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Russia’s Invasion of Ukraine: What Can U.S. Scientists Do?

Gerson S. Sher, Cathleen A. Campbell, Alfred Watkins, and Glenn E. Schweitzer

During the first week of the horrific invasion of Ukraine by Russia launched on February 24, 2022, *Science & Diplomacy* asked four U.S. scientists and former diplomats who have spent several decades involved in scientific collaboration with the USSR, Russia, Ukraine, and post-Soviet states to respond to this question:

“How can U.S. scientists and the U.S. government best help Ukrainian scientists, Russian scientists who are protesting, and Russian scientists who are too afraid to speak up, as well as possibly engage Russian and Ukrainian scientific institutions in ways that could lead to a better outcome?”

The four respondents are: Gerson Sher, Cathleen Campbell, Alfred Watkins, and Glenn Schweitzer. The endnotes following their essays include a non-comprehensive list of statements on the war made by scientific institutions as well as news reports on the impact of the invasion on Ukrainian scientists.

Science & Diplomacy is publishing these responses to foster discussion. The views and opinions expressed in the essays are the authors’, and do not necessarily reflect the views of the Center for Science Diplomacy, the American Association for the Advancement of Science (AAAS), or the AAAS Board of Directors.

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Gerson S. Sher, PhD, is a retired civil servant and foundation executive who has devoted his career to the intersection of scientific cooperation, international affairs, and global security, primarily with the countries of the former Soviet Union. He is retired from the National Science Foundation and also held positions at the National Academy of Sciences, George Soros' International Science Foundation (as Chief Operating Officer), and CRDF Global (of which he was the founding president). His most recent publication is [*From Pugwash to Putin: A Critical History of US-Soviet Scientific Cooperation*](#) (Bloomington: Indiana University Press, 2019).

The Limits of Science Diplomacy

The *sine qua non* is that American scientists, and their scientific associations, can and must issue public statements clearly and unequivocally condemning the Russian invasion of Ukraine. I also support actions to sever ties with Russian science and scientists until such time as all Russian troops leave Ukraine and saner people take control of Russia's nuclear arsenal.

Let us be clear. An unprovoked, massive invasion of a peaceful country is an attack on science itself. One of the cardinal principles of science is that issues are settled through reasoned discussion, by adhering to strict standards of conduct, and by documenting assertions—never by violence.

The U.S. scientific community must also keep in mind the context in which it is making such decisions. The United States and allied countries are imposing the harshest possible sanctions on Russia, sanctions that will affect our own countries as well. The science community must ask one simple question: should science get a pass?

Some will object that by isolating the Russian scientific community, we will harm those in it who have spoken out, who have taken risks to engage with international colleagues, scientists with whom we need to maintain relationships to avoid crises in the future. That may be true. But to them I say, here we have such a crisis, and whatever dialogue we have with fellow scientists has not had any impact on preventing it. Indeed, we should also understand that their present isolation is in part due to efforts over the past few years by the Russian government itself to weaken those institutions and to isolate Russian science and scientists from the world scientific community.

As a distinguished Ukrainian scientist wrote to a contact in the United States, “Could you imagine asking a Polish physicist, surrounded and bombed in Warsaw in September 1939, whether it would be fair to maintain scientific diplomacy with scientists in Nazi Germany?” The question contains its own answer.

Cathleen Campbell is a retired executive specializing in international science and technology programs, policy, and management. Previously, she led U.S. science and technology initiatives, primarily with the USSR, Russia, Ukraine, and other post-Soviet states, at the White House Office of Science and Technology Policy, Department of Commerce, and Department of State. In 2016, she retired from CRDF Global, where she had been serving as President and CEO. Cathy was a Visiting Scholar at the AAAS Center for Science Diplomacy in 2017–18 and currently is a member of the Board of Governors, US-Israel Binational Science Foundation.

Help for Ukraine

The Ukrainian people have demonstrated incredible bravery and resilience in resisting the Russian invasion. As governments continue to assist Ukraine, the U.S. government and non-governmental organizations must extend support to Ukraine’s science and engineering community. Scientific societies and academies of science should urgently issue public statements of support for Ukrainian scientists and engineers; some societies have already done so. The U.S. government and scientific societies should work with counterpart organizations in Ukraine to determine immediate and longer-term needs. Until peace is restored, the immediate needs may include equipping scientists and engineers to join the fight; to protect infrastructure, including scientific facilities and equipment; and to ensure the safety of family members at home or in temporary shelter abroad. Once fighting ends, assistance should be given to rebuild any scientific facilities destroyed or damaged by the Russian forces. The U.S. should also be ready to significantly expand research collaborations with Ukraine and, if needed, financial support and equipment for Ukrainian scientists. Special emphasis should be given to supporting the return to Ukraine of scientists and engineers who left during the war.

I generally support efforts to engage Russian scientists. In this case, however, the approach must follow that taken by the U.S. government and its allies: isolate and punish Russia for its actions. I have tremendous respect for Russian scientists, and I applaud those who have risked their career and personal safety to protest

the Russian invasion. But while Russian military action persists, we should cease all science cooperation with Russia, and Russian officials should be excluded from international science meetings. Even after Russia leaves, our attention should focus on helping Ukraine to rebuild. Only then should we consider reengaging Russian scientists, focusing only on topics of significant scientific interest to the U.S.

