

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](mailto:margherita.boselli@cern.ch)

Kind regards,

*Margherita Boselli*



## WHAT'S UP IN SWITZERLAND?

### Unige launches the Geneva Quantum Center

The University of Geneva launched the [Geneva Quantum Center \(GQC\)](#), a faculty center that will promote research and innovation in quantum science and technology. GQC was created by physicists from the Physics Section, with the ambition of involving all researchers of the Faculty of Science interested in this field.

The mission of QCG is developing research in quantum science, training future generations of scientists and engineers and sharing knowledge with the society to drive science-based decisions. The research areas of QCG are quantum information and communications; quantum computation and simulation; quantum sensing and metrology; and quantum materials.



### Cosmos Club

The [University of Applied Sciences and Arts of Northwestern Switzerland \(FHNW\)](#) in partnership with "[Space Exchange Switzerland](#)" is launching the "[Cosmos Club](#)".



This initiative aims at promoting outreach events on space travel and astronomy and raising awareness on the role of Switzerland in space missions and projects. The “Cosmos Club” follows the project "[Planets and Galaxies Club](#)" for kids, where groups of children get an introduction on astronomy through small citizen science projects. With the “Cosmos Club”, a regular series of public events will begin in January 2023 in Dübendorf (ZH).

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## Open day for teachers at Uni Zurich

On February 3, 2022, teachers are invited to visit the Physics Institute of the [Zurich University \(UZH\)](#) to get an insight of the university life. The **Open Day for Teachers** is a one-day-long event organized in collaboration with [SCNAT](#) and [SPS](#).



To register and get more information please visit this [webpage](#). Registrations are accepted until **January 25, 2023**.

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## WHAT'S UP IN THE WORLD?

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### Nuclear Fusion Ignition at US National Ignition Facility

On December 13, 2022, the [U.S. Department of Energy](#) (DOE) and DOE's [National Nuclear Security Administration](#) (NNSA) [announced](#) the achievement of **fusion ignition at Lawrence Livermore National Laboratory (LLNL)**.



The experiment was conducted on December 5 by a team of scientists at LLNL's [National Ignition Facility](#) (NIF). For the first time in history, they performed a controlled fusion experiment which surpassed the fusion threshold, with 2.05 MJ of energy delivered to the target resulting in 3.15 MJ of fusion energy output. NIF is a huge laser system, located at LLNL in Livermore, California. It is the size of a sports stadium and uses powerful laser beams in extreme short pulses to obtain high temperatures and pressure.

This achievement is a breakthrough that demonstrates the basis for obtaining inertial fusion energy. In nuclear fusion, two light nuclei combine and form a single heavier nucleus releasing energy. Fusion is the process that powers stars and achieving it would be a promising source of energy. Scientists at LLNL hypothesized the use of lasers to induce fusion in the 1960s and started a research and development program that made this experiment possible.

*Image: The target chamber of LLNL's National Ignition Facility, from LLNL.*

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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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