

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,

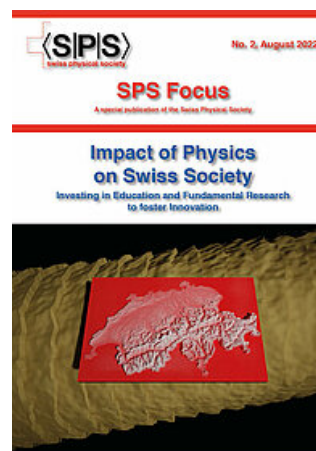
Margherita Boselli

WHAT'S UP IN SWITZERLAND?

SPS Focus "Impact of Physics" featured by SCNAT

On January, 3, SCNAT published an [interesting article](#) that advertises the SPS Focus "[Impact of Physics](#)".

The article, written by the journalist Barbara Warmbein, summarizes very well the main outcomes of the special issue of the SPS journal: the economic and social value added by physics in Swiss Industries.



Swiss Selection for the International Physics Tournament 2023

The **Swiss selection for the International Physicists' Tournament (IPT 2023)** took place on **December, 17** at **ETH Zurich**. It consisted of two rounds of great presentations and debates by the competing teams from EPFL and ETHZ. Both teams offered their theoretical and experimental solutions to two physics problems from the exciting [IPT 2023 problems' list](#). The jury grades were almost equally high for both teams, but at the end the team from ETHZ took the podium, winning the opportunity to represent Switzerland at the international stage taking place next April in Paris!



Group picture of the participants in the IPT selection run in Zurich– credits Eugene Glushkov.

Switzerland excluded from ESFRI

At the end of September 2022, [Switzerland terminated its membership of the European Strategy Forum on Research Infrastructures \(ESFRI\)](#) since the country is not associated anymore with Horizon Europe, the framework programme for research and innovation of the European Union.



Switzerland is heavily integrated in the European research infrastructures system, and it contributes to it with excellent facilities such as the Paul Scherrer Institute (PSI) in Villigen, the Swiss Plasma Center (SPC) in Lausanne, the Swiss National Supercomputing Center (CSCS) in Lugano and the High Altitude Research Station Jungfraujoch. Moreover, it is an active member of many European organizations, and it is the seat of CERN.



In this context, the exclusion of Switzerland from ESFRI must be addressed to find a solution that enables the involvement of the country in future ESFRI procedures. This position has been stressed by member of RoTIORI, the Round Table on Swiss Representation in International Organisations and Research Infrastructures, organized by SCNAT.

[The debate around this decision](#) is heated among the European leaders, and it is in everyone's interest to find a solution soon.

In the image night sky, Sphinx-observatory at Jungfraujoch. Credits Michael Mülhaupt.

An overview on Physics in Advent 2022

With over 68'600 international and 1519 Swiss participants, [Physics in Advent 2022](#) was once again a huge success and the positive trend of increasing participation numbers continues. We all enjoyed the exiting and puzzling physics experiments and thank all participants from Switzerland for their eager participation. 25 individual winners and 3 school classes have been drawn amongst the best participants from Switzerland. Congratulation to the winners. School classes from Gesamtschule Unterstrass, Kantonsschule Zug, and Zehntenhof Wettingen won excursions to Technorama, IBM Quantum Lab, and PSI, respectively. We would like to thank all our sponsors for their great support: Technorama, IBM, PSI, SCNAT, and, new this year, [Supermagnete.ch](#) and [Metrohm Stiftung](#).



Prof. Dr. Dr. h.c. mult. K. Alex Müller

On **January 9, it was with great sadness that the global physics community was informed that Professor Karl Alex Müller passed away** at the age of 95 years.

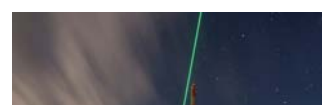
Prof. Müller studied Physics at ETH Zurich where he received his doctorate in 1958. He continued his career at the University of Zurich and at IBM Rüschlikon, where he led the physics department between 1971 and 1985. His research focused on oxide perovskites and in 1986 he discovered high-temperature superconductivity in copper-based perovskites in collaboration with J. Georg Bednorz. The discovery was honoured with a Nobel Prize for Physics in 1987.

