

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?

SPS-ÖPG Joint Annual Meeting

The [joint meeting of the Swiss and Austrian Physical Societies](#) came to a successful close on Friday, 8 September, after a week-long programme of events. The meeting took place in the Kollegienhaus of the University of Basel. The scientific programme was enriched

by a symposium on the [400th birthday of Blaise Pascal](#), the [Women in Physics Career Symposium](#) and the Young Talent Day.

In keeping with tradition, the two societies will meet again in two years' time for another joint meeting.



Focus on the Young Talent Day 2023

This year's edition of the Swiss Physical Society's Young Talent Day took place on 4 September on the fringes of the SPS Annual Meeting in Basel.

A handful of Swiss students - winners of national [physics and science competitions](#) - were welcomed at the Physics Department of the University of Basel. Local physicists kindly organised a guided tour through the nano- and quantum physics laboratories. After the morning tour, students and guides were invited to lunch at the Bacell Mensa, where lively discussions and exchanges took place. After lunch, the students attended the Blaise Pascal Symposium.

According to their feedback, the students had an inspiring and motivating day and would have liked to have had more time to talk to the researchers.

Image: participants in the Young Talent Day taking part in different activities on 4 September 2023 in Basel. Credits SPS.



Focus on the second Women in Physics Career Symposium

The second edition of the [Women in Physics Career Symposium](#) brought together early career and experienced scientists on 4 September, the first day of the SPS Annual Meeting. The success of the first edition was repeated, and participants attended a series of career talks that provided information on navigating a career in physics from the personal perspective of invited speakers from different career levels.

The [mentees](#) are now looking forward to meeting their mentors who will support them for almost a year until the next edition of the symposium in September 2024.

Latsis Scientific Prize awarded to Professor Lesya Shchutka

Lesya Shchutka, Professor at EPFL and member of the SPS Board in charge of the Particle and Astrophysics Section, has been awarded the prestigious [Swiss Scientific Prize Latsis](#).



The prize honours Prof. Shchutka's outstanding scientific work, which paves the way for the discovery of unknown particles beyond the Standard Model.

The Swiss Physical Society is very proud of this achievement and wishes Prof. Shchutka all the best for the future.

Image: Portrait of Lesya Shchutka. Photo by EPFL.

The International Physicists' Tournament 2024

The [International Physicists' Tournament](#) is a unique physics competition for university students who compete in teams of 4 to 6 members, representing their countries and institutions. Over 9 months, participants tackle challenging, unsolved physics problems.



Qualifying teams present and defend their solutions at the Final Tournament. The set of problems for the 2024 edition was published on 7 September and can be downloaded [here](#).

In 2024, Switzerland will host the Final Tournament. The event will take place at the ETH Zurich from 2 to 6 April and is supported by the Swiss Physical Society.

Alberto Rolandi and Mathieu Soter, former participants turned organisers, are the promoters of this initiative. The SPS met them and will soon publish an interview in which they discuss their role in the local organising committee and how this experience has shaped their research careers. Don't miss their insights into this exciting journey!

Image: Group picture of the participants in the IPT Final Tournament at EPFL, Switzerland, in 2018. Picture by EPFL.

UNIGE Professor Carmine Senatore collaborates with the World Economic Forum on superconductivity

[The World Economic Forum has asked a UNIGE expert](#), Professor Carmine Senatore, to create a "transformation map" of the technologies emerging from superconductivity research. The aim of this tool is to identify the key issues related to this topic that could have an impact on economic, industrial and societal issues.



Professor Senatore has been working for many years on the links between applied research in superconductivity and industry and took this invitation as an opportunity to inform the political and economic community about the state of the art in superconducting technologies.

To know more about applied superconductivity

A rich debate entitled titled ["We have a dream: room temperature superconductivity"](#) took place on 6 September during the 2023 edition of [EUCAS, European Conference on](#)

[Applied Superconductivity](#). The round table was moderated by Paola Catapano, Head of the Audiovisual Production Service of the CERN Communications Group.

Image: Portrait of Prof. Carmine Senatore. Photo by UNIGE.

WHAT'S UP IN EUROPE?

CERN's ALPHA experiment observes the influence of gravity on antimatter

On 27 September, the ALPHA collaboration at CERN's Antimatter Factory [published its latest results](#) on the behaviour of antimatter under gravity, a milestone in the characterisation of the matter counterpart.



According to modern gravity theory, antimatter and matter should fall to Earth in the same way. ALPHA's experimental results show that, within the precision of the experiment, atoms of antihydrogen - a positron orbiting an antiproton - behave in the same way in gravity as matter.

The ALPHA collaboration creates antihydrogen atoms by taking negatively charged antiprotons and binding them to positively charged positrons collected from a sodium-22 source. To perform this experiment, they magnetically trapped groups of about 100 antihydrogen atoms, one group at a time, and then slowly released the atoms over a period of 20 seconds. Computer simulations of the setup indicate that, for matter, this operation would result in about 20% of the atoms escaping through the top of the trap and 80% through the bottom, a difference caused by the downward force of gravity. The ALPHA team found that the proportions of anti-atoms exiting through the top and bottom agreed with the results of the simulations.

The full paper, published in Nature, is available [here](#).

Image: Insertion of the ALPHA-g (gravity) apparatus at the CERN antimatter factory. Photo by CERN.

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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