrounded by chromatography equipment and chemical structures.

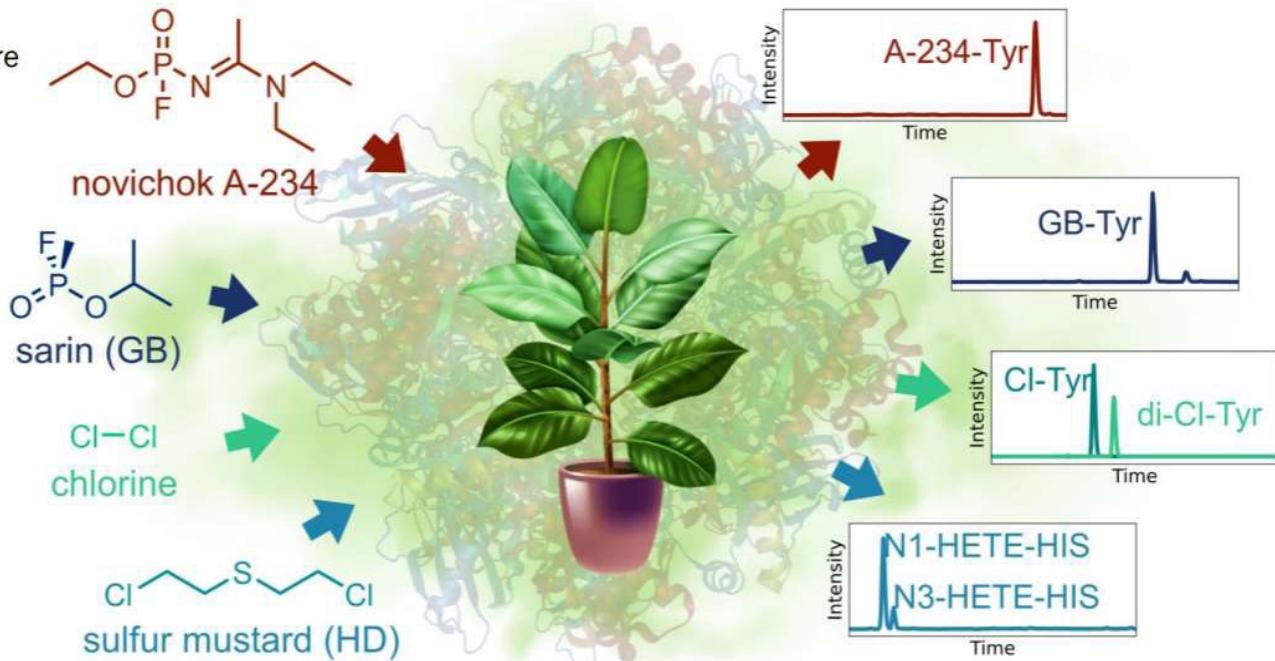
Focus on chromatography-based techniques

OPCW OFFICIAL 19

# SAB Temporary Working Group „On Analysis of Biotoxins“

Is it possible to detect biomarkers of CWAs in plants after exposure?

- Various types of CWAs
- Vapor & liquid exposure
- Various plant species
- Stability

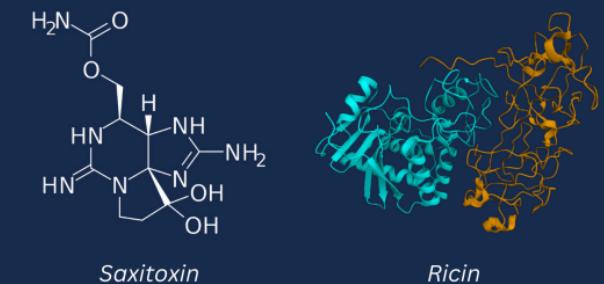


[5] M. de Bruin-Hoegée, et al., Verification of exposure to chemical warfare agents through analysis of persistent biomarkers in plants, *Analytical Methods*. 15 (2023) 142–153.

