CONCEPT NOTE

22nd International Summer School on monitoring and analyses of chemicals

Introduction

This summer school is developed in the frames of the Global NIP Update project or in the relevant satelite project implemented in the Central and Eastern Europe (7 countries) to strengthen implementation of the Stockholm Convention on Persistent Organic Pollutants. Namely, within the projects GEF ID 10785 entitled "Global Development, Review and Update of National Implementation Plans (NIPs) under the Stockholm Convention (SC) on Persistent Organic Pollutants (POPs)" or the GEF ID 10924 entitled Review and Update of the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs) in Albania, Armenia and Kazakhstan, respectively.

The Global NIP update project is implemented by UNEP in collaboration with its executing agencies represented by six Stockholm Convention Regional centres that collaborate directly with the beneficiary countries. Component 3 of the project led by Stockholm and Basel Convention Regional Centers is focusing on review and update of NIP and related national activities including trainings and meetings. Based upon discussion of beneficiary countries representatives (Albania, Armenia, Bosnia and Herzegovina, Georgia, Kazakhstan, Montenegro and North Macedonia) in spring 2023, there is a preference for regional trainings. Provisional timeline agreed in May 2023 was to organize two regional trainings in 2023 and one more (or up to two) in 2024 and other activities as deemed necessary, and resources are available.

Background information

The Stockholm Convention on Persistent Organic Pollutants (POPs) is a global legally binding agreement focusing on the protection of health and the environment from negative impact of listed manmade chemicals, persistent organic pollutants. The Convention requires the development and regular update of National Implementation Plans, periodic national reporting (Art. 15), and the establishment of other expert frameworks for the assessment of candidate chemicals (Persistent Organic Pollutants Review Committee, POPRC).

For the evaluation of the effectiveness of the measures in the convention (Art. 16) it was required to develop a mechanism to identify and compile and/or a mechanism capable of generating coordinated, harmonized and validated information on changes in levels of its target chemicals over time. The Global Monitoring Plan (GMP) is the mechanism put in place in 2007 that so far produced three sets of regional monitoring reports containing current findings on POPs concentrations in individual UN regions and subsequently, three global reports synthesizing the available information on the global scale. All these reports are available on the website of the Stockholm Convention.

Activities under the GMP are governed by its implementation plan, supported by technical Guidance on the Global Monitoring Plan and overseen by experts organized in the Regional Organization Groups and in the Global Coordination Group. As the Stockholm Convention expands its scope over time, it is necessary to continuously update the technical knowledge and guidance but also to ensure sustainability of POPs monitoring activities. Availability and continuity of long-term POPs monitoring programs and their data is crucial for global decision making. POPs monitoring data provided in the GMP reports are key pillars and inputs into the effectiveness evaluation that periodically assesses outputs of measures adopted in the Stockholm Convention. The training will cover conventional and new sampling methods for collecting POPs environmental samples as well as other steps in getting from a sample to a numeric value of concentration of a target chemical. Originally, the Stockholm Convention addressed twelve (12) POPs - chlorinated pesticides or industrial chemicals or chemicals unintentionally formed, but the amount of chemicals currently covered significantly increased. As of 2026, there are 37 chemicals or groups of POPs containing chlorine, bromine that have very different properties and use. All this also brings differences in their occurrence, fate, environmental transport, routes of exposure and also sampling and analysis requirements.

Data management and harmonization become more and more crucial over last 10-15 years, namely due to existence of various online databases, global repositories and other "public"/online data sources that could be reused for other purposes, however, without a thorough understanding of data and sufficient description of those datasets such re-use is practically impossible. Data management part of the training will explain to participants the significance of integration of heterogenous data and impacts on reusability, accessibility and need for metadata. This part of the training will focus on FAIR data principles, terminology, and tools and aims at strengthening capacities for chemical risk assessment and at more effective and reliable data management approaches.

Scope and objectives of the training:

This summer school addresses the need to strengthen expert capacity and introduce existing, but also new (young/junior researchers or specialists) generation to the topic of POPs monitoring, chemical analyses, data management and data interpretation and to give them a guided tour to modern available tools and approaches (globally or in the EU) in data management and data interpretation.

Objectives

The RECETOX and other invited experts will conduct the training, which will elaborate on the following:

- to provide information on arrangements for POPs monitoring under the Stockholm Convention
- sharing knowledge on POPs monitoring arrangements and challenges in individual countries
- hands on for passive sampling of air
- existing monitoring networks and potential synergies between them
- hands-on training in preparation and chemical analyses of the air samples
- visit to the RECETOX Trace analytical laboratories and biobank facility
- understanding of FAIR data concepts and principles and terminology
- data management necessities and current approaches to make data FAIR
- challenges in data interpretation
- linking national reporting under the Stockholm Convention, research activities and infrastructures available for support of project countries - to join or to follow

Target audience

This regional training is intended for sharing experience among all seven project countries for GEF 10785 and 10924 and enhance expert capacities in each country by involving monitoring specialists but also a young generation and open to experts from other countries. Priority should be given to experts or officers managing environmental/human exposure data, researchers/students producing experimental data relating to chemical exposure, hazard and risk assessment, laboratory staff involved in processing collected samples and performing chemical analyses in relevant institutions or persons involved in extracting and using environmental/human data from existing databases for evaluating trends, exposure, and chemical risk assessment.

Number of participants and registration deadlines

For each country in person participation is envisaged for up to 3 national experts/representatives. Due to limitation for hands-on laboratory work maximum total amount of participants is limited to 20 persons.

