

Science in times of war: oppose Russian aggression but support Russian scientists

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I am writing this commentary on March 4, 2022, while Russian bombs and missiles pummel Ukrainian cities, wreaking havoc, causing suffering and death. This atrocity must stop: the world cannot afford to let this war last. In these tragic hours, it is difficult to think about what comes after the guns go silent, but there is one thing we know for sure already: the effects of this war will last for years if not decades. We must adopt and adjust.

I was born in Moscow, Russia, where I spent the first 35 years of my life, earning my PhD degree at Moscow State University. I was running a small lab at the Russian Academy of Sciences before leaving for the USA in 1991 where I head a research group at the National Center for Biotechnology Information of the National Institutes of Health (NIH). I was elected Member of the National Academy of Sciences of the USA in 2016 and Foreign Member of the Russian Academy of Sciences (RAS) in 2019. Being elected to any major academy is an honor for a scientist, but my membership of the RAS felt particularly good for reasons obvious enough. It was recognition in my birth country where, in the days of my youth, there was no more coveted reward for a Soviet scientist than membership in the RAS.

Not that I did not have my doubts accepting the nomination in 2019: 5 years earlier, Russia had illegally annexed Crimea, started a deplorable, even if small-scale war in the East of Ukraine, and, appallingly, supplied the weapons with which separatists shot down a commercial plane, killing hundreds of civilian passengers. I suppressed those doubts, though, telling myself that, despite its inevitable loyalty to the government, the RAS represented the Russian scientific

community, not the Putin government. More personally, my nominator was a dear friend, an outstanding scientist, who could not possibly endorse those atrocities.

On February 26, 2022, I sent an open letter to the President of the RAS, Alexander Sergeev, in which I stated that unless the RAS—or at least, its leadership—formally condemned the war within 48 h upon the receipt of my letter, I had no other choice than to resign my membership. I further noted that, at this point, my membership felt like a disgrace and not an honor anymore. Some commentators disapprovingly branded my letter an ultimatum, which is nonsense, because the RAS could not care less about one member. My point was that, in the wake of the tragedy unleashed by the Russian government, I found it morally impossible to remain affiliated with the RAS unless it publicly dissociated itself from the war. I also felt it made sense to make my position public. Predictably, I received no response, and accordingly, consider my membership null and void.

I tell this personal story as a segue for a more general and important question: how should the global research community and individual scientists react to this tragedy? When it comes to our colleagues in the Ukraine, it is fundamentally straightforward, even if practically challenging: we must help them in every fashion possible. Laboratory heads can put their name on several lists of volunteers who offer to support scientists from Ukraine; I signed up to some of these and will be happy to host a postdoc and/or student. Other ways to help them are being actively explored as well.

But what about Russia? There is an obvious double bind here. The great majority of academic institutions in Russia not only

receive government funding but directly report to the government. It is unthinkable for the global scientific community to further support institutions that are tightly linked with the government that cynically invaded the Ukraine. I believe, however, that it is equally unacceptable not to provide maximum possible support to our colleagues in Russia who effectively became hostages of Putin's regime. To the best of my knowledge, most of them do oppose this war, and many find the courage to protest openly, even though this is associated with increasing risk of persecution including jail terms. More than 8,000 have signed the antiwar letter initiated by a group of scientists and science writers: <https://sites.google.com/view/scientistsagainstthewar/home>. Importantly, only a few original signatories subsequently withdrew their names despite enormous pressure from the Russian authorities and the retroactive new law stipulating prison terms for antiwar protests. More than 7,500 of Moscow State University alumni (myself included) have signed a strongly worded antiwar letter: <https://msualumniagainstwar.notion.site/0378ab0a0719486181781e8e2b360180>, and so did more than 3,000 alumni of the Moscow Institute of Science and Technology, another premier school in Russia. I finally mention another letter with only 98 signatures that, however, is especially telling as these are Russian top students, mostly winners of various science competitions and the future of Russian science: https://docs.google.com/document/d/1kH4Z9KhsGSax1Xa8IQ2rB5uqCp_h7t63W1_ZwLoKuc/edit?fbclid=IwAR3Pf4jKnULjFVG8Za-IsJApWtZLgNx3WO1Tsmz7-NOgqjsagtqej814Cc. All signatories of these antiwar manifestos are our fellow scientists, our colleagues who share the core values of democracy and are

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DOI 10.15252/embr.202254988 | EMBO Reports (2022) 23: e54988 | Published online 15 March 2022

now in harm's way—and bearers of an enormous scientific potential, at that.