<https://www.opcw.org/sites/default/files/documents/2023/04/Analysis%20of%20Biotoxins%20Final%20Report.pdf>

## Analysis of Biotoxins

Report of the Scientific Advisory Board's  
Temporary Working Group



SAB/REP/1/23  
April 2023

UNIVERSITY OF AMSTERDAM  
Van 't Hoff Institute for Molecular Sciences

TNO innovation  
for life

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# SAB Temporary Working Group „On Investigative Science and Technology“



## ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS

Working Together For a World Free of Chemical Weapons

### Temporary Working Group on Investigative Science and Technology

Reporting to the Scientific Advisory Board (SAB), the Temporary Working Group (TWG) will in particular consider the following questions:

#### Question 1:

Which methods and capabilities used in the forensic sciences could usefully be developed and/or adopted for Chemical Weapons Convention-based investigations?



#### Question 2:

What are the best practices and analysis tools used in the forensic sciences for effectively cross-referencing, validating, and linking together information related to investigation sites, materials collected/analysed, and individuals interviewed?



#### Question 3:

What are the best practices for management of data collected in investigations, including compilation, curation, and analytics?



#### Question 4:

What are the best practices for the collection, handling, curation and storage, and annotation of evidence?



#### Question 5:

Which technologies and methodologies (whether established or new) allow point-of-care and non-destructive measurements at an investigation site to help guide evidence collection?



#### Question 6:

Which technologies and methodologies (whether established or new) can be used in the provenancing of chemical and/or material samples collected in an investigation?



# SAB and „Artificial Intelligence“

AI could offer many benefits to the OPCW's work, helping to achieve its mission of a world free of chemical weapons



## Conference

- Highlighted the transformative potential of AI in advancing the peaceful uses of chemistry, and strengthening chemical safety and security.
- Recognised the threats and challenges that the misuse of AI may pose to the object and purpose of the CWC, including the potential use of AI by non-state actors and terrorist groups.

# OPCW Advisory Board on Education and Outreach

# Advisory Board on Education and Outreach (ABEO)

ABEO is made up of 15 independent experts from OPCW Member States

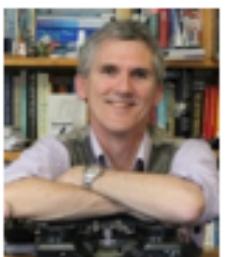
## Role

- ABEO provides **specialised advice in areas of education** and outreach relevant to the OPCW's mandate.
- ABEO identifies global education and outreach activities.
- ABEO goal is to make education materials accessible to audiences in order to benefit the broadest range of target stakeholders.





**Prof. Rocael  
Hernández  
Rizzardini  
(Guatemala)**



**Dr. Craig  
Cormick  
(Australia)**



**Mr. Shahab  
Ud Din  
(Pakistan)  
Chairperson  
2022**



**Dr. Graciela  
Alicia González  
(Argentina)  
Vice-  
Chairperson  
2022**



**Prof. Mohd  
Jamil Maah  
(Malaysia)**



**Prof. Magda Lidia  
Bauta Solés  
(Cuba)**



**Dr. Jason  
Openo  
(Canada)**



**Dr.  
Ladislava  
Navratilová  
(Czech  
Republic)**

## ABEO MEMBERS



**Prof.  
Janefrances  
Ngozi Ihedioha  
(Nigeria)**



**Dr. Richard Guthrie  
(United Kingdom)**



**Dr. Supawan  
Tantayanon  
(Thailand)**



**Prof. Vicente  
Garrido  
Rebollo  
(Spain)**



**Dr. Nezha  
Barakate  
(Morocco)**



**Prof Ying Zhou  
(People's  
Republic of  
China)**



# ABEO

Enhancing understanding of the work of the OPCW through education materials for students, educators, civil society, and policymakers

Our Work



The Convention



Media Centre



Resources



Work with Us



Calendar



## E-Learning

Online educational modules for National Authorities and stakeholders associated with the implementation of the Chemical Weapons Convention.



## Multiple Uses of Chemistry

Exploring the beneficial uses, misuses, and abuses of multi-use chemicals; monitoring abuses, and responding to this global problem.



## The Fires Project

The OPCW's Short Documentary Video Project



## Open Day

Once a year OPCW opens its doors to the general public as part of the International Open Day organised by The Hague Municipality.



