

**International Workshop on Analysis of Chemical Warfare Agents to Mark
the 20th Anniversary of the Chemical Weapons Convention
Foreword to Abstract Book by Dr Christopher M. Timperley
Chairperson of the OPCW Scientific Advisory Board
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VERIFIN is an important institution which provides a significant contribution to the Organisation for the Prohibition of Chemical Weapons (OPCW) to realise a world free of chemical weapons. It acts as the Finnish National Authority to the Chemical Weapons Convention (hereinafter ‘the Convention’)¹ for the purpose of cooperation with the OPCW and the other States Parties to the Convention, under the able guidance of the Finnish Ministry of Foreign Affairs.

VERIFIN is a designated laboratory of the OPCW with an impressive track record. Its designation was obtained in November 1998 among the first laboratories. The organisation has a strong focus on analytical chemistry to develop tools for verification of the Convention.

Methods for screening and for identification of chemical warfare agents, their degradation products and starting materials have been developed. Matrices including air, soil, water and decontamination solutions have been studied intensively and Recommended Operating Procedures (ROPs) for on-site analysis have been published to assist the OPCW in its verification task.

The ROPs were updated through an international collaboration project: the Blue Book or ‘Recommended Operating Procedures for Analysis in the Verification of Chemical Disarmament’ which was last published in 2011. The ROPs were intended to be the basis for accreditation and the guidelines of the designated laboratories of the OPCW or those laboratories applying for designation. The ROPs were also to be used for training personnel working in the field of verification of chemical warfare agents. The prominence of this accomplishment by VERIFIN, including its success in analysing samples containing chemicals related to the CWC, and the provision of training to scientists from other countries, was celebrated by the receipt by VERIFIN of the first OPCW-The Hague Award in 2014.

Since the last edition of the Blue Book, improved procedures have emerged for sampling and analysis, which are captured within this revised version, whose release has been timed to coincide with the 20th Anniversary of the OPCW and entry into force of the Convention. There are chapters on new areas such as ricin analysis and biomedical analysis. It is a tribute to the respect VERIFIN holds in the hearts of chemical disarmament advocates worldwide that so many international experts have contributed to the revision of the Blue Book. The ROPs will continue to form a basis for accreditation of the designated laboratories and assist those laboratories aiming for designation. We hope for contributions in future from more regions of the world; the regions can benefit from the information provided herein in their capacity building endeavours.

As long as there is a possibility of the use or threat of use of chemical weapons, there will be a need to maintain and improve the analytical capabilities of the OPCW. Such enhanced capabilities exert an important deterrent effect² and will help prevent the re-emergence of chemical weapons after completion of destruction of the declared stockpiles. Such re-emergence could manifest itself through the acquisition and/or use of chemical weapons, including by non-State actors.³

It is essential that the OPCW has available state-of-the-art methods and technologies for sampling and analysis at its disposal, ensures that staff are kept abreast of and trained in these, and actively develops capabilities in chemical forensics, incorporating advice from the OPCW Scientific Advisory Board (SAB) and in consultation with the network of designated laboratories, including for the analysis of toxins as well as biomedical and other samples.³

To assist with this, VERIFIN hosted a SAB Workshop on Chemical Forensics in June 2016, whose recommendations⁴ resulted in the OPCW Director-General, His Excellency Ahmet Üzümez, requesting the SAB to form a Temporary Working Group (TWG) on Investigative Science and Technology⁵ which will hold its first meeting in February 2018.

An objective of this TWG is ‘to review the science and technology relevant to investigative work, especially for the validation and provenancing (determining the chronology of ownership, custody and/or location) of evidence, and the integration of multiple and diverse inputs to reconstruct a past event’.⁵ Professor Paula Vanninen, Director of VERIFIN and a former member of the SAB, has been appointed to the TWG, and we look forward to the valuable contribution she and her team at VERIFIN will make to this group.

The 2017 Blue Book and the TWG are important next chapters in the evolution of the analytical and investigative capability of the OPCW for meeting future verification challenges.

We appreciate highly the efforts of VERIFIN and the Finnish Ministry of Foreign Affairs for supporting the Blue Book initiative, and for generously hosting the Fifth International Workshop on Analysis of Chemical Warfare Agents to Mark the Twentieth Anniversary of the OPCW, in Helsinki on 11-13 December 2017, where the new Blue Book will be launched.

It is testament to the continued international commitment to uphold the norms of the Convention that scientific experts from around the world will be attending to share best practice on chemical sample analysis.

References

1. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Organisation for the Prohibition of Chemical Weapons, The Hague, The Netherlands, 1997. Available at www.opcw.org
2. A. Üzümlü. The Chemical Weapons Convention – disarmament, science and technology, *Analytical & Bioanalytical Chemistry* **406** (2014) 5071-5073. DOI: 10.1007/s00216-014-7956-8.
3. OPCW Executive Council, Note by the Technical Secretariat, Medium Term Plan of the Organisation for the Prohibition of Chemical Weapons 2017-2021, EC-83/S/1 of 8 April 2016. Available at www.opcw.org/fileadmin/OPCW/EC/83/en/ec83s01_c21s01_e.pdf
4. OPCW Scientific Advisory Board, Report of the Scientific Advisory Board's Workshop on Chemical Forensics, SAB-24/WP.1 of 14 July 2016. Available to download from https://www.opcw.org/fileadmin/OPCW/SAB/en/sab24wp01_e.pdf
5. The terms of reference can be found in Annex 2 of The Report of the Scientific Advisory Board at its Twenty-Fifth Session (SAB-25/1* dated 31 March 2017). Available at https://www.opcw.org/fileadmin/OPCW/SAB/en/sab2501_e.pdf