Registration deadline for in-person participants is April 2026 (to submit the filled registration form). Participants from countries requiring visa to the Czech Republic/EU need to submit their registration form as soon as possible.

Date, time, language and venue

4 days, 15 -18 June 2026

Registration starts 9:00 on the first day, the summer school starts at 9:30 am on the first day and finishes daily at around 17:00. The meeting on other days start 9:00 am.

The training will be held in English only.

Venue - RECETOX premises, University Campus Bohunice, Brno, Czech Republic

Excursion - National Observatory in Košetice - visit to the background sampling site, full day trip.

Task before the training

Each participating country is expected to fill a country questionnaire (update on GMP POPs monitoring activity). The questionnaire will be sent to registered participants upon confirmation of their attendance and the completed document (as far as possible) needs to be provided to the meeting organizers by e-mail by May 29, 2026 (to nina.pavliuk@recetox.muni.cz and katerina.sebkova@recetox.muni.cz).

Each participating country is expected to deliver a presentation on its POPs monitoring activities and arrangements covering all currently listed POPs and core matrices (template will be provided). Slides/presentation need to be provided to the organizers by e-mail by June 5, 2026 (to nina.pavliuk@recetox.muni.cz and katerina.sebkova@recetox.muni.cz).

Tasks during the training

Lectures and group exercises, laboratory and biobank visit.

Laboratory hands-on activities. Lab coats are not necessary, will be provided.

Each participant will also fill two questionnaires during the training.

Tentative agenda draft (version March 2026)

Time	Topic		Presenter/engagement
DAY 1 - 15 June 2026			
09:00 – 09:30	*registration of participants at the venue*		
09:30 – 9:45	welcome and opening remarks		SCRC-Czech Republic and RECETOX director + BRS Secretariat
09:45 – 10:00	objectives of the training		Kateřina Šebková or BRS Secretariat
10:00 - 11:00	Stockholm Convention and POPs monitoring		Kateřina Šebková or BRS Secretariat
11:00 – 11:30	*coffee break*		DSA payment
11:30 – 12:30	Global Monitoring Plan, organization groups, data cycles, core matrices and monitoring reports		Kateřina Šebková or BRS Secretariat
12:30 – 13:00	Group photo		
13:00 - 14:00	*Lunch break*		
	group A	group B	all in-person participants/PetraPřibylová, Petr Kukučka, Jakub Martiník, Lenka Andrýsková, Pavel Piler
14:00 – 14:30	Visit to Trace Analytical Laboratories	Visit to Biobank facility	
14:30 – 15:00	Visit to Biobank facility	Visit to Trace Analytical Laboratories	
15:00 - 15:30	Sampling – air, water, other matricies		Roman Prokeš
15:30 - 16:00	Sampling terrace		Roman Prokeš
15:30 – 16:00	*coffee break*		
16:00 – 16:30	Samples preparation – air for POPs analysis		Petr Kukučka
16:30 – 17:00	Instrumental analysis - air for POPs analysis		Petr Kukučka
DAY 2 - 16 June 2026			
	group A	group B	
09:00 – 10:30	Hands-on exercise – sample prep, analytical and quality challenges (QA/QC) (Rozárka Jílková + (Denisa K.?)	Demonstration of instrumental methods and MS data evaluation – POPs in air analysis GC-EI-MS/MS (Jakub M., Ondřej A., Adam?) GC-APCI-MS/MS (Petr K., Ondřej A., Adam?)	
10:30 – 11:00	*coffee break*		
11:00 – 12:30	Hands-on exercise – sample prep, analytical and quality challenges (QA/QC) (Rozárka Jílková + (Denisa K.?)	Demonstration of instrumental methods and MS data evaluation – POPs in air analysis GC-EI-MS/MS (Jakub M., Ondřej A., Adam?) GC-APCI-MS/MS (Petr K., Ondřej A., Adam?)	
12:30 – 13:30	*Lunch break*		

Time	Topic	Presenter/engagement
13:30 – 15:00	Demonstration of instrumental methods and MS data evaluation – POPs in air analysis GC-EI-MS/MS (Jakub Martiník, Ondřej Audy) GC-APCI-MS/MS (Petr Kukučka, Ondřej Audy)	Hands-on exercise – sample prep, analytical and quality challenges (QA/QC) (Rozárka Jílková + (Veronika P.?)
15:00 -15:30	*coffee break*	
15:30 – 17:00	Demonstration of instrumental methods and MS data evaluation – POPs in air analysis GC-EI-MS/MS (Jakub Martiník, Ondřej Audy) GC-APCI-MS/MS (Petr Kukučka, Ondřej Audy)	Hands-on exercise – sample prep, analytical and quality challenges (QA/QC) (Rozárka Jílková + (Veronika P.?)
DAY 3 - 17 June 2026		
09:00 – 9:30	QA/QC	Brano Vrana
09:30 – 10:30	FAIR metadata, data	Jiří Kalina, Katka Řiháčková
10:30 – 11:00	*coffee break*	
11:00 – 12:30	Country presentation(s) on POPs monitoring	all training participants
12:30 - 13:00	Wrap up of the training and closing remarks	Kateřina Šebková
13:00 - 14:00	*Lunch*	
DAY 4 - 18 June 2026		
9:00 – 16:00	Excursion to Košetice observatory (100 km trip from Brno by bus) Lunch will be provided as takeaway.	Kateřina Šebková + all training participants