Alfred Watkins is Founder and Chairman of the Global Solutions Summit which promotes the large-scale deployment of financially sustainable and disruptive technological solutions to implement the SDGs in emerging markets. Prior to founding the Global Solutions Summit, he worked for more than 23 years at the World Bank where, in addition to work in other regions, he led science, technology, and innovation capacity-building programs in Russia, Ukraine, Kazakhstan, and Latvia. He is the author of [*From Knowledge to Wealth: Transforming Russian Science and Technology for a Modern Knowledge Economy*](#) (World Bank Policy Research Working Paper No. 2974).

Horns of a Dilemma

The international community has a two-pronged strategy for combating Putin's invasion of Ukraine: first, provide weapons to the Ukrainian military and resistance forces and, second, isolate Russia diplomatically, economically, financially, athletically, politically, culturally, and in any other way possible. The first strategic prong has a clear military objective. The second prong has a clear political objective—namely, to impose non-violent pain and pressure on Russian civil society, especially among the oligarchs and middle class, provoking them to rise up and force Putin to withdraw from Ukraine.

This second prong leaves the international science and technology community on the horns of a dilemma. On the one hand, the international science community has an understandable desire to support friends and colleagues in the Russian science community. Many of these people are brilliant scientists, good personal friends, and, most importantly, ardent opponents of Putin's war in Ukraine. Why should they suffer for the sins of their unelected government? On the other hand, what makes scientists deserving of special consideration? Russian athletes, artists, truck drivers, poets, and simple day laborers may not be our close friends and long-time collaborators, but many of them are bravely risking their lives on the front lines of the political resistance in Moscow, Saint Petersburg, and other Russian villages and cities. Why should we treat scientific exchanges any differently than

Champions League soccer matches, ballet performances, financial transactions, and investment projects—which have all been cancelled in recent days?

The solution is a combination of carrots and sticks for all with exemptions for none (except perhaps in the most extreme humanitarian circumstances). By this, I mean strict isolation of Russia for as long as it takes to restore Ukraine's sovereignty and security coupled with promises of closer ties, collaboration, and support for all non-military components of Russian civil society—not just scientists—once a more liberal, democratic government is in power. Needless to say, we should couple this Russian strategy with commitments to rebuild Ukraine and establish closer scientific, political, cultural, and economic ties between Ukraine and NATO, the EU, and others.

If there is a silver lining to this tragedy, perhaps it is that Russian and Ukrainian civil societies, including but not limited to scientists, will emerge more internally united and determined to build a more vibrant, tolerant civil society.

Glenn Schweitzer has been the Director of the Program for Central Europe and Eurasia of the National Academy of Sciences since 1985. He is the author of six books concerning U.S. science cooperation with the former states of the USSR and the countries of central Europe. In January 2022, his book [*Roots and Trajectories of Violent Extremism and Terrorism: A Cooperative Program of the U.S. National Academy of Sciences and the Russian Academy of Sciences \(1995-2020\)*](#) was published. He has received awards from the National Academy of Sciences, the Russian Academy of Sciences, and the Ukraine Academy of Sciences.

Response of American Scientists to the Tragedy in Ukraine

The presidents of the U.S. National Academies of Sciences, Engineering, and Medicine have sent strong letters of support to their counterparts in Ukraine for the heroic efforts of the Ukrainian people—and of their decisive and resolute leader President Zelensky—in resisting the despicable efforts of Russia to gain control over the country. However, regardless of the Herculean efforts of both professional and newly coated citizen soldiers, together with whatever international support can be exerted, Ukraine's immediate future is dark and uncertain.

Until the light once again fully emerges for Ukraine and the Ukrainian people, our academies along with many other U.S. science organizations will assist to the

extent possible and be ready to help restore and revitalize the scientific capabilities of Ukraine as soon as possible. We recognize that scientific expertise in all countries is of significant benefit to the international community, and, practically speaking, scientists and their work in many countries will be crucial in rebuilding Ukraine.

We are optimistic that in the longer term normalcy will return in central Europe, with cooperation in science leading the way. In 1964, an important pause in the Cold War took place as laser scientists Townes (U.S.), Basov (USSR), and Prokhorov (USSR) shared the Nobel Prize. In 1975, a handshake in space put the United States and the Soviet Union together on a new trajectory toward peace. Then 30 years ago, as Perestroika became a reality, many thousands of scientists, along with many other experts in the two countries, began to work together.

Now is a critical time for American and Russian scientists who have common research and professional goals to speak more loudly concerning the strength and importance of working together to promote peace and prosperity.

On a personal note, in 2018 I represented the U.S. National Academy of Sciences at the celebration of the 100th anniversary of the establishment of the National Academy of Sciences of Ukraine, followed by my fifth visit to Chernobyl. By that time, Chernobyl had become the setting for the development and utilization of some of the most modern engineering achievements in the world—with applications extending far beyond containing radioactivity and storing spent fuel rods for hundreds of years. It is hard to believe that Chernobyl has now become a military target. This is insanity. **SD**

Non-comprehensive list of statements by scientific institutions and news reports

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8. The National Academies of Science, Engineering and Medicine, "'We Stand With Our Colleagues in Ukraine,' Say U.S. National Academies Presidents," March 3, 2022, www.nationalacademies.org/news/2022/03/we-stand-with-our-colleagues-in-ukraine-say-u-s-national-academies-presidents.

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