

BWC States parties make some progress at their annual meeting in Geneva

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Against the backdrop of globally challenging conditions for multilateral arms control and disarmament, States parties to the Biological Weapons Convention (BWC) convened from 3 to 6 December 2019 for their annual meeting in Geneva, Switzerland. This year's Meeting of States parties (MSP) represented the final meeting in the second year of the 2018-20 intersessional work programme. Besides considering the reports of the five Meetings of Experts (MXs) held earlier in 2019, the key agenda item at the MSP was the arrangements for the Ninth Review Conference which is planned for 2021.

Although substantive language on the outcomes from the MXs could not be agreed, there was further convergence on several proposals discussed at the MXs and delegations referred positively to the work of the five MXs. States parties also agreed on key elements of the arrangements for the Review Conference in 2021, although a decision on its precise duration was deferred until the 2020 MSP. Furthermore, delegations agreed that Ambassador Aliyar Lebbe Abdul Azeez of Sri Lanka would chair the 2020 MSP.

Organization and work of the MSP

Ambassador Yann Hwang of France chaired the MSP with Ambassador Andreano Erwin of Indonesia and Ambassador Adrian Vierita of Romania as Vice-Chairs. The agenda for the MSP consisted of twelve items, including the general debate, consideration of the factual reports from the MXs, management of the Convention's intersessional programme, progress made towards universalization of the Convention, the annual report of the Implementation Support Unit (ISU) and arrangements for the Ninth Review Conference and its Preparatory Committee in 2021. In addition, a total of 15 side events (listed on the BWC website) took place during the MSP, organised by States parties and NGOs.

A total of 122 of the current 183 BWC States parties participated in the Meeting, along with all four Signatory states and two of the ten States not party to the Convention. This is the highest ever number of States parties to attend an MSP and almost equals the overall highest number of 124 States parties attending the Eighth Review Conference in 2016. In addition, four UN entities, 11 international and regional organizations and 27 NGOs attended the MSP. Overall a total of 673 people participated in the event, of whom 239 were women (35.5 per cent).

In his opening remarks, Ambassador Hwang stressed the collective responsibility of all States parties to preserve and strengthen the BWC as one of the pillars of the international non-proliferation regime and a fundamental instrument for common security interests. Anja Kaspersen, Director of the Office for Disarmament Affairs' Geneva Branch, delivered a statement on behalf of the United Nations High Representative for Disarmament Affairs, Izumi Nakamitsu. She highlighted three issues of critical importance to the Convention, namely

improving preparedness for deliberate events, safeguarding the peaceful uses of biology and enhancing capacities for reviewing scientific developments.

General Debate

Following the opening formalities, the remainder of the first day and part of the second day were devoted to the General Debate in which 63 States parties took the floor. Additionally, group statements were delivered by Azerbaijan on behalf of the Non-Aligned Movement, Philippines on behalf of the Association of Southeast Asian Nations (ASEAN), and Iraq on behalf of the Arab Group. In their interventions, States parties raised the following overarching themes:

- **Meetings of Experts:** Various delegations referred positively to the work of the MXs and expressed gratitude to the five Chairs. Many delegations also referred to their wish to see the work of the MXs reflected in the MSP report in a substantive manner;
- **Universality:** Many States parties welcomed Tanzania as the newest State party to the Convention and called for the intensification of efforts to reach universal adherence;
- **Ninth Review Conference:** Some States parties shared their preferences for the arrangements for the Ninth Review Conference; while all acknowledged the importance of a substantive preparatory process, different views were expressed concerning the duration of the Review Conference;
- **Financial matters:** Several delegations reiterated the importance of full and timely payments by all States parties; at the same time, they acknowledged positively the establishment of the Working Capital Fund (WCF) and other financial measures adopted by the 2018 MSP. India announced a voluntary contribution of USD 10,000 to the WCF;
- **National implementation:** Several States parties informed the MSP about domestic implementation measures and some noted the importance of the system of Confidence-Building Measures (CBMs); while various States parties called for a legally-binding protocol, they also acknowledged that there is no agreement on this issue;
- **International assistance and cooperation:** Many States parties stressed the importance of further strengthening capacity-building efforts, with some delegations calling for a dedicated International Cooperation and Assistance Officer to support the work undertaken by the ISU;
- **Advances in science and technology:** Several delegations noted the broad support for establishing a science and technology review mechanism under the BWC and called for intensifying efforts towards adopting a decision at the Ninth Review Conference;
- **Assistance, response and preparedness:** Delegations welcomed the various proposals to operationalize Article VII of the Convention and noted their broad cross-regional support;
- **Secretary-General's Mechanism (SGM):** Some delegations acknowledged work undertaken in the context of the SGM and referred to a 2020 capstone exercise to be held in Germany. On the other hand, others expressed the need for the BWC to establish its own independent investigative mechanisms through multilaterally-agreed provisions; and
- **Gender issues:** A number of delegations stressed the importance of including gender perspectives in multilateral arms control and disarmament, with a particular focus on the relevance of a strong gender dimension in tackling issues relevant to the implementation of the BWC.

Following the various regional group and national statements, the MSP then moved into an informal session to provide civil society organizations with the opportunity to deliver brief statements. A joint statement endorsed by a number of NGOs and individuals called for States parties to engage with civil society and welcomed the inclusion of language on gender in the General Assembly resolution on the BWC. Subsequently, nine individual NGOs made statements, which called, inter alia, for the universalization of the Convention, striving towards the operationalization of Article VII, and enhancing the effectiveness of States parties' national implementation measures. Additionally, the statements focused on the need for careful consideration of the dual-use capabilities of emerging biological research and technology, and the need for thoughtful policies to promote the responsible use of science.

Consideration of the reports of the Meetings of Experts

On the late morning of 4 December, States parties started to consider the reports of the five MXs. At the outset, Ambassador Hwang noted the substantive work of the MXs and expressed his wish that the MSP agree on more substantive text than was possible at last year's Meeting. In order to assist delegations, Ambassador Hwang introduced an "Aide-Memoire" that he and the five MX Chairs had prepared together (See BWC/

MSP/2019/CRP.1). The paper compiled all proposals from the 2019 MXs and included reference to the relevant articles of the BWC. In addition, Russia circulated a “food-for-thought” paper which included proposed language for inclusion in the MSP report on the outcome of each of the MXs. The Chair of each MX then introduced the report of his/her respective Meeting, which covered the rest of 4 December and much of 5 December.

Cooperation and Assistance (MX1)

The meeting report and corresponding annex was introduced by Ambassador Victor Dolidze of Georgia. Delegations voiced different positions on the proposals to strengthen cooperation and assistance through institutional mechanisms, export controls, coordination committees, action plans and other measures. Multiple States parties welcomed the Cooperation and Assistance database and made suggestions for its further improvement and visibility. Various delegations also called for the strengthening of national legal frameworks to ensure conformity with obligations under Article X. Additionally, numerous States parties recalled the right of States parties to engage in peaceful uses of biology and called for the sharing of equipment and scientific knowledge. Other suggestions included developing a template to increase national report submission rates and conducting trend analyses of supply and demand under Article X. Many delegations also pointed to best practices and initiatives undertaken to foster international and regional cooperation, including South-South collaboration to promote biosafety, biosecurity and risk management.