# Advisory Board on Education and Outreach



Temporary Working Group (TWG) on e-learning



OPCW Modules for Universities



Strategic plan



# ABEO

## 3 e-Learning Modules for Universities

Objective: raise awareness of the OPCW and its mission first and foremost among professors and, through them, among students at universities

**Three e-Learning modules** to be made available to professors and other teaching staff at universities, notably in scientific disciplines and social sciences

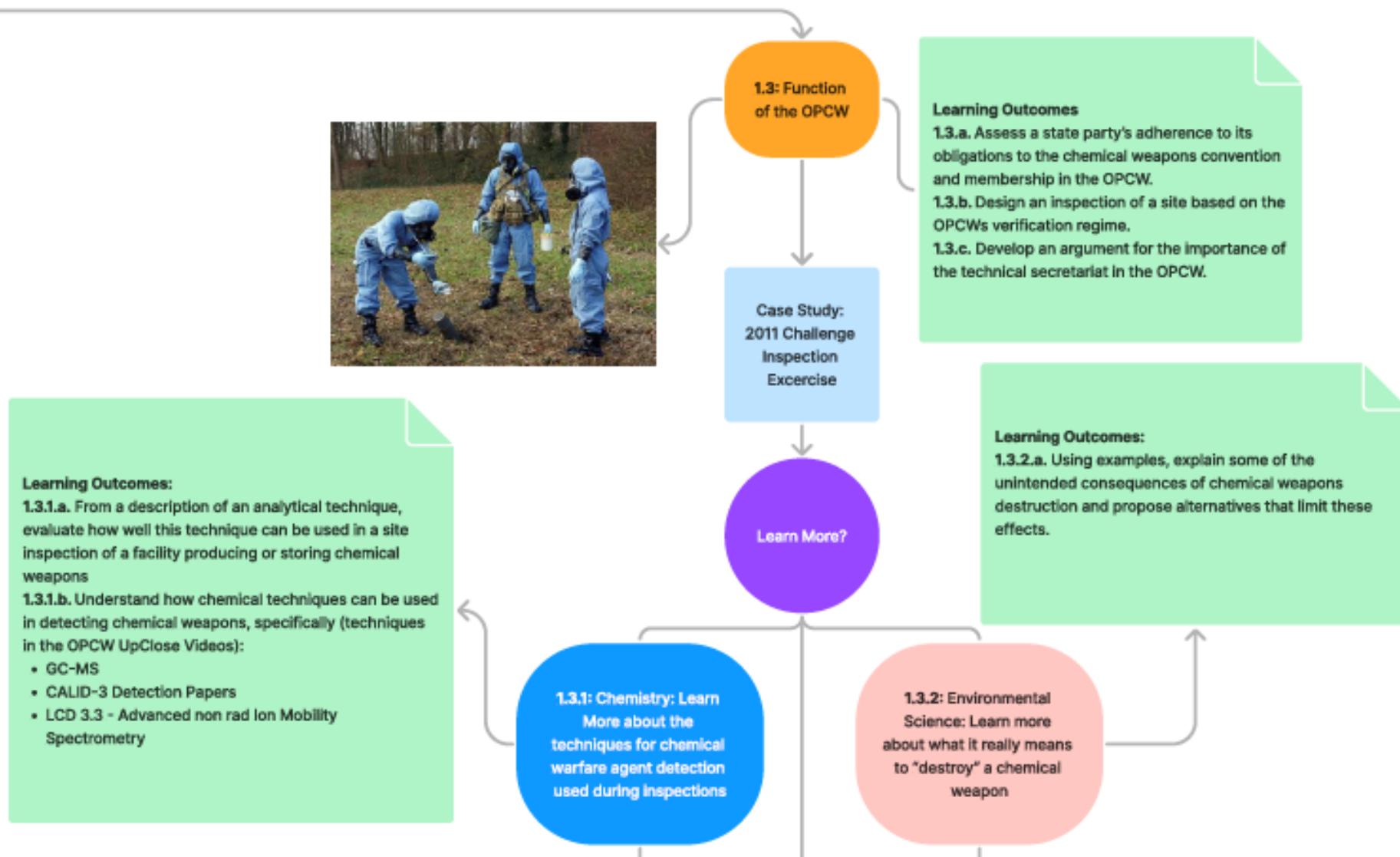
- **Module 1: The OPCW and its Mission**
- **Module 2: History of Chemical Weapons; What are Chemical Weapons?**
- **Module 3: Chemical Safety, Security & Ethics**

Available at:

[https://learn.opcw.org/pluginfile.php/3768/mod\\_resource/content/1/Educator%20Resources%20-%20OPCW%20Modules%20for%20Universities.pdf](https://learn.opcw.org/pluginfile.php/3768/mod_resource/content/1/Educator%20Resources%20-%20OPCW%20Modules%20for%20Universities.pdf)



# ABEO: OPCW Modules for Universities



## Content

# Topics

- Case studies
- Learning outcomes
- Learn more about ...
- Stop and Think / Topics for discussion
- Short test



# ABEO: OPCW Modules for Universities



Home Dashboard My courses



Course Grades Competencies Enrol me in this course

X

Dashboard □ Courses □ Education □ OPCW and its mission

## Set of three introductory modules on the OPCW and its mission

### General

Announcements

Educator's Guidebook

Survey

### The OPCW and its mission

Lesson 1.1 Bringing the wo...