The general approach is obvious: we must minimize indirect support of the Russian regime through its scientific institutions but maximize direct support of the Russian scientific community and its individual scientists. Much easier said than done. As in any complex optimization problem with conflicting objectives for different variables, a trade-off is inevitable. In the current, uniquely difficult situation, we must find the optimum solution via an iterative approach. One could start by addressing some extremes. I was recently asked by a correspondent of an independent Russian newspaper—that is now seriously threatened by the latest repressive measures—whether I supported the decision of the organizers of the International Congress of Mathematics not to run the congress in St Petersburg in the coming summer as previously scheduled. My answer was that I stood behind this decision, albeit with a heavy heart. A major event like that would represent complacency with the regime's actions, even if completely unintended. Does this necessarily imply that every scientific meeting in Russia should be cancelled or boycotted for years to come? I am reluctant to take this stance. I believe only a flexible approach can win, with a simple guiding principle: who will be hurt by the cancellation and who will benefit if it happens, government or scientists? These decisions are bound to be difficult, sometimes agonizing at a personal level.

On the other end of the spectrum, it has become known in the past few days that some international scientific journals decline

to review any manuscript submitted by scientists affiliated with Russian institutions. I cannot see how this can be productive: scientists are punished but their government will hardly notice.

I will conclude these brief remarks with another experience of the past few days. A colleague, a prominent Russian scientist now working in the USA, asked me: "Last summer you spoke, via zoom, at a conference organized by Mikhail Gelfand at Skoltech – would you decline if invited again this year?" It took me a while to come up with an answer, but I finally said yes, I would decline, despite all my admiration for Mikhail and our decades-long friendship. Giving a lecture at Skoltech, the flagship of Russian government-sponsored science, would smack of tacitly endorsing that government. However, I continued, if Mikhail and I discussed a scientific problem, came up with an interesting idea, and jointly wrote a conceptual article, we should go ahead and publish it together. It would be a small but welcome boost to the Russian scientific community, with no perceptible benefit to the Russian government.

We seem to have entered a dark, trying period in the history of human civilization. Apart from doing what little we can to persuade democratic governments around the world to stop the horror at all costs, our goal now is to preserve the integrity and vitality of the scientific community across borders and political divides, and in this, the outcome of our collective efforts might not be negligible. A few days ago, the Russian-Speaking Academic Association (RASA) released a strong antiwar statement signed by hundreds of the Russian scientific diaspora

members, including myself: https://docs.google.com/document/d/16kHjs3nwWM4Qb_c0OAZbNb6cH74cwaWDvuOzi7gzWxs/edit?fbclid=IwAR2dWSSDXI8t27g1zSzCF8SxOIakRy0uD6NkE4ki08mDaJLN17ZvLpWASAQ#. This is the declaration of our position on the war. We must now get practical.

All of the above is written under an assumption that the scientific community—here and there—is free to decide on how to interact with Russian science and scientists. This does not appear to be the case. Many such interactions now will be strongly discouraged or even prohibited by our own governments. All the more reason for us to learn how to support science and scientists as best we can, while not compromising our defiance of tyrannical regimes.

Acknowledgements

I am grateful to Valerian Dolja and Alexander Kabanov for critical reading of the manuscript and helpful suggestions.

Disclosure and competing interests statement

The opinions in this article are the authors' own and do not represent the position of the US National Institutes of Health. The article was written on the author's own time without using US government equipment.

Note added in proof

Under new laws enacted in Russia, free expression of views of the war in Ukraine has become criminally punishable. There is a new outlet, T-invariant, for such views and discussion: https://t-invariant.org/?fbclid=IwAR0eyZfHISIVfnN8zfOTxige1nDPbrExQk-JmQ_iLN620BNRdRajLpgVq_l.