Science and Technology (MX2)

The report of the second MX was presented by Mr. Yury Nikolaichik of Belarus. Many delegations noted the rapid development of dual-use technologies in the life sciences. However, delegations also stressed that concerns over such technologies should not impede their peaceful use or development, with many expressing a willingness to share national risk assessment and management practices and offer biosafety awareness raising programmes in academic settings. Widespread support was expressed for the Chinese/Pakistani proposal on a voluntary code of conduct for biological scientists. Many delegations also called for a systematic science and technology review process. While cognizant of the divergencies in States parties’ positions, they noted the convergences listed by the Chair in his report.

Strengthening National Implementation (MX3)

Ms Lebogang Pihlela of South Africa introduced the report of the third MX. Numerous States parties shared information about their national implementation efforts. Some delegations called for the conclusion of a legally-binding protocol with a verification regime, while others stressed the importance of fully implementing existing provisions of the BWC. Several delegations underlined the important role of international cooperation and assistance in strengthening national implementation. Some delegations noted the value of peer reviews for promoting transparency and opportunities to exchange views and knowledge, while others expressed caution about such approaches. Various delegations called for the strengthening of the CBM process with a view to improving both the quantity and quality of CBM returns. Numerous delegations underlined that export controls are a critical component of national implementation mechanisms, while noting that these mechanisms should not hinder the export of materials for peaceful uses.

Assistance, Response and Preparedness (MX4)

National reflections on the report of MX4 presented by Mr. Usman Iqbal Jadoon of Pakistan displayed a high level of cross-regional coherence, with many States in favour of operationalizing the provisions of Article VII. Widespread support was expressed for the French/Indian proposal for an Article VII database. Similarly, many delegations expressed support for the South African initiative on a set of guidelines and formats to assist States parties in submitting a request for assistance in the framework of Article VII. Numerous delegations acknowledged the value of the Russian proposal for the creation of mobile biomedical units. Furthermore, the MSP also heard calls for strengthening cooperation with relevant international organizations.

Institutional Strengthening of the Convention (MX5)

The discussion of the MX5 report, presented by Mr. Laurent Masméjean of Switzerland, saw the reiteration of long-standing calls by a number of States parties for the creation of a legally-binding verification instrument, whereas others noted that full implementation of the various existing measures could contribute in strengthening the Convention. The work of the ISU also received broad recognition, with delegations expressing gratitude and some supporting the Unit’s further

strengthening. Other suggested measures to strengthen the Convention included a stronger intersessional programme, reaching universal adherence and ensuring the financial stability of the Convention.

Other issues discussed

Arrangements for the Ninth Review Conference and its Preparatory Committee in 2021

Ambassador Hwang then proceeded to address the arrangements for the next Review Conference and its preceding Preparatory Committee. To facilitate the discussion, the Chief of the ISU presented preliminary [cost estimates](#) for the meetings in 2021. Some States parties shared a view that a two-week duration for the Review Conference would suffice, while others supported a three-week Review Conference, stressing the importance of providing more time and to ensure a successful outcome. At the same time, most delegations seemed to be in favour of a substantive preparatory process.

Management of the intersessional programme: Budgetary and financial matters

The afternoon of 5 December also saw discussion on budgetary and financial matters. At the outset, Ambassador Hwang briefly introduced his [report](#) on the financial situation of the BWC and noted the positive effects of the decisions taken at the MSP last year. Thereafter, the Chief of the ISU provided an update on the overall financial situation. While many States parties expressed satisfaction with the measures adopted in 2018, they also stressed the need for continued oversight and follow-up of financial issues. The issuance of invoices in advance was also recognized as having had a positive impact.

Progress with universalization of the Convention

Ambassador Hwang introduced his [report](#) on universalization and provided an overview on the activities undertaken by him and by the ISU. South Sudan also made a brief statement to inform the Meeting that accession to the BWC is currently under consideration.

Annual report of the Implementation Support Unit

The Chief of the ISU introduced the [report](#) and highlighted the significant increase in interest in and attention to the Convention at a national and regional level and the implementation work of the ISU.

Adoption of the report of the MSP and the outlook for 2020

The last day of the MSP was dedicated solely to the negotiation of its report. While most of the report was uncontentious, the following three issues required more time:

- **Duration of the Ninth Review Conference:** Different views persisted among delegations concerning the duration of the Ninth Review Conference. Hence, a decision on its precise duration was deferred to the 2020 MSP. However, the MSP agreed, for sound planning purposes, that States parties would be invoiced for 22 days of fully-serviced meetings in 2021. In addition, the MSP requested the UN Office for Disarmament Affairs (ODA) to secure a conference room in Geneva for a period of up to three weeks in November 2021;
- **Acknowledging the impact of the financial measures taken at the 2018 MSP:** While some viewed the period since the 2018 MSP as too short to make an assessment, others wished to reflect more positive language in the report of the MSP;
- **Reference to the work of the 2019 Meetings of Experts:** The [Aide-Memoire](#) submitted jointly by the MSP and MX Chairs and the “food for thought” paper submitted by Russia both contributed to a more substantive exchange on the work of the MXs than was possible in 2018. Unfortunately, how to reflect these two documents in the MSP report became contentious on the final day and demonstrated lingering tensions among key players, most notably between Russia and the United States. Eventually, neither of these documents were referred to or included in the final report of the MSP.

Once these three issues had been resolved, delegations adopted the MSP [report](#) by consensus on 6 December. Overall, the MSP was conducted in a constructive atmosphere and the discussions revealed a growing convergence on issues ranging from assistance, preparedness and response to review mechanisms for developments in science and technology. This year marks the 45th anniversary of the entry into force of the BWC and is an important opportunity to re-emphasize the relevance of the BWC and explore areas of further convergence in the run-up to the Ninth Review Conference.

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The views expressed herein are those of the authors and do not necessarily reflect the views of the United Nations.



On 31 October–1 November 2019, VERTIC ran a tabletop exercise at the Royal Society, London, on investigations of alleged use of biological weapons under the UN Secretary General Mechanism (UNSGM)."

VERTIC Publications



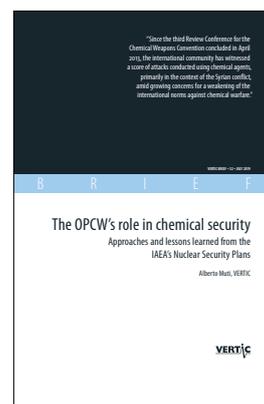
A Primer on The Treaty on Open Skies
VERTIC Fact Sheet No.14, October 2019



National and regional strategies to strengthen legislation on biosafety and biosecurity in Central Asia
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Slides from a presentation, Darmstadt, Germany, 27 September 2019



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Verification Watch

The Open Skies Treaty under duress

Grant Christopher, Senior Researcher

The Open Skies Treaty, in force for over 17 years, faces a challenging 2020. The Trump administration has unofficially signalled its intent to withdraw the United States from the treaty in a decision expected early in the year. If the United States does formally withdraw, Russia is expected to withdraw-in-kind or severely restrict flights, effectively undermining implementation of the treaty.

