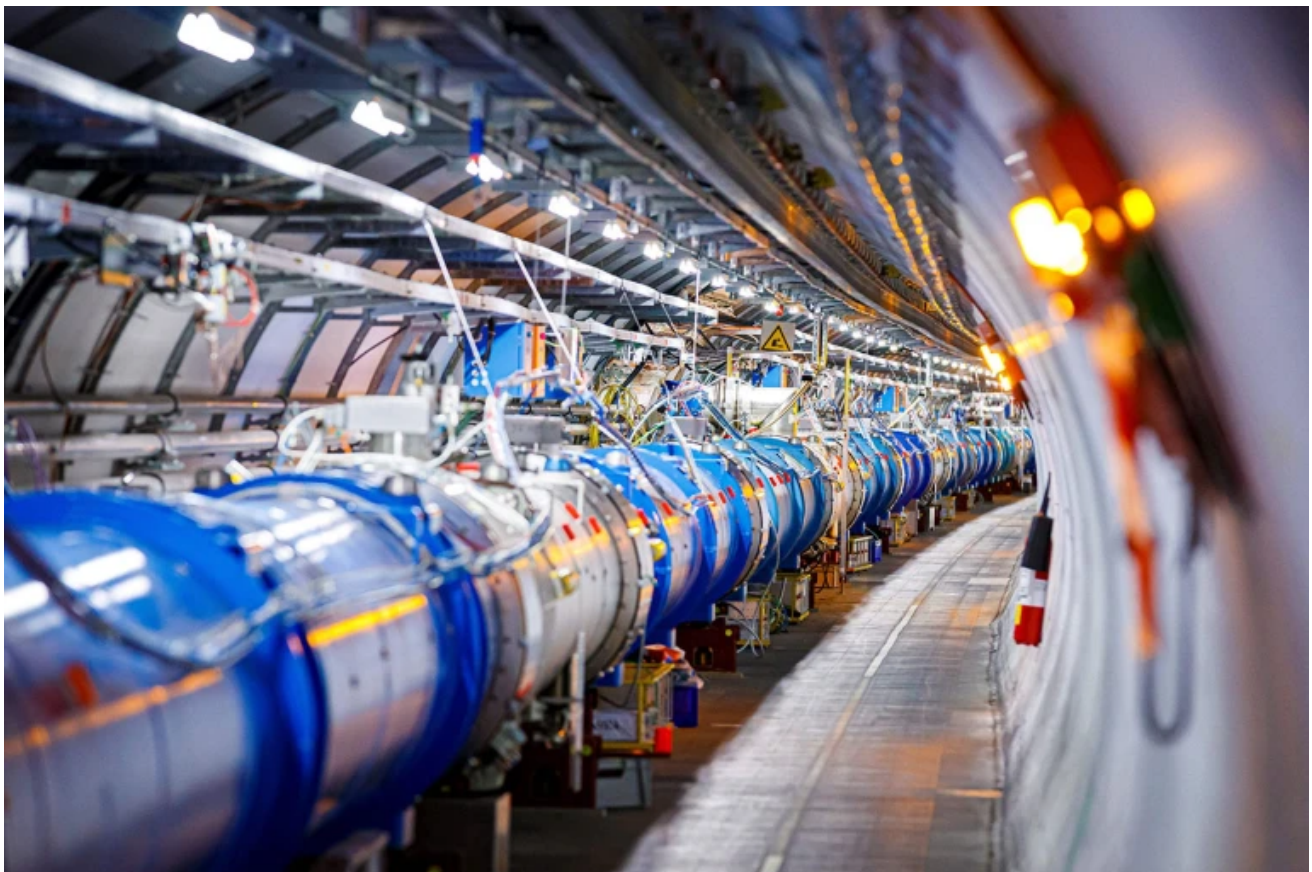


NEWS | 18 September 2024

CERN prepares to expel Russian scientists — but won't completely cut ties

The laboratory has ended its agreement with the nation, but will continue working with a Russian nuclear-research institute, raising tensions among researchers.

By [Elizabeth Gibney](#)

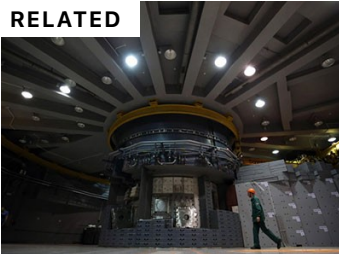


A tunnel in the Large Hadron Collider, CERN's particle accelerator. Credit: Valentin Flauraud/AFP via Getty

Europe's particle-physics laboratory CERN will expel hundreds of scientists who are affiliated with Russian institutions on 30 November unless they move to establishments outside of the nation. The date marks the official end of the lab's collaboration with the Russian Federation, following CERN's decision to cut ties with the country after [its 2022 invasion of Ukraine](#).

But tension over CERN's relationship with Russia remains among researchers, because the organization will continue to work with Russia-based scientists through an agreement with the Joint Institute for Nuclear Research (JINR), an intergovernmental centre in Dubna, near Moscow. JINR's arrangement with CERN is separate from Russia's. The decision to not cut ties with the lab has divided researchers, some of whom point to its relationship with the Russian state, which continues its [deadly war in Ukraine](#).

