Nuclear Verification and Disarmament | RWTH AACHEN UNIVERSITY

Call for Contributions

SCIENCE · PEACE · SECURITY '21
The impact of new technologies: Destabilizing or enabling resilience?
8-10 September 2021, RWTH Aachen University, Germany
www.sps21.fonas.org

The international security environment is increasingly being marked by the demise of the classical arms control architecture, the rise of great power politics, and eroding trust among states. Its future is unclear. New developments in military and dual-use technology, as well as weapon modernization programmes, add complexity to any effort towards peace and security.

This interdisciplinary conference examines the impacts of new technologies. It seeks concepts on how to achieve a more resilient security environment through scientific contributions and policy measures towards crisis resolution, risk assessments, confidence-building, and arms limitations. Nuclear, biological, chemical and space threats, as well as developments in information technology, will be examined.

We seek contributions from the natural and technical sciences, the social and legal sciences, and ethics. The conference aims at a dialogue between academics, think tank scholars and the policy community. Therefore, we welcome submissions from all these groups.

With this Call for Contributions, we seek abstracts for idea pitches (5 minutes) with subsequent discussion, talks (10-20 minutes) or posters (with a 2-minute pitch in front of the full audience) until 14 April. Abstracts are to be submitted at http://sps21.fonas.org/abstract-submission/.

To achieve targeted discussions, all contributions should fit as closely as possible to one of the five themes described below. To ignite debate, we are not only interested in on-going research, but specifically also in new and creative ideas, for example on policy approaches, future research questions, or ways to increase inclusivity in the debates. The abstracts will be part of published proceedings.

In addition, the conference will host panel discussions and workshops to foster an effective dialogue between the various disciplines and stakeholders.

Selected contributions can be submitted as full research papers for a Special Conference Issue in the peer-reviewed Journal of International Peace and Organization (Die Friedens-Warte). The submission deadline is 01/2022.

There is no conference fee. We have a modest travel budget to support travel for those who need it. While we aim for a hybrid conference, the actual format will depend on the Covid-19 situation. We hope to have most contributors come to Aachen, if the Covid-19 situation allows.

Conference Themes

1. Bringing Science and Politics closer together

Natural and social science research provide a crucial component of political decision-making in conflict resolution, arms control, disarmament and international security. Yet too often, scientists ignore the political, security, military or other contexts of their work, and policy makers do not appreciate the value of science or do not understand basic technical details and scientific methodology. This theme focuses on bringing science and politics closer together. We are interested to explore both historical and current experiences, such as the Pugwash Conferences on 'dialogue across divides,' OPCW's interactive 'Science for Diplomats' initiative, Article 36's informal retreats for experts and policymakers, IPNDV's working groups where scientists work alongside diplomats, science-based NGOs active in disarmament and non-proliferation, etc. We are equally interested to consider historical and current experiences of engaging the next generation of scientifically-literate policymakers and security-aware scientists, through initiatives like UNODA's 'Biosecurity diplomacy workshop for young scientists from the global south,' CNS' 'Young women in non-proliferation initiative,' etc. We invite contributions addressing the following questions:

- How can the non-proliferation community overcome the gap between scientific and political cultures?
- What are key elements for successful two-way engagement? How can we measure success?
- What are policymakers looking for from scientists and technologists? What are scientists and technologists looking for from policymakers?
- What motivates the younger generation of scientists and technologists to engage with policymakers in non-proliferation and disarmament? What opportunities are there to involve the younger generation of scientists and technologists in non-proliferation and disarmament work? How can these be improved?
- Do we need new formats of engagement to capture emerging technologies and their interconnections?

2. Confidence Building Measures, Treaties and Institutions

Arms Control Treaties and related regimes in different domains (CBRN, conventional weapons, outer space etc.) have been established in the last 50 years to increase predictability, transparency for war prevention and sustainable peace. In some, verification measures have played an important role. Additionally, transparency and confidence building measures (TCBMs) aim to influence the perception of antagonists and to remove inherent ambiguity surrounding national military policies. Given future political and ethical challenges stemming from military and technological developments, new TCBMs in different domains are a potential way forward. They can be implemented in the full weapons cycle including Research, Engineering and Deployment. This theme wants to identify current deficits and challenges for TCBMs within the current arms control, non-proliferation and disarmament framework and develop further proposals to address future challenges in the areas of confidence building, arms control, verification and threat reduction.