There are 34 states parties to the treaty in Europe and North America. All participants grant each other a quota of flights over their territory as a transparency and confidence building measure. Flights are conducted by joint aircrews from both the requesting and the observed state with onboard sensors, observation aircraft and the flight plan controlled under the terms of the treaty. Not all states possess certified open skies aircraft; states without such a capability can 'piggy-back' by sending a crew on the observation flight of another state. All imagery collected under the treaty is shared by all parties and therefore has a unique provenance. Imagery sharing of national technical means by states is not standard practice and may not be timely in a crisis. In the Ukraine crisis, extraordinary observation flights—requested by Ukraine itself—were taken, over its territory under Annex L of the treaty. This allowed timely sharing of observed military activity between NATO and non-NATO members.

Both the United States and Russia possess satellite imagery capabilities that are superior in resolution to the optical sensors afforded by the treaty. However, images collected by the treaty may have advantages over available satellite imagery as open skies aircraft can fly under cloud cover and view a facility from multiple angles. The main beneficiaries of the treaty are smaller states that do not have access to high-resolution satellites. Although the treaty permits video, infrared cameras, and sideways-facing Synthetic Aperture Radar (SAR) these observation technologies are not currently used by any state. The treaty also permits the use of digital cameras which were first installed on the Russian An-30B in 2013.

The Open Skies Consultative Commission (OSCC) is the treaty's dispute resolution body, which is composed of state party representatives. The Commission has a mandate to resolve compliance questions and settle ambiguities by consensus. Although this means that the OSCC can be blocked by a single state, the treaty has withstood compliance issues in the past that led to suspension of flights.

The current crisis in the treaty stems from broader disputes between the United States and Russia. Since 2010, flights have been restricted within the 10 km corridor of Russian airspace next to the borders of the Georgian break-away territories of South Ossetia and Abkhazia. This is not based on treaty-specific issues, but rather on broader principles of international law, as Russia claims to recognise the territories as independent states. The United States and its European allies do not acknowledge these claims. In addition, since 2014, Russia has restricted flight distances over the heavily militarised Kaliningrad enclave to 500 km.

The United States has sought to resolve these compliance issues both through the OSCC and bilaterally, and has retaliated by imposing restrictions of its own on flights over Hawaii and Alaska, and denial of base access for transit flights. Additional reasons for the potential US withdrawal include the diminishing utility for the imagery due to its satellite imagery capabilities, concerns about images taken during transit flights before arriving at the observed country and claims that the flights may be used by Russia to collect intelligence that goes beyond confidence building.

Claims about postprocessing of images obtained through the treaty to improve image resolution are complex and the full debate is classified. The sensors aboard each Open Skies-approved aircraft are limited by Article IV and subject to approval and inspection, while the storage medium for sensors is restricted by Article IX. An evaluation in 2000 by US Airforce Captain Daniel E. Sperl on the possibility of increasing the resolution of optical open skies images by postprocessing digital scans of open-skies-like images, found that improvements in postprocessing techniques would be necessary. Image postprocessing remains a concern for the United States and

in December 2019 it placed export restrictions on software for automating the analysis of geospatial imagery.

The treaty has quinquennial review conferences with the next scheduled for late 2020. This is an ideal opportunity for states parties to address compliance issues in a multilateral forum: one of the few remaining where Russia engages in military to military cooperation with NATO states.

Another UN nuclear disarmament verification experts' group to meet in 2021 and 2022

Elena Gai, Noel Stott and Larry MacFaul

On 12 December 2019, the UN General Assembly adopted resolution A/RES/74/50 as a means to advance appropriate nuclear disarmament verification capabilities and to promote trust and confidence among nuclear-armed and non-nuclear-armed states. While Russia voted against its adoption, 178 states voted in support, and five others abstained, including China.

This resolution followed the final report of the Group of Governmental Experts (GGE) established in pursuant of UNGA Resolution 71/67. This GGE was the first time that the General Assembly had established a body specifically to discuss nuclear disarmament verification.

In adopting the new resolution, the General Assembly recognised the need for further work in this area and that 'capacity-building on nuclear disarmament verification is a valuable component in the nuclear disarmament process'. It also noted that there are practical challenges to building such capacity in a sustainable manner. In this respect, the resolution requests the UN Secretary-General to establish another GGE to further consider nuclear disarmament verification issues in 2021 and 2022.

The resolution includes a number of significant shifts in the way GGE's established by the UN Secretary-General are normally constituted and operate. It requests the Secretary-General not only to ensure that the group consists of members chosen on the basis of equitable geographical representation, but also that there is an equitable representation of women and men. In addition, the Chair of the Group is also requested to hold two informal intersessional consultative meetings in New York so that 'all Member States can engage in interactive discussions and share their views, which the Chair shall convey to the group of governmental experts for its consideration'.

Finally, the resolution also gives some direction to the group on what needs to be discussed and debated, including, the concept of a Group of Scientific and Technical Experts (GSTE) on nuclear disarmament verification.

As stated in the previous edition of *Trust & Verify* (Issue no. 164, Summer 2019), the idea for the UN to establish a GSTE was put forward in a Working Paper submitted by Brazil to the 2018/2019 GGE. Brazil argued that such a multilateral group would be a robust confidence-building measure that allowed inclusive ownership and a coherent, comprehensive and sustainable approach. Brazil further maintained that the establishment of such a technical and scientific group would 'enable more States to get involved by creating an environment for States or groups of States to set up their own programmes; by helping identify relevant experts within such States; setting out key technical challenges which need to be resolved; and bringing together experts from a range of States to share knowledge and experiences and develop shared projects'. Such a group would also be able to explore the various verification mechanisms that could support international agreements aiming at the limitation, reduction or elimination of nuclear weapons.

An important task of the new GGE would be to address the concern of some states that without access to proliferation-sensitive information, scientists and technical experts will be unable to make a meaningful contribution to the verification of future nuclear arms control agreements. Indeed, one of the roles of the GSTE envisaged by Brazil, would be to develop guidelines for 'proliferation resistant, yet transparent, exchanges of technical information based on the rules of all participating countries for the restriction of information'.

The adoption of resolution A/RES/74/50 by the General Assembly can only be welcomed as an important development in the quest to advance appropriate verification capabilities and to promote trust and confidence among nuclear-armed and non-nuclear-armed states. It also further reaffirms the importance of the equal participation and full involvement of women in the maintenance and promotion of peace and security as called for in UN Security Council Resolution 1325. Finally, the resolution makes formal provision to expand the discussion beyond the twenty five formal members of the GGE to the broader UN membership, thereby providing a unique opportunity for them to provide substantive input into the deliberations.

Implementation Watch

Error in US biological weapons law corrected

Yasemin Balci, Senior Legal Officer

Trust & Verify [No 162](#) reported on the case of a man in Georgia, United States, who despite being in possession of the toxin ricin was not convicted of unlawfully possessing it because of an error in the law. He had been charged with violating section 175b(c) of Title 18 of the United States Code, which prohibits knowingly possessing a biological agent or toxin that is a 'select agent' without having registered with the Secretary of Health and Human Services (HHS). Select agents are biological agents and toxins that are controlled because of the severe threat these can pose to public health and safety. However, section 175b only referred to select agents in section 73.4 of Title 42 of the Code of Federal Regulations (42 CFR 73.4), which did not list ricin. Ricin only appeared in the full list of select agents in 42 CFR 73.3. The court stated that it "falls to Congress to write criminal laws, or to amend them if they yield unfair or unwanted results".

