

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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### Joint SPS - ÖPG Annual meeting broadcast service

The [Joint Annual Meeting](#) of the [Swiss](#) and [Austrian Physical Societies](#) will take place at the "Campus Technik" of the University of Innsbruck between **August 30 and September 3**. The program is available [here](#), and **plenary sessions and public lectures** can be followed **in streaming** at this [link](#).



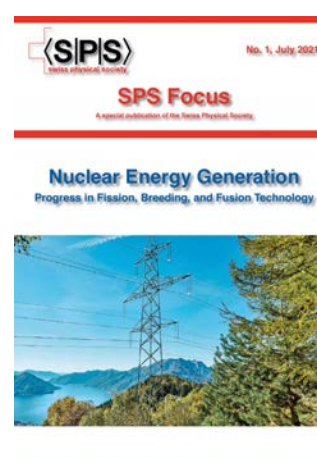
During the event, **three special lectures** are foreseen and they will dig into the roots and the modern developments of astronomy and astrophysics.

- [On September 1 at 19h30](#) **Lisa Kaltenecker**, during the public lecture, will present the current research on Earth-like planets. [Link to the streaming](#).
- [On September 3 at 11h15](#) **Peter Ullrich** will focus on the scientific environment in Prague around the beginning of the 17th Century where modern astronomy started, initiated by the common work of Kepler, Brahe and Bürgi, thereby celebrating this year's **450th anniversary of Kepler**. [Link to the streaming](#).
- [On September 3 at 12h00](#) **Arnold Hanslmeier** will trace the path that led from Kepler until today. [Link to the streaming](#).

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### SPS Focus on Nuclear Energy

The first issue of our society's new journal series, [SPS Focus](#), is dedicated to **nuclear energy generation**, with fission, breeding and fusion based technologies. Although some countries have decided to completely stop generating electricity using nuclear based technologies, others, like China and the USA, are investing and increasing the electricity share produced by nuclear sources. From the point of view of climate protection, a hybrid mix of renewable and nuclear-generated energy is seen as the optimal approach to secure the growing electrical energy demand.



In SPS Focus No 1, three renowned experts present the state of the art and progress made in **new generation uranium fission plants**, the use of **thorium** instead of uranium

as fission fuel which brings along the possibility to further “burn” existing radioactive waste, and finally the **roadmap of nuclear fusion** concepts.

The printed version of the journal has already been distributed to all SPS members, as well as to other national and international institutions and decision makers. First positive reactions express the importance to reconsider this energy source to accompany the transition to a net-zero greenhouse gas emission economy. The **digital pdf** version and also French and German translations of the three introduction chapters can be downloaded [here](#).

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## Young Physicists Forum 2021

The 2021 edition of the [Young Physicists Forum](#) took place online on April 24 and 25. This year, the topic of **exoplanatology** was explored through a series of interesting lectures now available online on the [YPF website](#).



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## Applied Machine Learning Days

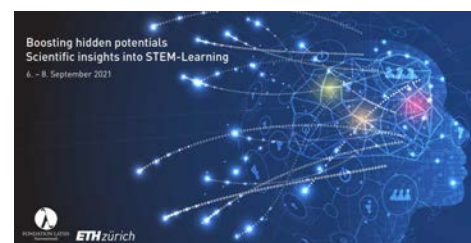
After the success of its first edition, “**AI & Physics**” will again be part of the [Applied Machine Learning Days](#) taking place on September 30 in Lausanne. It is a full-day online track focusing on inference and anomaly detection, statistical physics for understanding Machine Learning, and Machine Learning for quantum technologies, i.e. What AI can do for physics ? What physics can do for AI? In addition to invited talks there is a call for contributed presentations and posters. This is an ideal opportunity to expose your research to the larger Machine Learning and Artificial Intelligence community. **Submission deadline** is August 27, and all the details can be found [here](#).

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## Latsis Symposium on STEM Learning

This year, the well-established and prestigious **Latsis symposium** will deal with learning mathematics and science from kindergarten to university. It will be held as face-to-face event at **ETH Zürich from September 6 to 8 2021**.

Psychologists and scientists with a background in STEM disciplines will discuss state-of-the-art research and the best practices for creating successful learning environments at different school levels. More information can be found on the event's [website](#).



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## Virtual opening event of the NEST unit HiLo

On **October 6 2021**, the **NEST unit HiLo** will open its door to the public during a virtual event. The unit, on the top platform of Empa's and Eawag's NEST research and innovation building, was realized by ETH Zurich's Block Research Group



and the Architecture and Building Systems Group in cooperation with numerous industrial partners. It demonstrates how attractive architecture can be when combining energy- and resource-saving construction and operation. The unit brings together innovative planning and design methods for efficient structures in concrete with self-learning and adaptive building technologies. During the open day, the project teams will provide insights into the technologies and processes used and discuss where this path will lead us in the future. All the details can be found [here](#).

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## Artificial Intelligence reveals how glucose helps spreading the SARS-CoV-2 virus

Why do some people get sick and die from **COVID-19**, while others seem to be completely unaffected? [EPFL's Blue Brain Project](#) deployed its powerful brain simulation technology and expertise in cellular and molecular biology [to try and answer this question](#). Scientists involved in this collaboration trained machine-learning models



to mine a series of open-access papers, the COR-19 dataset, and extract structured information from text sources. A simple analysis by this text mining toolbox 'Blue Brain Search' of the COR-19 dataset revealed papers that all pointed to glucose metabolism as the most frequently mentioned biological variable. This important result [was published](#) on July 28 2021 on Frontiers in Public Health, and it shows the potential for both fundamental research and applications of open access papers, computing technologies and teams of multi-disciplinary experts.

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## ANNOUNCEMENTS

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### Job offer - Secretary General of the European Physical Society

**The European Physical Society**, a non-profit association that advocates and promotes physics research and its contributions to the economic, technological, social and cultural advancement in Europe, [is seeking for a new Secretary General](#) to succeed the present one, retiring in Spring 2023. Employment is expected to begin in autumn 2022 to allow for a thorough on-the-job training. Applications with a detailed letter of motivation and a Curriculum Vitae should be addressed not later than **October 31, 2021** to the EPS President, Dr. Luc Bergé ([president@eps.org](mailto:president@eps.org)). Further information may also be obtained from the present Secretary-General David Lee ([d.lee@eps.org](mailto:d.lee@eps.org)). The job description is available [here](#).



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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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