

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?

Great Swiss participation in the 2021 edition of Physics in Advent

The 2021 edition of [Physics in Advent \(PiA\)](#) was again a huge success!

PiA is a physics advent calendar including 24 funny, tricky, and entertaining experiments to try out, one per day, from the 1st to the 24th of December. This project is coordinated by the [Georg-August-Universität Göttingen](#) in collaboration with the [Wilhelm and Else](#)

[Heraeus Foundation](#), the [German Physical Society \(DPG\)](#) and the [Swiss Physical Society \(SPS\)](#).

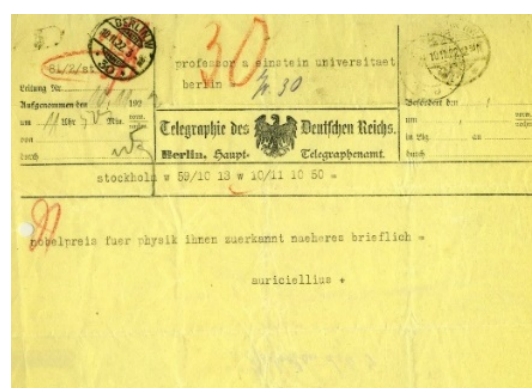


With over 66,500 international and 1223 Swiss participants, PiA 2021 broke all records. While the Swiss participation was slightly but continuously increasing over the years, this edition saw an increase of 30% with respect to the previous one, and 18 Swiss pupils won prizes from the international draw. The SPS is sponsoring special prizes for the best 20 Swiss participants in a separate and additional draw. The prize shipping is in preparation and the winners will receive a book "Palms at the North Pole", a non-fiction book about climate change for young people, and a handcraft kit to build a "Stirling engine".

We are all impatiently looking forward to the 2022 PiA season! You can still enjoy the 24 experiments of the 2021 edition [here](#).

Symposium "100 years Nobel Prize for Albert Einstein"

In November 1922, it was announced that Albert Einstein receives the Nobel Prize of 1921. The prize was awarded to him "for his services to Theoretical Physics, and especially for his discovery of the law of the photoelectric effect." So the main reason given for honoring Einstein is not his work on special and general relativity, but rather his 1905 explanation of the [photoelectric effect](#). It



took more than 10 years to experimentally confirm Einstein's bold hypotheses on photons.



The [Albert Einstein Society Bern](#), together with the [Swiss Physical Society](#) and the [Swiss Academy of Sciences](#), commemorates this anniversary with a full-day symposium, taking place on Saturday April 9 at the University of Bern. After an introductory historical lecture, a series of talks will update the public on the latest developments in modern photon sources and current examples from the field of photonics will be presented. The [program](#) of the symposium is already available, as well as the [abstracts](#) of the presentations.

Venue: Universität Bern, Gebäude UniS, Lecture Hall S003 Schanzeneckstrasse 1, 3012 Bern

Date: Saturday, April 9 2022; 10:15 – 17:15

Image: "Albert Einstein - Privat und ganz persönlich" - Author: Ze'ev Rosenkranz; published 2004 by Neue Zürcher Zeitung, ISBN: [3-03823-101-0](#). Copyright: Jewish National and University Library, Jerusalem.

SPS Annual Meeting 2022

The next Annual Meeting of the Swiss Physical Society will take place at the University of Fribourg, on June 27-30 2022. This edition is organized in collaboration with the [Swiss Institute for Particle Physics](#) (CHIPP), the [NCCR Bio-Inspired Materials](#), and the [Swiss Society for Neutron Science](#) (SGN), and a very rich program is announced.



The conference is planned to be an *in-person* event. Possible restrictions or changes due to the evolution of the COVID-19 pandemic will be announced later. Further information are available on our [website](#).

Park Innovaare announced the awarded incubatees for 2021

On November 2 2021, [Switzerland Innovation Park Innovaare announced](#) the two awarded incubatees selected for the 2021 edition of the [Swiss Business Incubation Center \(BIC\) of CERN Technologies](#): [CondenZero](#) and [Lumiphase](#). [CondenZero](#), a University of Zurich's spin-off, developed a novel cooling product enabling cryogenic temperatures to be held for up to 24 hours in transmission electron microscopy (instead of 15 min with current cryo-microscopy solutions). The start-up is launching its new product in the cryo-electron microscopy market. [Lumiphase](#) is a spin-off of ETH Zurich and IBM Research that is active in the industry of optical networks. By delivering a new generation of optical communication chips placed inside transceiver modules, it provides a solution for the problem of electro-optical conversion.



The Swiss Business Incubation Centre (BIC) of CERN Technologies at Park Innovaare is a programme designed to support entrepreneurs in their business endeavor by offering them access to CERN's unique technologies, know-how and IP, as well as tailor-made business and management coaching, and, last but not least, it offers seed money of up to CHF 50,000.

Image: Denys Sutter (Co-Founder, condenZero) & Lukas Czornomaz (Co-Founder, Lumiphase), picture from Innovaare.

The CERN BASE collaboration released new results in matter-antimatter comparison

On January 5, the [CERN BASE collaboration](#) published in [the Journal Nature](#) the most



precise comparison yet between protons and their antimatter counterparts, antiprotons. These data are the results of over a year and a half of experiments performed at the [CERN's antimatter factory](#), a unique facility for antimatter production and analyses, where the BASE team measured the electric charge-to-mass ratios of the proton and the antiproton with record precision. The results found these to be identical to within an experimental uncertainty of 16 parts per trillion.



To make their proton and antiproton measurements, the BASE team confined antiprotons and negatively charged hydrogen ions (a hydrogen atom that has captured an extra electron), which are negatively charged proxies for protons, in a state-of-the-art Penning trap. In this device, a particle follows a cyclical trajectory with a frequency close to the cyclotron frequency and that scales with the trap's magnetic-field strength and the particle's charge-to-mass ratio.

The CERN press release is available [here](#).

Image: the BASE experiment, from CERN.

WHAT'S UP IN EUROPE

EPS Forum between June 2 and 4

The European Physical Society (EPS) joins forces with its 42 Member Societies, 18 Divisions and Groups and 40 Associate Members to organise the first edition of the [EPS FORUM](#) that will take place on-site at Sorbonne University, Paris, from June 2 to 4 2022. It is a three-day international meeting of interest for all European researchers, PhD students and Postdocs who wish to be introduced to exciting research opportunities in large companies and start-ups, and encourage a dialogue with representatives of the industry sector. Young participants (MSc students, PhD students and Postdocs) can request, when registering, to benefit from free accommodation and dinner (half/board) for 3 nights, from June 1 until June 4.

EPS Forum



More information on the EPS Forum and Council 2022 is available [online](#), where you will also find the programme and the complete list of partners. Registration opens online on February 1 2022. Please note that the number of places is limited. Registration will be on a first come, first served basis.

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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