Following this case in September 2018, lawmakers in the US Congress, which is bicameral and consists of the House of Representatives and the Senate, took this to task and addressed the error. In March 2019, the House of Representatives introduced the bill named *Effective Prosecution of Possession of Biological Toxins and Agents Act 2019* (H.R.1986). The same month, an identical bill was introduced in the Senate (S.744). The Senate passed its bill in May 2019 and the House followed in July 2019. The bill became law on 25 July 2019 ([Public Law No 116-31](#)). Its official title is *An Act to amend section 175b of title 18, United States Code, to correct a scrivener's error*. This new law refers to part 73 of Title 42 without referring to a specific section.

Section 175 of Title 18 is originally a codification of the 1989 *Biological Weapons Anti-Terrorism Act*. Section 175b was added by the *US PATRIOT Act* following the terrorist attacks on 11 September 2001 and was amended in 2002 by the *Public Health Security and Bioterrorism Preparedness and Response Act* and in 2004 by the *Weapons of Mass Destruction Prohibition Improvement Act*. This last amendment is the first

time a reference is made to 42 CFR 73.4 regarding select agents, replacing an earlier reference to an appendix listing the select agents. While this amendment was correct at the time, three months later, the Code of Federal Regulations was re-arranged and the select agents then appeared in 42 CFR 73.3 instead.

This textually small and inadvertently made 'scrivener's' error had major consequences in practice and shows the importance of precise legislative drafting for effective and fair enforcement of the law. The case of the man in possession of ricin in Georgia did not result in a conviction as the court concluded that the text of section 175b was clear and did not include ricin. In another case involving the possession of ricin under the same section 175b(c), however, reported in *Trust & Verify* [No 160](#), the legislative error was not mentioned and the defendant pleaded guilty under section 175b(c) for unlawfully possessing ricin. No term of imprisonment was imposed, but the defendant was sentenced to 5 years' probation and a fine of 10,000 USD.

Moreover, the error highlights the importance of legislative drafting in terms of accessibility of the law. Criminal law in particular is meant to be clear and understandable, so that individuals and companies know what conduct is unlawful, and practitioners such as prosecutors, judges and defence lawyers can apply it consistently. This is a fundamental aspect of the rule of law and was a consideration in the ricin case in Georgia. While acknowledging the risks of possessing certain biological agents and toxins without permission, the court 'equally [. . .] takes very seriously the principle that citizens ought to have fair and clear warning of the conduct for which they can be held criminally responsible'. In the new law, US lawmakers not only corrected the error, but also redesigned the structure of section 175b. By adding titles and subtitles and adjusting the margins, the section is now clearer in stating what conduct is prohibited, what the penalties are and which agents and toxins are covered.

CWC Annex on Chemicals changed for the first time

Thomas Brown, Associate Legal Officer

On 27 November 2019, the 24th Session of the Conference of the States Parties (CSP) to the Chemical Weapons Convention (CWC) adopted two decisions ([C-24/DEC.4](#) and [C-24/DEC.5](#)) to change the Annex on Chemicals to the Convention. This is the first time that the CWC's Annex on Chemicals has been changed since the entry into force of the treaty in 1997.

The changes to the Annex on Chemicals occurred against the backdrop of the use of a Novichok nerve agent against the Skripal family in Salisbury, UK, and a second exposure in Amesbury, UK in 2018. Prior to these incidents, relatively little was known about Novichok agents in the available scientific literature and the known structures were largely excluded from the original CWC Annex on Chemicals. As such, the use of the agents presented a significant challenge for the CWC.

States Parties therefore moved to propose changes to the CWC under Article XV(5). Two competing proposals were submitted to the Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW): one joint proposal by the US, Canada and the Netherlands, and another proposal by Russia. The joint proposal sought to add two families of chemicals to Schedule 1 of the CWC, including the agent used in Salisbury and Amesbury. The Russian proposal included five groups of substances to be added to the Convention, also covering the agent used in Salisbury and Amesbury and other potential Novichok substances.

However, due to political tensions and the aforementioned lack of information about Novichok structures, the scope of the two proposals proved controversial at the OPCW Executive Council. The Director-General of the OPCW evaluated both proposals, but the outcome of the evaluations have not been made publicly available. While the joint proposal was recommended for adoption by the Executive Council, Russia objected to the proposal, arguing that it was limited and politically motivated. Therefore, under the next step in the procedure, Article XV (5)(e) mandated that the States Parties come to a decision at the next CSP. The Russian proposal was recommended for rejection by the Executive Council due to the lack of consensus on whether or not the fifth

proposed addition was consistent with the guidelines in the Convention. This rejection was similarly objected to by Russia, and again the Article XV (5)(e) procedure was instigated.

A series of consultations ensued in August 2019 between Russia, the US, Canada and the Netherlands, with the participation of the OPCW Technical Secretariat, with the aim of seeking common ground. The successful consultations led to the submission of an amended proposal by Russia, which included only four proposed additions to the Convention. The joint proposal and the amended Russian proposal were subsequently adopted at the 24th CSP. The decision on the joint proposal makes explicit reference to the incidents in Salisbury and Amesbury in the preamble, whereas the decision on the Russian proposal does not. After the historic result, the Director-General of the OPCW notified the States Parties and the Depository of the two decisions on 10 December 2019. Under Article XV 5(g) of the CWC, the changes shall enter into force for all States Parties 180 days after this date of notification, on 7 June 2020.

In line with Article VII of the Convention on national implementation, States Parties may need to review and update their national legislation and regulations to incorporate the recent changes to the Annex on Chemicals. If States Parties have listed the CWC scheduled chemicals in national laws and regulations, such lists will need to be changed to include the new additions. States Parties may also need to make declarations regarding any of the new agents in their possession under Article III, and subject such agents to the verification regime pursuant to Article VI and the Verification Annex. To aid implementation of Article VI after the changes, the OPCW has recently released a guidance note ([S/1821/2019](#), dated 31 December 2019) detailing pertinent considerations on initial declarations for Schedule 1 facilities, declarations and notifications of transfers, facility agreements and inspections. States Parties will likely need to undertake a review of their legislation as soon as possible, in light of entry into force of the changes in June 2020.

Compliance Watch

Recent disposal of vessels under the North Korean sanctions regime

Cristina Rotaru, Researcher

The recent disposal of two vessels seized pursuant to North Korean sanctions enforcement provides an indication on how frozen or impounded vessels might be handled in relation to sanctions regimes going forward.

The first case concerns the North Korea-flagged bulk carrier *Wise Honest* (IMO No. 8905490), first impounded by Indonesian authorities in 2018 on account of it carrying out illicit coal shipments from North Korea in violation of UN sanctions. The *Wise Honest* was North Korea's second largest cargo vessel, listed as under the ownership of Korea Songi Shipping Company, an entity blacklisted by the US Treasury, and owned by the North Korean army. Indonesia later surrendered the vessel to the US Coast Guard, which in an unprecedented move impounded the *Wise Honest* on 9 May 2019 based on a claim that it violated US civil law.