- The key lessons: Which treaties, institutions, TCBMs and verification approaches worked well?
- Where are the deficiencies and the current problems of treaties, institutions, TCBMs and verification approaches? How could they be repaired or improved?

- On which key elements and examples of existing treaties, institutions and processes can be built on and which can be developed further?
- In which conflict areas are new TCBMs, future treaty regulations or technical measures needed and which concrete measures are conceivable or will be conceivable in the future?
- Which processes or fora would benefit from or even require science-based advice to increase confidence, trust-building and risk reduction?

3. Dual-use Technology & Responsible Innovation

Advances in security-relevant areas have a dual-use character due to their potential to cause harm and their risks for society. The speed and diffusion of innovation is accelerating, resulting in the need to adapt awareness, safeguarding and regulation of possible high-risk technologies. Thus, research and development in these areas need awareness from both researchers and political decision makers. This includes early risk and technology assessment. Discussion within the research community and the society - on possible effects and legitimate applications - needs profound knowledge of the scientific "base" of the technological artefacts. Possible fields of security relevant research and development include, but are not limited, to bio security and epidemiology, IT and robotic research, fissile materials and nuclear verification. We invite contributions addressing the following aspects:

- Design approaches which work on the inclusion of norms into the technology design such as Responsible Research and Innovation (RRI) and Value Sensitive Design (VSD) as well as assessment approaches such as technology assessment, preventive arms control and the question of responsibility, norms and standards.
- Approaches towards enabling the discourse with different relevant actors, such as policy makers, the public or science journalists, as well as participatory approaches which enable the integration of stakeholders.
- Technical aspects and research taking RRI and dual-use in relevant discourses into account.
- Research gaps that need to be filled to properly discuss and assess (certain) dual-use technologies.

4. Information Manipulation and Disinformation

Significant increases in fake news, disinformation and influence campaigns are undermining trust in experts, institutions, and other traditional sources of authority. Non-proliferation norms and regimes are no exception. Yet, there has been little systematic research to deepen understanding and to enhance international awareness of contemporary influence campaigns that undermine non-proliferation norms and regimes. Similarly, there has been little emphasis on increasing the ability of governments, media, international organisations, and professional societies to detect and respond to them. We invite case study presentations of disinformation operations in the digital age on this topic, as well as studies building typologies of disinformation campaigns and means of narrative dissemination. Work centred on the questions below is also warmly welcomed. We particularly encourage interdisciplinary approaches and those engaging private actors or industry:

- What are early indicators of a disinformation campaign? What makes disinformation campaigns go viral?
- What technical strategies and means are there to counter disinformation campaigns?
- What lessons can be learned from historical cases of disinformation targeted at non-proliferation norms and regimes?
- How can the non-proliferation and disarmament community counter information manipulation and disinformation?

- What are the roles of state actors, technology companies, international organisations, or other entities? How can we promote regional and international cooperation to tackle active measures?
- What is the nature and role of 'credible' and 'acceptable' evidence?
- How can we balance freedom of ideas, beliefs and speech with restricting fake news and disinformation?

5. Increasing Autonomy in Weapon Systems

Machine learning elements are increasingly being used across various industries, for example in finance, healthcare, or security applications. Similarly, militaries around the globe seek to integrate these elements, hoping to gain an edge over their adversaries by accelerating decision-making and exploiting larger amounts of data. This not only creates mounting pressure for others to follow suit, indicating the early stages of a new type of arms race, but also gives rise to some unique ethical, legal, and security challenges, especially in the context of targeting and firing processes. We invite contributions addressing the following questions:

- What are the technical realities of autonomy, automation, and AI in military systems?
- What are the implications of autonomous weapon systems for international humanitarian law and for international security? Are we in a new type of arms race?
- What should the human role in targeting decisions look like?
- How entwined are the civilian and military spheres and what are the consequences?
- What are the implications of other military uses of AI?