
Mobilizing Physicists for Nuclear Arms Control Advocacy

By Charlotte Selton, Zia Mian, Stewart Prager

The Physicists Coalition for Nuclear Threat Reduction was launched two years ago at Princeton's Program on Science and Global Security to inform the US physical science community about the dangers of nuclear arms and build a national network of scientist-advocates for nuclear arms control and disarmament policies. An article in APS News in 2020 announced the start of this work. Since then, with support from the American Physical Society and the Carnegie Corporation, the Coalition has arranged more than 100 talks to physicists on nuclear weapons and recruited nearly 1000 members at a very challenging time for nuclear arms control and disarmament. Here we share some early lessons from this first-in-a-generation effort at re-engaging the scientific community and coalition-building for advocacy on nuclear weapons issues.

GRASSROOTS ACTION AND ADVOCACY

The Coalition has grown through a grassroots approach, based on scientist-to-scientist conversations. We have gone where physicists are, not expecting them to find us.

Members of the Coalition's team of 12 presenters have visited physics departments at universities and some national laboratories around the country, giving colloquia on the current global dangers from nuclear weapons, followed by discussions and requests for physicists to join us.

This team has given talks in 43 states and the District of Columbia, reaching more than 4,000 scientists and students. The Coalition has also found new members through a public webinar series and at professional conferences, such as the American Physical Society's meetings.

A key Coalition goal is advocacy. Scientists are understandably reluctant to speak beyond their field of expertise. The work of most physicists today is far from nuclear weapons, and many doubt they have sufficient background to speak on nuclear policy questions. Through discussions, physicists come to understand that research-level expertise on nuclear weapons or nuclear policy is not a prerequisite for advocacy.

The information disseminated on current nuclear dangers has succeeded in motivating physicists' advocacy, and these voices, especially as constituents, can carry special weight with lawmakers. Coalition members have sent hundreds of letters to Congress and have met with Senate and House offices. In the first two years, the focus has been on extending the US-Russian New START agreement capping the number of strategic nuclear weapons, preventing the Trump Administration from resuming nuclear testing, and supporting a shift in US policy to no-first-use of nuclear weapons.

GENERATIONAL DIFFERENCES

More than half of the almost 1000 Coalition members are early-career scientists, including students, postdocs, and assistant professors. Many young scientists and students have limited knowledge of nuclear weapons, and the current status of the danger. For example, they often do not realize that current US policy is not one of no-first-use, that the President has sole authority over the use of US nuclear weapons, or that worldwide, nearly 2,000 warheads are on alert status, ready to launch in minutes.

Young scientists are therefore often interested and alarmed when informed of the threat and potential consequences of nuclear war. For younger members, in addition to the existential threat of nuclear weapons, there is a strong interest in the potential global environmental impacts of nuclear war and the humanitarian impacts of nuclear-weapon testing especially on minority and colonized peoples. When it comes to advocacy, however, undergraduate and graduate students take action at consistently lower rates than older Coalition members.

To support deeper engagement from young scientists and to enhance diversity in the field, the Coalition has launched a Next Generation Fellowship for graduate students, post docs, and early-career faculty. This program pairs Fellows with mentors on research and writing projects, funds relevant professional development opportunities, and grows their nuclear policy, advocacy, and science communication skills.

The Fellowship has had several early successes. Among other accomplishments, three of the 2021 Fellows received awards from the American Physical Society for their advocacy work. Two fellows have also published in the *Bulletin of the Atomic Scientists*. One contributed an article on Brazil joining the Treaty on the Prohibition of Nuclear Weapons, and another co-authored a critical review of the skewed information on nuclear weapons risks and policies presented to US Air Force Global Strike Command, and a related rebuttal to a critic.

POLITICS MATTER

When the Coalition was launched, President Trump was in the White House. President Trump pursued new weapons, explored resuming explosive nuclear testing, and proved hostile toward arms control. His unsettling actions helped motivate interest from our audiences in US nuclear posture, including sole authority and no-first-use, and spurred engagement. Before the 2020 election, about 10% of the audience at a colloquium typically joined the Coalition. After Biden was elected, the fraction of the audience at our talks that joined

the Coalition fell slightly.

The political moment matters also in other ways. When war broke out in Ukraine, and President Putin threatened the use of nuclear weapons, the main challenge was no longer convincing the audience that nuclear weapons are a threat worthy of action. The new need was to demonstrate that the nuclear threat can be impacted by public action. Where appropriate, Coalition speakers began to emphasize the role of citizen activism and present-day opportunities.

WHAT'S NEXT?

Now that the Coalition has been established and is operational in the US physics community, it aims to continue to grow its membership by reaching out to and recruiting physical scientists more broadly, including those in engineering. It also is reaching out to the global physics community. One recent Coalition colloquium was at the CERN international laboratory for particle physics in Switzerland.

Later this year, the Physicists Coalition for Nuclear Threat Reduction will launch a new partnership with the Washington-

based Arms Control Association and begin collaborating with the Union of Concerned Scientists and possibly other non-governmental organizations where missions align.

Looking ahead, the Coalition plans to keep building its membership and making it more diverse, deepening its educational work, and strengthening its policy engagement and impact. Focusing especially on next-generation scientists, it will seek opportunities to organize and educate, and pursue new advocacy topics to make our world safe from nuclear war. We welcome any interested physicist to join the Coalition, or seek information from any of the co-authors of this article.”

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