In July 2019, the parents of Otto Warmbier, the American student who died shortly after he was returned to the United States after being held in detention in North Korea in 2017, initiated a claim to seize the vessel as partial payment of the \$500 million awarded to them by a US court for the wrongful death of their son. In doing so, the Warmbier family claimed that they sued for reparations from the *Wise Honest* to, at least in part, fulfil the court judgement in their favour. A precedent to the Warmbier lawsuit was set in 2017, when the acting Manhattan US Attorney determined that a \$500 million building on Fifth Avenue could be used to pay off fines related to violations of Iran sanctions. On 27 July 2019, it was reported that the US Marshals Service, which at the time had custody of the *Wise Honest* in the port of Pago Pago in American Samoa, was considering how to sell the seized vessel as ordered by the federal court. On 21 October, the Manhattan US Attorney announced the forfeiture of the North Korean vessel, saying the judgement finalised 'the US government's seizure of the *Wise Honest* and officially takes this North Korean vessel out of commission'. It was then reported that the vessel had been sold to an unidentified US company for

scrap, with the proceeds to be used as compensation for the families of victims of the North Korean regime, including the Warmbiers.

The second case concerns the reported seizure of the Russia-flagged container ship *Sevastopol* (IMO No. 9235127) by Singaporean authorities on 9 December 2019. The seizure was initiated on account of berthing debts, and not sanctions violations, according to the fleet management director general of the ship's operator, Gudzon Shipping Co. He also claimed that Singapore was planning to confiscate the *Sevastopol* through court proceedings and sell it at a public auction. At the time of the seizure, 12 crew were still on board. Singaporean port authorities restricted access to the ship while judicial proceedings continued. If they prevail in court, they intend to sell the ship to satisfy Gudzon's debt.

A trial was set for 17 December 2019. As of 24 January 2020, the *Sevastopol* was listed as one of the vessels under the Sheriff's arrest in court documents published by the Singapore Supreme Court. The tanker was first blacklisted by the US Treasury's Office of Foreign Assets Control (OFAC) in 2018 under US unilateral sanctions against North Korea for connections to another Gudzon-operated vessel that conducted ship-to-ship transfers of petroleum products with North Korean vessels in the East China Sea. Then, in October 2018, Russian state media reported that South Korean port state authorities in Busan had detained the *Sevastopol*, three months after OFAC added both its operators, Gudzon Shipping Co. and Primorye Maritime Logistics Co. of Vladivostok, Russia, to its list of restricted entities. At the time, US officials did not specifically accuse the *Sevastopol* of direct involvement in Gudzon's alleged trade with North Korea, with Gudzon claiming that the *Sevastopol* was being held in Busan illegally. Russian media at the time reported that the vessel had not been formally arrested, although it was subject to a temporary detention for 'fact-finding' purposes.

A report by Radio Free Asia stated that the vessel was having trouble securing fuel, as potential fuel providers were reluctant to engage with an OFAC-designated vessel for fear of violating US sanctions, particularly in light of a joint advisory

from the Treasury Department and US Coast Guard issued in February 2018, which threatened to pursue those violating North Korean shipping sanctions. According to [NK News](#), OFAC designations do not result in port bans like their UN counterparts, but the sanctions could make it difficult for companies and banks involved in transactions with a Treasury sanctioned asset or company. Gudzon continues to deny any connections to North Korea and says that it is in talks with the US Treasury in order to have the sanctions lifted.

These two cases show that vessels may, in certain circumstances, be ordered to be sold by domestic courts, even for scrap, with the proceeds put towards satisfying claims against the DPRK regime.

EU prepares for a 'Magnitsky-style' human rights sanctions regime

Cristina Rotaru, Researcher

The EU's new top diplomat Josep Borrell, who has recently taken over the job from Italian diplomat Federica Mogherini, told reporters in Brussels on 9 December 2019 that the Council of the European Union will be launching 'the preparatory work for a global sanctions regime to address serious human rights violations, which will be the EU equivalent of the so-called Magnitsky Act of the United States'. The Global Magnitsky Act, originally signed by President Obama in 2016, set in place a legal framework under which the US government can sanction foreign government officials implicated in human rights abuses anywhere in the world.

The EU law is expected to mirror the US model, and will target individuals involved in global human rights abuses who will face EU asset freezes and travel bans. Borrell added that this initiative would provide the EU with 'much more strength and much more capacity to act', stating 'this will be a tangible step reaffirming the EU's global lead on human rights'.

In March 2019, the European Parliament passed a resolution with 447 in favour and 70 against, calling for a European-style 'Magnitsky Act' to include state and non-state actors that are known to have contributed, physically, financially or through acts of systemic corruption, to global human rights abuses and crimes.

So far, EU officials have given no official date for the commencement of the new framework; however, they have

VERTIC Events



In July 2019, VERTIC co-hosted a workshop run by CARST in Pretoria, South Africa, on building technical capacity to contribute to nuclear disarmament verification.



In August 2019, VERTIC co-hosted a workshop run by NPSGlobal in Buenos Aires, Argentina, on building technical capacity to contribute to nuclear disarmament verification.



In September 2019, VERTIC hosted a reception on 'Empowering Diplomacy through Science' at the IAEA General Conference in which we discussed the relevance of science diplomacy.

indicated that it should be ready to be presented for their final approval in 2020. It remains unclear whether Magnitsky's name will be attached to the new sanctions regime, as it is in the United States and Canada. In some European circles, the association of Magnitsky's name with the EU proposal was a point of contention, with certain states insisting that it be kept off the official reference so as to not suggest that the law targets Russia in particular, arguing that it would look at Saudi Arabia, as well as states in Africa and Asia, as potential targets, too.

Even though some EU member states who maintain close ties with Russia have reportedly voiced reservations about the new framework, Borrell told the press that there was 'enough consensus to start the technical process'.

Science & Technology Scan

Quantum computing and verification

Grant Christopher, Senior Researcher

In October 2019 Google announced that its Quantum Sycamore computer had achieved ‘quantum supremacy’ by solving a computing problem that was beyond the capabilities of an ordinary, ‘classical’ supercomputer. IBM provided a strong rebuttal to Google’s claim but regardless this is a significant milestone in the development of quantum computers.

By operating semiconductors at temperatures close to absolute zero materials can possess the strange sub-microscopic properties of the quantum world. This makes the quantum counterpart of a bit: the qubit. A bit in a classical computer is a 0 or 1, the basic unit of information in the information age. All technological advances in computing, as predicted by Moore’s Law (that computing power has been observed to double every 18 months), speed up this process of reading and writing bits, without changing the fundamentals of how a computer operates. The performance of consumer electronics today is typically measured in gigabytes, or one trillion bytes (a byte is composed of eight bits). In contrast, Google’s Sycamore has just 53 qubits.

A qubit breaks the rules of a classical bit in a number of ways. Like Schrödinger’s famous cat, the qubit does not have to be just 0 or 1, dead or alive, it can be a mix of both at the same time. To comprehend how qubits change computing, however, the ontology of cats can aid us no further. The power in a qubit stems from using concepts in quantum mechanics—the physics of the atom—to leverage concepts such as interference, superposition and entanglement between multiple qubits to perform computations. In classical computing the bits must be 0s and 1s and cannot interact.

The implications of advances in quantum computing for arms control and verification are unclear, but there are three principal applications. First, the ability to securely store and transfer encrypted data underpins many arms control agreements. In quantum computing, it is unclear as yet where the advantage will be in the measures and counter-measures race between encryption and decryption. A fully realised quantum computer would make classical encryption obsolete. However, experts have noted that Sycamore is still a long way from being

able to solve RSA (Rivest-Shamir-Adleman) encryption, which now powers most internet communications. Quantum encryption, on the other hand, will make data transfer and storage far more secure. Moreover, wavefunction collapse—meaning, that once something is measured it changes its behaviour—can be used to test if a signal has been intercepted and measured.

