

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

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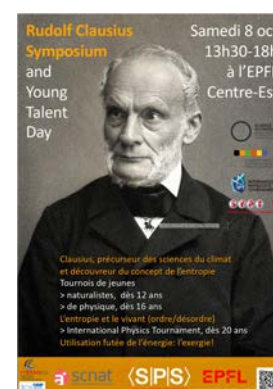
## WHAT'S UP IN SWITZERLAND?

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### Rudolf Clausius Symposium and Young Talent Day 2022

The Swiss Physical Society with the [Physics Section of EPFL](#) and the support of the [SCNAT Academy](#) is organizing the "Rudolf Clausius Symposium and Young Talent Day" on **Saturday October 8 2022** at EPFL. The symposium will celebrate the anniversary of the birth of the physicist **Rudolf Clausius (1822)**, the inventor of the concept of entropy, with demonstration experiments on entropy (order/disorder) and lectures on the role of entropy in life and on a smart and efficient use of energy.

This event will bring together young and old alike in the French-speaking part of Switzerland, and will be the opportunity to share with the public the enthusiasm of participants in several science and physics competitions for school and university students. During the day, the organizers of science tournaments will provide information on their projects to students from 12 to university age and how to take part in them.



Please reserve the date, further information will be provided on the [SPS website](#).

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### The Swiss Teams won the Bronze Medal at IPT 2022

The **Swiss team** gained [3rd place](#) out of 15 participating countries at the [International Physicists' Tournament 2022](#) in Bucaramanga, Colombia. The team consisted of five students from EPFL, one student from ETHZ and was headed by Professor Jean-Philippe Ansermet (EPFL). The IPT 2022 was the first on-site edition since 2019 (due to the COVID-related restrictions in 2020-2021) and the first in the history of the IPT held in South America! The team's preparation and the travel were generously supported by the Physics Section of EPFL, the SPS and the SCNAT. The recordings from the IPT 2022 can be found on the [official IPT YouTube channel](#).



*Image: the Swiss team at the IPT 2022. Left to right: Ryan Harfouche, Yannis Ulrich, Tobia Fjellmann, Jean-Philippe Ansermet, Pavlo Kashko, Elias Rothlin, Jan Jakub Frybes*

(team captain). Credits Evgenii Glushkov

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## The Large Hadron Collider restarts

On Tuesday July 5, the CERN Large Hadron Collider restarted after three years of technical stop to upgrade and improve the accelerators and the experiments built around it. This run will last for close to four years, it is the third run since the beginning of the accelerator's life, and the LHC will work at the energy of 13.6 TeV (Trillion electronvolts) with higher collision rates and upgraded data readout, selection systems, detectors and computer infrastructures. All these features will contribute to increase the data statistics and improve the precision of measurements of the LHC experiments.



The pictures and video of the restart day are available on the [CERN website](#).

Image: Restart of the LHC. Credits CERN

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## WHAT'S UP IN THE WORLD

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### Fields Medals 2022

In July 2022, the [International Mathematical Union](#) announced the **2022 Fields Medalists**. The Fields Medal is awarded every four years on the occasion of the [International Congress of Mathematicians](#) to recognize outstanding mathematical achievement for existing work and for the promise of future achievement.



Among the four medalists awarded in 2022, [Hugo Duminil-Copin](#), [June Huh](#), [James Maynard](#), and [Maryna Viazovska](#), two are professors in a Swiss university.

[Hugo Duminil-Copin](#) is a Full Professor at the University of Geneva, and was awarded for solving longstanding problems in the probabilistic theory of phase transitions in statistical physics, especially in dimensions three and four.

[Maryna Viazovska](#) is a Full Professor at EPFL, and was awarded for the proof that the E8 lattice provides the densest packing of identical spheres in 8 dimensions, and further contributions to related extremal problems and interpolation problems in Fourier analysis.

Image, from left to right: Hugo Duminil-Copin and Maryna Viazovska. Credits: Matteo Fieni

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### First Images of the Webb Telescope

On July 12 2022, NASA published the [first images acquired by the James Webb Space Telescope](#), a partnership of NASA with ESA (European Space Agency) and CSA (Canadian Space Agency). These full-color and spectroscopic images were selected by a group of representatives from NASA, ESA, CSA, and the Space Telescope Science Institute. They reveal the capabilities of all four of Webb's state-of-the-art [scientific instruments](#).



The James Webb Space Telescope was launched on December 2021, on an Ariane 5 rocket from Europe's Spaceport in French Guiana, South America. After completing a complex deployment sequence in space, Webb underwent months of commissioning where its mirrors were aligned, and its instruments were calibrated to its space

environment and prepared for science. The James Webb Space Telescope is the world's premier space science observatory. Webb will solve mysteries in our solar system, look beyond to distant worlds around other stars and probe the mysterious structures and origins of our universe and our place in it.

*Image: the edge of a nearby, young, star-forming region called NGC 3324 in the Carina Nebula. Captured in infrared light by NASA's new James Webb Space Telescope, this image reveals for the first time previously invisible areas of star birth. Credits: NASA, ESA, CSA, and STScI*

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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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