Science and Technology at the OPCW: An Update

2021 Biological Weapons Convention Meeting of Experts
MX2: Science and Technology
Geneva, Switzerland
1-2 September 2021

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The SAB Undertakes a Continual Review of Science and Technology
SAB efforts over the last 2 years

- Have had 4 virtual sessions (in-person session scheduled for November 2021)
- Oversaw the completion of the TWG on investigative science and technology
- Overseeing a new TWG on analysis of biotoxins
- Preparing for the Scientific Report for the OPCW’s 5th Review Conference (2023)
- Have assisted with numerous TS efforts, to include
  - Plant Biomarkers Challenge
  - Capacity building events

Trust Fund (voluntary contributions from States Parties)
# SAB Sessions before, during and after COVID-19

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<tbody>
<tr>
<td>Session Location</td>
<td>In-Person</td>
<td>Virtual</td>
<td>Hybrid</td>
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<tr>
<td>Session Location</td>
<td>The Hague, Netherlands</td>
<td>Microsoft Teams</td>
<td>Netherlands and Microsoft Teams</td>
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<tr>
<td>Session Frequency</td>
<td>Once per year (sometimes twice)</td>
<td>2-3 times per year</td>
<td>2-3 times per year</td>
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<tr>
<td>Session Length</td>
<td>4-5 full days</td>
<td>2-3 half days</td>
<td>Variable as needed</td>
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<tr>
<td>Participation Rate</td>
<td>88-96%</td>
<td>&gt;95%</td>
<td>Unknown, should be high</td>
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# Pros and Cons to Virtual and In-Person Meetings

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<tr>
<th>Pros</th>
<th>In-Person</th>
<th>Virtual</th>
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<tr>
<td>Side meetings and building rapport is easier</td>
<td>• Smoother flow to meeting</td>
<td>• Easier to find and accommodate external speakers</td>
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<tr>
<td>• Smoother flow to meeting</td>
<td>• Able to cover more material</td>
<td>• Negligible costs</td>
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<tr>
<td>• Able to cover more material</td>
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<td>• Shorter meetings</td>
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<table>
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<tr>
<th>Cons</th>
<th>In-Person</th>
<th>Virtual</th>
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<tr>
<td>Expensive (travel and per diem)</td>
<td>• Time-consuming for attendees</td>
<td>• Need to accommodate for time zones</td>
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<tr>
<td>• Time-consuming for attendees</td>
<td>• External speakers limited to those with time/inclination</td>
<td>• No ‘unstructured’ rapport building</td>
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<td>• External speakers limited to those with time/inclination</td>
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<td>• Simultaneous language interpretation is harder</td>
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Temporary Working Group on Analysis of Biotoxins

• Formally began on 26 January 2021
  • Initial duration of two years
• Comprised of 15 members
  • 9 SAB members – Chair is Daan Noort (The Netherlands)
  • 6 external experts – Vice Chair is Suzanne Kalb (USA)
  • 9 females, 6 males
  • 4 of 5 regional groups represented
• Funding provided by the European Union
Questions under Consideration

a. What are the underlying requirements for the analysis of biological toxins in order to investigate alleged use of toxic chemicals as weapons?

b. What classes of biological toxins are most likely to be relevant in investigations of alleged use?

c. Are there other relevant compounds of biological origin that should also be considered based on their potential for misuse or technological change associated with them?
Questions under Consideration (continued)

d. What are the technical requirements for analysis of the most relevant types of biological toxins? Please consider:

i. analytical approaches needed for unambiguous identification of both low and high molecular weight biotoxins;

ii. instrumentation and/or procedures that should be standardized across labs to ensure reproducible and consensus results;

iii. analytical criteria that should be in place in order to match forensic requirements; and

iv. the role and utility of degradation products and other markers and/or compounds; and

v. the role of biomarkers and biomedical samples.
Questions under Consideration (continued)

e. What are the analytical standards and requirements of other international and national investigative authorities and how do these compare and/or factor into OPCW considerations and operations?

f. How can programs of analytical exercises conducted by different networks of laboratories be coordinated or harmonized to minimize duplication, promote consistent practices, and develop a comprehensive picture of laboratory capabilities? Please consider:

i. the quality system requirements for the laboratories that should be in place (e.g., consideration of ISO 17025 for OPCW Designated Labs); and

ii. how the analytical exercises can be harmonized yet remain flexible to address new or emerging biotoxin threats.
Questions under Consideration (continued)

g. What institutional or legal measures need to be established to facilitate cooperation between the OPCW and other organisations working on development of capabilities for analysis of biological toxins?

For the entire Terms of Reference, please see Annex 2 in the Report of the SAB at its Thirty-First Session (SAB-31/1, dated 4 March 2021):

https://www.opcw.org/sites/default/files/documents/2021/05/sab-31-01%28e%29.pdf
TWG Timeline of Events

- 1st meeting report (SAB-32/WP.1, dated 6 May 2021) can be found here: https://www.opcw.org/sites/default/files/documents/2021/07/sab-32-wp01%28e%29.pdf
- 2nd meeting report in preparation

Virtual Meeting
In-Person Meeting
Virtual update

At least:
2 In-person meetings
1 Virtual meeting

2021
May
June
Sept
Nov

2022
Virtual Meeting
In-Person Meeting
Virtual update
OPCW

Organisation for the Prohibition of Chemical Weapons
Organisation pour l'Interdiction des Armes Chimiques
Организация по запрещению химического оружия
Organización para la Prohibición de las Armas Químicas