The second foreseen major application is the ability to provide vastly more computing power. This could be used in machine learning to quickly train an algorithm using a large dataset. Applications of machine learning in arms control and verification are becoming more widespread. For instance, the United States announced in December 2019 that it was applying export controls to machine learning software for satellite imagery analysis.

Finally, quantum computers will allow quantum-based calculations of the physical world, such as quantum-mechanical behaviour of atoms and molecules. What this new understanding will bring is unknown.

The challenges in quantum computing cannot be reduced to just increasing the number of qubits. There are two main challenges. First, the qubits must be made more reliable. The problem is similar to being able to consistently read the 1s and 0s in classical bits. This is a problem that was solved in classical computers a long time ago, and the future quantum computer needs to be ‘fault tolerant and error corrected’. This is a major barrier to realising the potential of quantum computers.

The second major challenge is in learning to speak to quantum computers in their own language. New quantum algorithms and computer languages must be developed. In the interim, classical algorithms will continue to be used.

Quantum computers are already a publicly available resource. IBM has released an open-source development toolkit, called Qiskit, written in the commonly used python language for users to run code on IBM’s quantum computers via the cloud. Such a publicly available resource will accelerate adoption and innovation in learning how to use quantum computers and how to develop quantum algorithms. Qiskit tutorial exercises highlight the limitations of this generation of quantum computers by showing how they make errors relative to simulations of their behaviour on classical computers.

Sycamore is the latest in a series of quantum computing milestones that mark the path to an era of mass-adoption.

Space Situational Awareness Technologies: Breaking down space into a verifiable domain

Anuradha Damale, Research Assistant

Discussions within UN member states surrounding possible multilateral instruments for strengthening stability and security in space are often challenged by the issue of verification, and how or even if behaviours and compliance can be verified. In October 2019, Daniel Porras of the United Nations Institute for Disarmament Research (UNIDIR) published a report called 'Eyes on the Sky', which, amongst other things, outlines developments in space situational awareness (SSA) technologies that could help states focus on the verifiable aspects of space security.

In March 2019, India conducted an anti-satellite (ASAT) test from the Bay of Bengal, demonstrating India's 'hit-to-kill' capability to intercept satellites. The test, Mission Shakti, was lauded by Indian Prime Minister Narendra Modi as having a 'historical impact for months to come'. However, the test was also criticised by the international community, especially concerning the generation of space debris from the destruction of the satellite. A more general concern raised by this case is that it highlighted the absence of norms on behaviour in space. Attempts to propose such an instrument by China and Russia have been ongoing for several decades, in the form of the Prevention of an Arms Race in Outer Space (PAROS) treaty. A major criticism by other states of this approach is that it attempts to encompass too many behaviours and technologies. Looking at more bounded, technically verifiable aspects of behaviours in space, could lead to achievable policy decisions in the form of resolutions, or even normative agreements, that are more appealing to member states.

Of course, ASAT capability is not exclusive to India, nor is it currently the only cause for concern within both the civilian and military space sectors. However, as a result of a range of growing security concerns in space, states have been investing more in space defence capabilities. Furthermore, the North Atlantic Treaty Organisation (NATO) named space as the fifth operational domain for warfighting at its summit meeting in London in December 2019.

Porras provides one example of a possibly technically verifiable 'behaviour' in space in his earlier publication, 'Space Dossier 2: Towards ASAT Test Guidelines (2019)', which presented hypothetical regulations which could, to some extent, be verified by SSA technologies. According to Porras, SSA generally refers to the knowledge and characterisation of space objects/activities and their environment. SSA technology falls under what NATO calls Intelligence, Surveillance and Reconnaissance (ISR) capabilities: these can be ground-based sensors, spaced-based optical sensors (telescopes), radars that collect data on activity and software that processes the data to present information on the activity. Many states' military and civil agencies possess these capabilities, but the most advanced SSA technology currently is understood to be commercial.

Porras outlines three areas of development in SSA technology which facilitate the creation of a clearer picture of what is going on in space today: more sensors, better sensors and better computing. In particular, the total number of sensors—and so the number of incidents recorded—are increasing. To highlight this, Porras cites the current value of the commercial SSA market as being worth roughly USD 1.1 billion, and is predicted to rise to USD 1.4 billion by 2023. This growth is believed to be a reflection on the need for governments and agencies to know where their space assets are and what could be affecting them. The sensitivity of these sensors is also improving, with Canadian space consultancy firm Space Strategies Consulting Limited planning to deploy light detection and ranging (LIDAR) sensors in orbit that can image a 10 cm object at a distance of about 1,000 km, and possibly be able to define the form and function of objects in space.

The ASAT test regulations laid out in Space Dossier 2 are: (1) no debris; (2) low debris – if an actor must create debris during an ASAT test, the test should be carried out at an altitude sufficiently low that the debris will not be long-lived; and (3) actors testing ASATs should notify others of their activities (even if they are not completely transparent on the motivation behind the test) to avoid misperceptions or misinterpretations. Regulations (1) and (2) could very well be addressed by these developments in SSA technology. Whilst these developments might not be enough to solve all the issues with regard to behaviour in space, it is a promising first step in making a verifiable instrument to address a significant compliance issue in space security.

Centre News

Andreas Persbo

VERTIC said a fond farewell to its Executive Director, Andreas Persbo, last November as he left to join the European Leadership Network (ELN) as Director of Studies. Andreas had worked at VERTIC for 15 years, joining in 2004 as a Researcher, progressing to Senior Researcher, Programme Director and ultimately Executive Director, a position he held for over 10 years.

Andreas made an outstanding contribution to the organisation and to the wider field of peace and security during this time. His research and engagement work focused on nuclear arms control, and in particular non-proliferation and disarmament verification. He was keenly involved in efforts to broaden understanding and build capacity in disarmament verification internationally, and he was instrumental in the creation of the UK-Norway Initiative and in founding VERTIC's work in nuclear fuel cycle modelling. His research also encompassed analysis of nuclear safeguards, CTBTO verification and on-site inspection systems, as well as verification applied in Iran and North Korea. Andreas's natural inquisitiveness and intellectual curiosity also led him to study and engage on other VERTIC themes, including conventional forces verification regimes and new thinking on the Open Skies Treaty.

Although trained as a lawyer, Andreas' approach to his work went beyond the legal realm and embraced the full spectrum of political and technical issues, as well as reflecting his passion for science and technology. Complementing these characteristics are a steely commitment to accuracy and clarity, as well as almost limitless patience and good humour—the foundations of all good researchers and communicators. As well as managing a very busy organisation, he also published prolifically in both VERTIC and external publications and spoke frequently and vigorously in forums around the world.

Non-profit organisations such as VERTIC survive or die on their ability to develop relevant new projects, to maintain constructive working relationships with funders and a secure grant portfolio, and to successfully develop and oversee staff resources to achieve project objectives. Andreas proved

highly successful in managing these vital tasks, and in steering the organisation through some turbulent years for non-profit funding in our sector, and led the fundraising team to steadily increase the grant portfolio year-on-year, to its highest-ever levels at the time of his departure.

