VeSPoTec

ZeFKo Studies in Peace and Conflict

Call for Papers "Nuclear Verification in an Unstable World"

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Guest Editors: Hassan Elbahtimy[1], Malte Göttsche[2], and Irmie Niemeyer[3]

Verification plays a pivotal role in the effective implementation of non-proliferation, arms control and disarmament agreements. Since the Cold War, nuclear verification regimes have adapted to technological advancements and changing political landscapes. Lessons have been learned from past successes, challenges, and crises. On the one hand, some verification regimes, like International Atomic Energy Agency (IAEA) safeguards, have evolved and become more resilient over time, particularly since the early 1990s. On the other hand, verification regimes addressing bilateral arms control and nuclear reductions have been harshly affected by geostrategic changes in the early 2020s. In an increasingly complex international environment, new significant challenges continue to emerge, as well as opportunities to enhance verification regimes and activities. Those challenges and opportunities must be proactively considered by verification researchers and practitioners.

Preparedness regarding unforeseeable or unexpected circumstances must be enhanced. For example, events such as natural disasters, wars, or socio-political conflicts can severely limit on-site access for inspections. Cyber conflicts, including the active spread of misinformation, can make it more difficult to evaluate verification-relevant information. Findings and conclusions drawn from verification activities, supposed to be independent and sound, may be increasingly contested. Finally, in an increasingly multiplex world order, global affairs become contentious, and mistrust among states and toward multilateral institutions and associated verification regimes could grow.

This Special Section addresses the role and functioning of verification for nuclear nonproliferation, arms control, and disarmament in an increasingly unstable and multiplex world, where information is contested. Against this background, how can verification regimes be adapted or enhanced in the service of global security? To answer those questions, this special section will combine contributions from the natural and technical sciences, political science, sociology, and any other relevant disciplines, aiming to discuss the challenges and opportunities for verification in this new evolving and challenging environment.

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The issue aims to cover contributions relevant to both practitioners and academics working in the field of nuclear verification. Possible key questions to be addressed include, but are not limited to:

- How do current international and domestic changes and crises impact verification regimes and institutions?
- Which technical and non-technical approaches could potentially make current and possible future verification regimes more effective, reliable, trustworthy, and credible?
- How can compliance assessments be made when uncertainties and knowledge gaps remain?
- What are the possibilities and limitations of verification in building confidence in environments of mistrust?
- How is verification influenced by worldviews, mindsets, normative expectations, and notions of justice and injustice?
- How do geostrategic elements, such as cost-benefit calculations, threat perceptions, enforcement mechanisms, and (im)balances of power impact verification regimes?
- What lessons could be learned from the history of negotiating, designing, and implementing verification mechanisms as well as (non-) compliance assessments?
- Why do some verification mechanisms succeed while others fail?
- Which relevant actors and which relevant levels of analysis are needed to better understand verification regimes?
- How much verification is enough for the world today?

The Special Section welcomes contributions on those and associated subtopics and questions from the nuclear field but also beyond it. In addition to research articles submitted to peer review, we also welcome contributions such as interviews or commentaries. Some contributions can be presented in the forthcoming Science - Peace - Security '25 Conference to be held 10-12 September 2025 in Julich, Germany.

Proposed abstracts should be sent to Ana de la Varga (delavarga@humtec.rwth-aachen.de). They should be written in English and have a length of approximately 300-500 words. The deadline for submitting proposed abstracts is 15th February 2025. For accepted proposals, full drafts are expected by 27th June 2025. The Special Section will be published in Issue 2, 2025. In exceptional cases, we may be able to consider later submissions to be published in Issue 1, 2026.

If you have any questions, get int touch with Ana de la Varga, VeSPoTec Consortium (delavarga@humtec.rwth-aachen.de).

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