Lesson 1.2 Inside the OPCW

Lesson 1.3 Mandate of the ...

Branch 1.1.1 Advances in c...

Branch 1.1.2 Need for inter...

### General

[Collapse all](#)



Announcements



Educator's Guidebook



# ABEO: OPCW Modules for Universities

## Halabja Memorial

The Halabja Memorial, which is also in the gardens surrounding the OPCW's headquarters, commemorates the victims of the chemical weapons attack that took place on 16 March 1988 in the town of Halabja in Iraq. Many people lost their lives, among them women and children. Survivors have suffered severe long-term damage to their health. The memorial was presented to the OPCW by the Government of Iraq in 2014.



# ABEO Strategic Plan

# ABEO Strategic Plan

## Proposal of Strategies

1. Cultivate strategic partnerships
2. Improve the reach of OPCW's e-learning activities
3. Chemical Safety Curriculum Integration
4. Develop a "Bluebook" of Relevant Experts and Institutions
5. Public Awareness Campaigns
6. Capacity Building for First Responders
7. Youth Engagement and Innovation
8. Translation of Tools and Materials into OPCW Official Languages
9. Enhance Knowledge, Expertise, and Skills of States Parties



# Capacity Building for First Responders

## Role of the Population Protection Institute

# Population Protection Institute

## Capacity-Buiding & Educational Project for First Responders in East-African Region

- Started in 2014 as a part of the OPCW programme “Strengthening chemical emergency response, planning and management for the EAC Partner States”
- **Operational training for first responders** aimed at chemical response
- Training methodology developed by **Population Protection Institute** (Czech Republic)
- Participants from Burundi, Kenya, Rwanda, Tanzania, Uganda, DRC
- Financial and technical support: CZE + UK
- Training locality: Uganda, Jinja (military centre URDCC)
- Trainings annualy (except Covid-19) from 2016

# Locality: Jinja, Uganda



# Photos from Operational Training in Uganda



Example of team development: **Instructor** and **assistant instructor** explain sampling procedure to **participants** under supervision of **EAC expert** (Jinja 2023)



# OPCW – The Hague Award

To preserve the legacy of the Nobel Peace Prize (OPCW awarded in 2013), the OPCW established the „OPCW-The Hague Award“ in collaboration with the Municipality of The Hague in 2014.