The staff have valued his leadership and force of nature-style of guidance. VERTIC has greatly benefitted from his remarkable proactiveness in terms of generating insightful project ideas and conceptual thinking on topical verification issues, developing the necessary skill sets within the wider team, and simply doing what needs to be done to run and grow a work area.

We greatly miss working with him day-to-day, and we wish him all the very best in his new role at the ELN. Andreas remains a dear colleague and friend and a very highly regarded member of our community.

In memoriam: Sir Hugh Beach

General Sir Hugh Beach, who died aged 96 in September, was said to be the cleverest general of his generation. Several VERTIC staff have fond memories of Sir Hugh, who was a long-standing trustee of the Centre and latterly its Honorary President. Described as 'warm-hearted, witty and dedicated' by one member of staff, he would regularly pass on his thanks for updates from VERTIC, and respond to our publications. Andreas Persbo, VERTIC's Executive Director, said:

Since we were both military men, although worlds apart in rank, we shared a common understanding. We had both witnessed what comes when the violence of men is unleashed. He had an incredible moral compass, guided by both his faith and his political beliefs. He stayed true to his convictions to the end. Sir Hugh's last email to me, in response to some internal paperwork, read 'very impressive, as always.' Sir Hugh made sure that you felt appreciated. His optimism, charisma, and dedication to our cause will be missed. The world has become an emptier place.

Dr Owen Greene, who served with Sir Hugh on the VERTIC board for the most part of three decades, said:

Sir Hugh led an extremely full and productive life, and so alongside the sadness at this loss, it is also important to celebrate his life. I worked with Sir Hugh in VERTIC from the very beginning of the charity in the mid-1980s, and it was always a pleasure. In addition to wide governance and advice, he was prepared to rough it and to engage in practical work whenever useful.

Sir Hugh's memorial service took place at St Mary, The Boltons, in November. The service was attended by his family and his many friends and colleagues, filling the entire church.

National Implementation Measures

Sonia Drobysz (Programme Director), Yasemin Balci, Thomas Brown

Since July 2019 the National Implementation Measures (NIM) team has worked across a number of projects to advance the implementation of international instruments related to chemical, biological, radiological and nuclear (CBRN) weapons and materials. The team are happy to welcome Programme Director Sonia Drobysz back from maternity leave, after she became the proud mother to a new baby boy in July.

Biosafety and biosecurity

The programme concluded its work on the European Union Chemical, Biological, Radiological and Nuclear Centres of Excellence (EU CBRN CoE) Project 53 on biosafety and biosecurity in Central Asia. VERTIC and national experts jointly conducted a comprehensive analysis of biosafety and biosecurity existing legislation in each of the partner countries, summarised the findings and recommended gaps to be addressed. VERTIC also provided guidance and feedback on draft biosafety and biosecurity laws for Kazakhstan and Tajikistan, with the draft law for the latter currently under review by the Tajik government and parliament.

Additionally, the NIM team completed their work alongside the International Federation of Biosafety Associations (IFBA) and the Malian Association for Biosafety and

Biosecurity (MABB) on a project funded by Global Affairs Canada to strengthen biosafety and biosecurity in Mali. The team provided input on Mali's draft law on biosafety and biosecurity, as well as a draft law and decree on the establishment of a national agency for biosafety and biosecurity.

CRBN waste management

The NIM programme is also close to completing its participation on EU CBRN CoE Project 67 on CBRN waste management in South East and Eastern Europe, which will run through 2021. Senior Legal Officer, Yasemin Balci participated in a Regional Meeting as well as a National Focal Points meeting in Albania on 5–6 November, where she discussed the legislative findings of the project countries' reports. Work has also continued under EU CBRN CoE Project 61 on the management of chemicals in Southeast Asia to develop comprehensive legal analyses of the project countries' legislation for the sound management of chemicals and their wastes.

Awareness raising on national implementation of CBRN international instruments

Finally, the team engaged states and advocated for national implementation of CBRN international instruments at treaty events. Yasemin delivered VERTIC's statement at the Meeting of States Parties to the Biological and Toxin Weapons Convention, held in Geneva on 3–6 December 2019. In addition, she participated in two side events, speaking about VERTIC's recent table-top exercise on the UN Secretary-General's Mechanism on investigations of alleged biological weapons use and work under EU CBRN CoE Project 53. She also participated in the 24th Conference of the States Parties to the Chemical Weapons Convention. Associate Legal Officer, Thomas Brown represented VERTIC at the annual EU Non-Proliferation and Disarmament Conference 2019 in Brussels on 12–14 December.

Team news

In December 2019, VERTIC sadly said goodbye to Leanna Burnard. Leanna has left the organisation to take up a position with the Free Yezidi Foundation in Iraq and we wish her well in her new role.

Verification and Monitoring

Larry MacFaul (Programme Director), Noel Stott, Grant Christopher, Alberto Muti, Elena Gai and Anuradha Damale

Capacity building for Nuclear Disarmament

Verification

The team has continued to engage with partners in South America and Africa on strengthening capacity building on nuclear disarmament verification, helping to run workshops in Pretoria in July and in Buenos Aires in August. In October, VERTIC, in cooperation with UNODA, hosted a seminar on ‘Scientific and Technological Capacity for Disarmament and Non-Proliferation’ in New York during the UN First Committee on Disarmament. VERTIC also hosted a reception on ‘Empowering Diplomacy through Science’ at the IAEA General Conference in which we discussed the relevance of science diplomacy.

Methodologies for Nuclear Disarmament Verification

The programme has moved forward in refining its methodologies to assess the nuclear fuel cycle and its potential for weapons production. During the second half of the year, the team presented and exchanged views on our evolving approach at the US national laboratories in New Mexico, the Joint Research Centre (JRC) in Ispra, Italy, and Stanford University. Part of the team also attended technical fuel cycle modelling training at Oak Ridge National Laboratory.

Responding to alleged use of biological weapons

In October, the programme ran a scenario-based table-top exercise at the Royal Society, London, on investigations of alleged use of biological weapons under the UN Secretary General Mechanism (UNSGM). The exercise aimed at identifying practical challenges that a deployed UNSGM investigation team may face, and explored strategies to mitigate them. The exercise focused on cooperation, coordination and communication issues between the UNSGM investigation team and other national and international stakeholders, such as law enforcement and national security authorities, public health bodies, international humanitarian relief organisations, other UN agencies, and international expert communities. Thirty high-level practitioners with current and previous policy and emergency response coordination responsibilities participated in the exercise. The group included former international

investigators on alleged chemical attacks in Syria, UN officials, and a range of government officials in charge of CBRN policy and emergency planning and response from the public health and law enforcement sides, as well as foreign affairs.

Open Skies Treaty

During July–September, Larry MacFaul engaged with international stakeholders on the state of the Open Skies Treaty and prospects for the agreement. The team also released a short primer on the Open Skies Treaty.

Emerging technologies

In September, Senior Researcher Grant Christopher participated in the 2019 Science, Peace and Security conference in Darmstadt, Germany. Grant presented on additive manufacturing.

