

Dear Reader,

This Newsletter is intended for all SPS members, researchers, industries, students, interested specialists and physics friends. Feel free to share this Newsletter within your community, and follow this [link](#) if you want to add a person to our mailing list.

If you wish to give your contribution with news or suggestions, please do not hesitate to contact me at: margherita.boselli@cern.ch

Kind regards,

Margherita Boselli

WHAT'S UP IN SWITZERLAND?

Season's Greetings from the Swiss Physical Society

The Swiss Physical Society sends its Season's Greetings and wishes you and your families a fantastic year 2022.

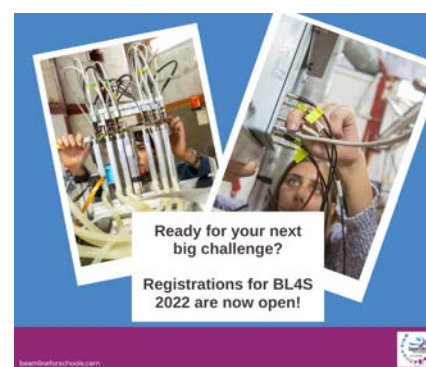


Beamline for Schools 2022 started

The 2022 edition of the CERN physics competition [Beamline for Schools started](#). This initiative, launched in 2014, invites high-school students from all around the world to conceive a physics experiment that can be realized at the test beam facility of a particle accelerator. It is a great opportunity to experience what it is like to be a scientist.

Each year, the two teams that submit the best proposals are invited to a physics laboratory to perform their experiments. Between 2019 and 2021, the competition took place at [DESY](#), Hamburg, Germany, in 2022 Beamline for Schools will be back to the [CERN Proton Synchrotron](#) accelerator.

If you are a high-school teacher or students, do not miss this opportunity, [register and send](#) your written proposal by April 15 2022 at Midnight CET.



The Federal Council intends to increase the Swiss support to CERN projects

On December 10 the [Swiss Federal Council](#) announced that it will initiate work on a federal sectoral plan focusing on CERN projects. According to the current state of

planning, the Federal Council intends to submit a dispatch to Parliament creating the necessary legal basis by the end of 2022.

Situated at the French–Swiss border, CERN contributes to Switzerland’s international reputation and delivers an important scientific, industrial and economic impact. The interplay between CERN and Switzerland prompted the Federal Council to start drawing up a federal sectoral plan in order to clarify and facilitate the administrative procedures for spatial planning and to improve planning security for all CERN projects. These projects include the potential implementation of the Future Circular Collider (FCC), a new large particle collider that would be built in a 100km-long, circular tunnel under Lake Geneva and the French–Swiss border.

Quantum computing breakthrough in error correction at ETHZ

Researchers from [ETH Zurich](#) led by [Andreas Wallraff](#), Professor at the Department of Physics and Director of the Quantum Center at ETH Zurich, have succeeded, for the first time, in quickly and continuously correcting errors in digital quantum systems. This means they have overcome an important hurdle on the road to practical quantum computing: they have been able to automatically correct errors in quantum systems to such an extent that the results of quantum operations can be used in practice.



The results have been published on [Arxiv](#) and submitted to a journal for publication. The press release is available [here](#).

Image: Christopher Eichler, Andreas Wallraff, Nathan Lacroix and Sebastian Krinner (from left to right), from: ETH Zurich / Daniel Winkler.

WHAT'S UP IN THE WORLD

2022: International Year of Basic Sciences for Sustainable Development

On December 2, The [United Nations General Assembly](#) promulgated the year 2022 as the [International Year of Basic Sciences for Sustainable Development \(IYBSSD\)](#). IYBSSD will put the spotlight on the links between the basic sciences and the [Sustainable Development Goals](#). It will be a key moment of mobilization to convince economic and political leaders, as well as the general public, of their importance. Indeed, basic sciences provide the essential means to meet crucial challenges such as universal access to food, energy, health coverage and communication technologies.



NASA's Parker Solar Probe touches the Sun's atmosphere

On December 14, at the American Geophysical Union in New Orleans, [NASA announced](#) that its [Parker Solar Probe](#) entered the sun's corona, its upper atmosphere, in April.



The spacecraft entered the corona on its eighth close pass of the sun, when it was only about 13 million kilometers from the centre of the star. The boundary was wiggly, though, and the spacecraft exited after about five hours, only to enter and exit the corona twice more before continuing to a more distant part of its orbit. It may have passed through

again in August, but that data hasn't yet been fully analyzed. More information are available [here](#).

Illustration of the Parker Solar Probe close to the sun, from NASA.

The Swiss Physical Society (SPS) unites persons interested in physics from university, schools, research, development and industry. The SPS promotes the scientific exchange of ideas in Switzerland and with its international environment.

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