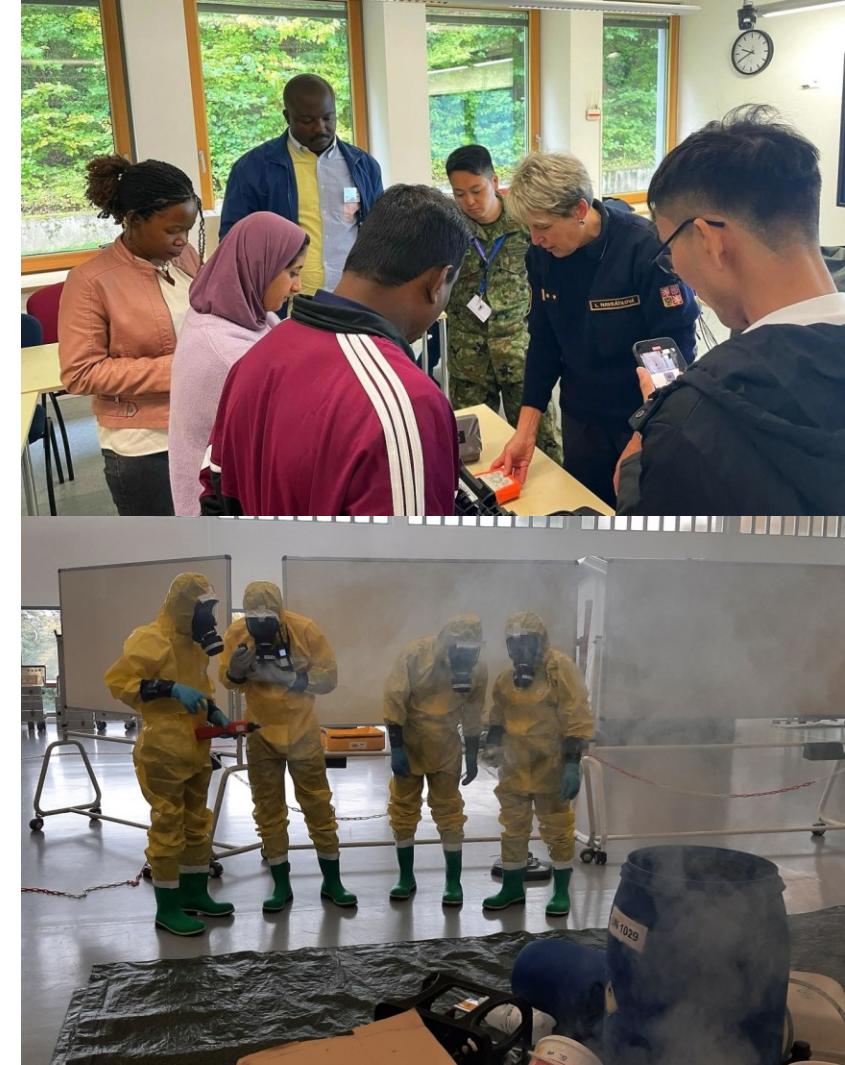
PPI received the **OPCW-The Hague Award** for significant contributions to achieving a world free of chemical weapons in 2022



# **New APB (Assistance and Protection Branch) OPCW Strategy Educational Events for First Responders**

# New APB OPCW Strategy ASSISTANCE AND PROTECTION TRAINING CYCLE (2024 – 2025)

1. Online Foundation Course / July 2024
2. **Hands-On Basic Course / October 2024, Germany**
3. Online Course on the Emergency Response Guidebook (ERG), CAMEO Chemicals, and Incident Command System (ICS) / March 2025
4. **Hands-On Integrated Advanced Course and Exercise / May 2025, PPI, Czechia**
5. Follow-Up Seminar / June 2025



# How to Apply for OPCW Events

## Way how to attend OPCW courses

Go to OPCW website: [www.opcw.org](http://www.opcw.org)

- Log in
- Click on Calendar / Eventus
- Choose a course
- Confirmation from National Authority is required

## Possibility to work / participate in the OPCW events

East Europe region has one of the smallest representation at the OPCW

Online

Online regional seminar on the Chemical Weapons Convention and chemical safety and security management for Member States of the OPCW in the EAstern European region

ICB-EE-ICM-2024-CSSM

Accepting registrations

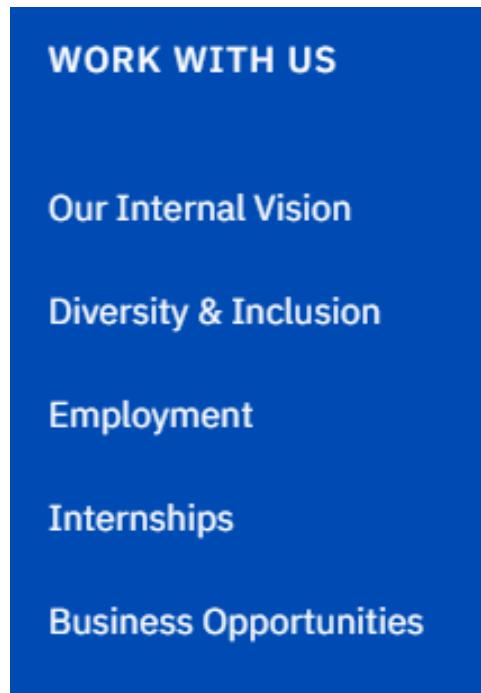
Last day open 21/11/2024

# Conclusion

## Youth generation

**Work internationally = take your chance to learn and travel**

***Learn to balance a dream and a job, until your dream becomes your job***





# Thank you for your attention

Ladislava Navrátilová

Email: [ladislava.navratilova@hzscr.cz](mailto:ladislava.navratilova@hzscr.cz)