Cross-cutting events

In September, Senior Researcher Noel Stott participated in a seminar on the Hague Code of Conduct against Ballistic Missile Proliferation in Djibouti. In October, Alberto Muti participated in the Global Partnership Working Group in Paris, where he distributed hard copies of *VERTIC Briefs* n. 31 and 32, which focus on chemical security. Larry MacFaul participated in the conference ‘Maintaining Global Strategic Stability and Promoting International Nuclear Cooperation’ in Shenzhen. The meeting was hosted by the China Arms Control and Disarmament Association, the Program for Science and National Security Studies and the Nuclear Threat Initiative. At the meeting, Larry chaired the final panel which focused on ‘Verification Technologies and Nuclear Forensics’. In November, Elena Gai participated in the Moscow Non-proliferation Conference and in December she represented VERTIC at the Wilton Park Conference ‘Nuclear Non-proliferation: Preparing for the 2020 NPT RevCon’.

Team news

The team is extremely pleased to welcome Ms. Anuradha Damale as Research Assistant. Anuradha holds a BSc in Physics from Durham University and a MSc in Science and Technology Policy from the University of Sussex. She is currently Director of the new UK Branch of Women of Colour Advancing Peace and Security, and Chair of UKSEDS, the UK national space charity. In August, Anuradha was invited as a participant

to the Union of Concerned Scientists' International Summer Symposium on Science and World Affairs in Beirut, Lebanon. In December she participated in the pilot 'Beyond 2020: The Next 50 Years of the NPT' event, hosted jointly by RUSI and BASIC.

Special Projects

Angela Woodward, Celeste Donovan and Cristina Rotaru

Sanctions-related research and workshops

During the second half of 2019, the Special Projects team continued its work on sanctions-related research and workshops, maintaining a particular focus on states' legal implementation of UN Security Council maritime-related sanctions on North Korea. Programme Director Angela Woodward participated in regional workshops on implementation of UN maritime sanctions concerning North Korea held in Bridgetown, Barbados during 10–11 July 2019 and Johannesburg, South Africa during 15–16 July 2019 and a further workshop held in Panama City, Panama during 23–24 October 2019. Angela gave presentations on states' maritime-related obligations under the UN Security Council Resolutions concerning North Korea, and provided training to workshop participants on implementing these requirements in national regulatory frameworks.

Cristina Rotaru attended an expert discussion on Challenges of Compliance with UN arms embargoes in Geneva on 9–10 September, under the direction of the Small Arms Survey and the Graduate Institute of International and Development Studies, where she delivered a presentation on strategies and counterstrategies in effective implementation and enforcement, titled 'Implementing maritime sanctions on North Korea: Challenges and practices'. In December, Cristina was featured as a speaker in the Small Arms Survey podcast, where she discussed North Korean illicit maritime activity in violation of UN sanctions.

Outreach in New Zealand

On 1 July, Angela gave a talk on verifying nuclear disarmament to a group of 20 students from Monash University, Melbourne, Australia who were visiting the Disarmament and Security Centre (DSC) in Christchurch, New Zealand with their supervisor, Associate Professor Maria Rost Rublee. Celeste

also attended this talk. On 7 August, Angela spoke about legal careers in non-governmental organisations to the Women in Law student group at the University of Canterbury in Christchurch and on 11 August, she spoke about the current challenges to the nuclear non-proliferation regime at the Hiroshima and Nagasaki commemoration at the World Peace Bell in the Christchurch Botanic Gardens.

During 19–20 September, Angela participated in a workshop for parliamentarians from Pacific States on 'Engaging Parliaments of the Pacific region in the Implementation of UN Security Council Resolution 1540' organised by the Inter-Parliamentary Union (IPU) in conjunction with the New Zealand House of Representatives, where the event was held. The parliamentary participants represented Fiji, Kiribati, New Caledonia, New Zealand, Niue, Samoa, Solomon Islands, Timor-Leste, Tonga and Vanuatu. Angela gave a presentation on 'How parliamentarians can help prevent the proliferation of nuclear, chemical and biological weapons', gave invited remarks on 'Using the 1540 National Reports and Matrices', was a rapporteur for a working group, and coordinated an agreed Joint Statement of the workshop. On 21 September she participated in the 'Biological Weapons Convention (BWC) Universalisation Workshop for the Pacific', organised by UNODA in conjunction with the New Zealand House of Representatives, pursuant to EU Council Decision 2019/97 in support of the BWC. Representatives from the Federated States of Micronesia and Tuvalu joined the Pacific parliamentarians at this follow-on event. Angela facilitated a plenary discussion on 'Biosecurity, biosafety and other bio-issues in the Pacific'.

In her role as an Executive Council member of the Disarmament and Security Centre, based in Christchurch, New Zealand, she attended DSC governance meetings on 26 July and 9 December, attended a talk given by the DSC Coordinator, Lucy Stewart, on nuclear disarmament on 16 October, and gave a talk on nuclear disarmament verification to Marcus Coll, DSC Researcher and Tamkeen Saeid, DSC Disarmament Fellow on 9 October.

Team news

The team said farewell to Celeste Donovan, who on 31 December reached the end of her contract. We thank her for all her work on the DPRK sanctions projects and wish her the very best in all future endeavours.

Grants and Administration

The NIM programme has started two new projects. The Norwegian Ministry of Foreign Affairs is funding a three-year project with the programme on legislative assistance for national implementation of the BWC and CWC. The team will also be involved in EU CBRN Centres of Excellence Project 81 on enhancing biosecurity in South-East Asia.

Helen Cummins left as VERTIC's Administrator in late December. We wish her all the best in her new post.

Following Andreas Persbo's departure, Angela Woodward took up Acting Executive Director duties and Larry MacFaul became Acting Deputy Executive Director. Angela and Larry are working closely with Senior Management Group colleagues, Dr Sonia Drobysz, Director of National Implementation and Nataliya Izedinova, Director of Finance, to ensure the continued smooth operation of the organisation.'



building trust through verification

Mission statement

VERTIC is an independent, not-for-profit, non-governmental organisation. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives, with particular attention to issues of monitoring, review, legislation and verification. We conduct research, analysis and provide expert advice and information to governments and other stakeholders. We also provide support for capacity building, training, legislative assistance and cooperation.

Personnel

Ms Angela Woodward, Acting Executive Director, Programme Director (New Zealand/United Kingdom);
Mr Larry MacFaul, Acting Deputy Executive Director, Programme Director (United Kingdom);
Dr Sonia Drobysz, Programme Director (France);
Nataliya Izedinova, Finance Director (United Kingdom);
Ms Yasemin Balci, Senior Legal Officer (the Netherlands);
Dr Grant Christopher, Senior Researcher (USA);
Mr Alberto Muti, Senior Researcher (Italy);
Mr Noel Stott, Senior Researcher (South Africa);
Ms. Cristina Rotaru, Researcher (Romania);
Ms Celeste Donovan (New Zealand);
Ms. Leanna Burnard, Legal Officer (Australia);
Ms Elena Gai, Researcher (Italy);
Mr Thomas Brown, Associate Legal Officer (United Kingdom);
Ms Helen Cummins, Administrator (United Kingdom); and
Ms Anuradha Damale (United Kingdom).

Honorary President

General Sir Hugh Beach, President (United Kingdom)

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Professor Graham Pearson (United Kingdom);
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Dr Rosalind Reeve (United Kingdom);
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Minister Victor S. Slipchenko (Russian Federation); and
Dr David Wolfe (United States).

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