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Allowing JINR-affiliated scientists to be part of CERN projects is “a big mistake”, says Borys Grynyov, director of the Institute for Scintillation Materials in Kharkiv, Ukraine, who represents Ukraine as an associate member on the CERN Council, the organization's governing body.

Neither the JINR nor the Russian ministry of science responded to *Nature's* requests for comment. CERN spokesperson Arnaud Marsollier says: “The CERN convention is very clear on the fact that we do peaceful fundamental research.”

Russia's departure could be painful for CERN, based near Geneva, Switzerland, which was founded after the Second World War to bring together nations for the peaceful pursuit of science. CERN began collaborating with the Soviet Union in 1955. Although Russia has never been a full member state – and its observer status has now been suspended – hundreds of scientists affiliated with Russian institutions contribute to independent experiments on its [flagship particle accelerator, the Large Hadron Collider \(LHC\)](#).

Collaboration cancelled

In 2022, the CERN Council responded swiftly to [Russia's aggression in Ukraine](#), condemning deaths from what it called an “an unlawful use of force” in the conflict, and calling out the involvement of Russia's ally Belarus. The lab introduced restrictions on scientists travelling and moving materials between Russia and CERN. And it pledged to end agreements with Russia and Belarus when they lapsed, a decision formalized in December 2023. CERN's agreement with Belarus expired on 27 June, ending the contracts of around 20 researchers. And from 1 December, Russia-affiliated scientists will no longer be able to access the CERN site, and must hand in any French or Swiss residency permits they hold.

Experiments will feel the loss of Russian expertise, say Hannes Jung, a particle physicist at the German Electron Synchrotron in Hamburg, and member of [CMS, one of the major experiments at the LHC](#). “It will leave a hole. I think it's an illusion to believe one can cover that very simply by

other scientists,” he says. Jung is a member of Science4Peace Forum, an organization that campaigns against restrictions on scientific cooperation and argues that collaborations should continue working with Russian scientists.

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Others say that the impact of Russia's departure has been softened by the researchers having had two years to prepare. Staff at [LHC experiments](#) have helped 'essential' scientists who wanted to stay to find positions in institutions outside of Russia. Marsollier estimates that around 90 scientists have moved from Russian to non-Russian institutions since 2022, and fewer than 20 are still looking for new homes.

“If you really wanted to stay, and you could prove you can do something [scientifically], in these last two years there have been lots of opportunities,” says one Russian physicist working on an LHC experiment, who is concerned about speaking openly and asked to remain anonymous. The physicist switched affiliation in 2022, after their institute published a statement in support of Russia's war.

Russia's funding agencies and institutions contributed around 4.5% to the LHC experiments' combined budget; this is now covered by other members of the collaborations. The loss of Russia's expected contribution to the High-Luminosity LHC, a high-intensity upgrade scheduled for 2029, will cost CERN an extra 40 million Swiss francs (US\$47 million).

Science vs politics

Since the invasion, CERN's management has had to balance calls from some member states to isolate Russian institutions and those who argue that science should operate outside of politics. In 2023, CERN [resolved a stalemate over how to acknowledge the contributions of Russia-affiliated scientists](#) in papers, by agreeing to list their names alongside their Open Researcher and Contributor ID (ORCID).

Some researchers think that CERN has not gone far enough in distancing itself from Russia. In June, the CERN Council – made up of member-state representatives – voted against ending the collaboration with JINR. Restrictions will apply to the relationship, for example prohibiting joint scientific meetings or new projects. But ongoing work for around 270 JINR-affiliated scientists at CERN will continue.





Russian president Vladimir Putin visited JINR earlier this year. Credit: Alexander Karakov/POOL/AFP via Getty

Others point out that CERN has gone further than many other scientific organizations. [ITER, the world's largest nuclear-fusion project](#), near Saint-Paul-lez-Durance, France, has kept Russia as a member country, because the organization's set-up makes it effectively impossible to remove the nation. The European XFEL, an X-ray free-electron laser in Schenefeld, Germany, has temporarily barred Russia-affiliated scientists from using the facility, but still retains official partnerships with Russia.

Jung and other members of Science4Peace see the decision to continue working with JINR as positive. "I have the feeling it marked a bit of a change in the way things are handled," says Jung. The organization has called for JINR's ongoing collaboration agreement to be a conduit for communication with Russian scientists more widely.

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But Ukrainian physicists have strongly opposed the collaboration, emphasizing JINR's connection with the Russian government, which provides more than 80% of its funding.

Grynov is concerned about the JINR arrangement because he says that it allows a government-linked lab linked to retain access to cutting-edge scientific and technological information that could in some way aid the war effort.

Although JINR's constitution states that its research must be for peaceful purposes, the lab has close ties with the Russian military, say Grynyov and Tetiana Hryn'ova, a Ukrainian physicist at the French national research agency, CNRS, who works on the ATLAS experiment. She points to JINR brochures that highlight research with military applications, such as drone fuel cells, and documents on the institute's website that show collaboration with companies in Dubna that manufacture missiles.

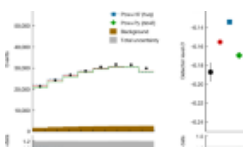
CERN works with institutions in other countries that have separate military ties. But "when missiles made in Dubna are now falling on my colleagues' heads, it becomes more unacceptable", says Hryn'ova.

doi: <https://doi.org/10.1038/d41586-024-02982-6>

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