The legacy of K. A. Müller lives on, along with the memories of a humble, incredibly talented researcher that left a lasting mark at IBM – and the world. After his retirement from IBM, he continued his academic activity at the University of Zurich, where he will be remembered as a distinguished colleague and a good friend. Among his many awards and recognitions he was also an honorary member of the Swiss Physical Society since 1991.

A more complete *in Memoriam* document will be published in the SPS Communications.

Interesting publication on Laser-guided lightning

A study published on January 16 on *Nature Photonics* reports on the feasibility of **Laser Lightning Rods (LLR)**. This project is run by a consortium of European



research centers led by the University of Geneva and the École Polytechnique (Paris) in close partnership with EPFL (EMC Lab, Prof. Farhad Rachidi), TRUMPF scientific lasers, ArianeGroup, AMC (Prof. A. Mysyrowicz) and the School of Engineering and Management (hes-so, Prof. Marcos Rubinstein).



The goal is to proof the use of pulsed lasers to create channels of ionized air and guide lightnings along these beams. This technology could complement the only existing system to protect areas from lightnings, Franklin rods, and it could increase their efficiency. The terawatt LLR laser was successfully tested on the summit of Sântis (in Appenzell, at a height of 2,502 m) between June and September 2021.

To know more: [UNIGE press release](#) and publication on [Nature Photonics](#).

Image of the 124-m-high telecommunication tower of Sântis (Switzerland), from [Nature Photonics](#).

ANNOUNCEMENTS

A Symposium to celebrate the 400th birthday of Blaise Pascal

This year marks the **400th birthday of Blaise Pascal (1623-1662)**. Over the course of his short life, Pascal gave significant contributions in several fields spanning from philosophy to natural sciences including mathematics, engineering, and physics. He completed the work of Torricelli on atmospheric pressure, and he conceived early calculating machines.



Pascal made a significant critical reflection on what we would call “artificial intelligence”: “La machine d’arithmétique fait des effets qui approchent plus de la pensée que tout ce que font les animaux; mais elle ne fait rien qui puisse faire dire qu’elle a de la volonté, comme les animaux” (“The arithmetical machine does things closer to the outcomes of thoughts than all actions of animals; but it does nothing that would let us claim that it has a will, as animals would”) – *Les Pensées, fragment 341*.

The Swiss and the Austrian Physical Society, in partnership with the French Physical Society, will organize a **Symposium to celebrate this anniversary** during their joint annual meeting in Basel. The format will follow that of the Symposium organized in 2021 to commemorate the 450th anniversary of Johannes Kepler, four lectures will cover the history and the impact of Pascal’s work from the beginning to the present day.

Portrait of Blaise Pascal by Gérard Edelinck, Clermont Auvergne Métropole, Bibliothèque du patrimoine.

International Conference of Women in Science: Join Team Switzerland

The International Union of Pure and Applied Physics (IUPAP) promotes the conference series **Women in Physics** to foster the participation of women in the field. The [8th conference in this series](#) will be held virtually during **July 10-14, 2023** with India as the host country and it will be jointly organised by IUPAP Working Group 5 with the [Gender in Physics Working Group](#) (GIPWG) of [Indian Physics Association](#) (IPA) and the [Tata Institute of Fundamental Research](#) (TIFR).



The conference is expected to attract approximately 400 participants from around 50 countries, and it will feature keynote presentations, poster presentations, workshops and satellite events. Countries are invited to build delegations of 3 to 5 participants representing PhD students, post-docs, early career researchers and senior scientists, along with observers. Each delegation is expected to submit a paper and a poster on the state of women in physics in their country. Additionally, team members may submit a

paper and a poster on their research topic.

If you want to be part of the Swiss delegation, **please contact the team leader for Switzerland, Dr Christine Klauser** (christine.klauser@psi.ch).

12th International Conference on Mathematical Modeling in the Physical Sciences

The conference aims to promote the knowledge and the development of high-quality research in mathematical fields that have to do with the applications of other scientific fields and the modern technological trends that appear in them, these fields involve: Physics, Chemistry, Biology, Medicine, Economics, Sociology, Environmental sciences etc..

The 2023 edition will take place in **Belgrade, Serbia on August 28-31, 2023**. The **deadline** to submit an abstract is: **Friday, May 26, 2023**. More information on the [event website](#).

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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