

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 NEW IN SWITZERLAND

SPS Annual Meeting 2024

The [next SPS Annual Meeting](#) will take place from from 9 to 13 September 2024 at the Campus Centre of the ETH Zurich. Do not forget to register, [registration](#) is open until **15 August 2024**.



2024 SwissMAP Junior Researcher Prize

Up to three prizes will be awarded once a year to PhD students or Postdoctoral researchers for important scientific achievements in Mathematics and Theoretical Physics, supported by [G-Research](#). **The call is open to all PhD and Postdoctoral Researchers in mathematics and theoretical physics enrolled in a Swiss institution at the time of application.**

Self-nominations as well as nominations put forward by PhD advisors and Postdoctoral mentors are welcome.

The **deadline is September 30, 2024**.

More information about the nominations/applications process and about the activity of SwissMAP research is available on the [SRS website](#).



SRS
SwissMAP Research
Station in Les Diablerets

2024 SwissMAP Junior Researcher Prize

We invite nominations & applications for the first SwissMAP Junior Researcher Prize.

The call is open to all PhD students & Postdoctoral researchers in **mathematics and theoretical physics** enrolled in a Swiss institution at the time of application.

For application or nomination, one should submit the following documents to juniorprize@swissmaprs.ch.

- the candidate's CV in **SNMF format**
- a letter of recommendation from the candidate's mentor or PhD advisor

Deadline: September 30, 2024

More information on www.swissmaprs.ch

sponsored by **G RESEARCH**

UNIVERSITÉ DE GENÈVE | ETH zürich | Swiss National Science Foundation | SwissMAP

Open data strategy in Switzerland

Research data must be public and accessible to ensure transparent and reproducible research. The debate on data sharing practices is rich and complex, as it requires specific issues for each scientific discipline



and has to take into account several aspects, ranging from privacy to the potential commercial use of data.



On 31 May, the Swiss Academy of Sciences organised a **symposium in Bern** to discuss where Switzerland stands with regard to open research data. A summary of the topics discussed is available [here](#).

Image: The SCNAT symposium on Open research data. Photo from David Jezdimirovic..

Prix Schläfli 2025

The **Prix Schläfli 2025** is awarded by the Swiss Academy of Sciences (SCNAT). It rewards scientific articles resulting from doctoral theses that make a significant contribution to key questions in their respective fields. In 2025, four prizes will be awarded: **biology, chemistry, geosciences and physics**.



Each discipline will have its own jury to select the candidates. Candidates must be researchers who have completed their doctoral thesis at a Swiss institution, or Swiss nationals who have completed their doctoral thesis abroad, and must have defended their thesis between 1 December 2021 and 30 November 2024. Applications must be submitted by the candidate's supervisor or by the president of a SCNAT member society. Further information is available [here](#).

Petition for science teaching in Geneva's high-school

As part of the implementation of the new Swiss maturity standards, a **petition** has been launched in **Geneva** calling for the **strengthening of science education at the gymnasium level**. The aim is to improve the science teaching and to increase the number and the coherence of mathematics and science lessons in order to facilitate the transition to the first years of university for future students. The text is available [here](#), and anybody interested can sign it.

Dans le cadre de la mise en œuvre des nouvelles normes de la maturité suisse, une **pétition** a été lancée appelant au **renforcement de l'enseignement scientifique au niveau du secondaire Genevois**, filière gymnasiale. Le but est d'améliorer l'enseignement scientifique et de modifier la grille horaire en incluant davantage d'heures de mathématiques et de science de manière coordonnée, pour rendre la transition vers les premières années universitaires pour les futurs étudiants plus aisée. Le contenu de la pétition est disponible [ici](#) et toute personne intéressée est invitée à la signer.

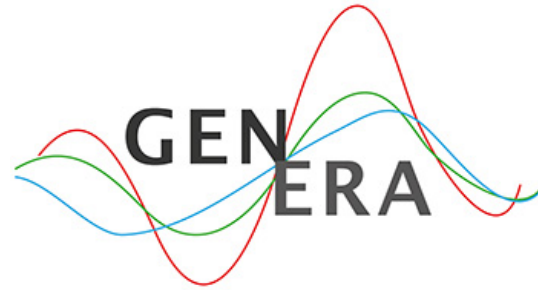
EPFL study explores quantum phenomena occurring in the brain

Superradiance is a quantum phenomenon that occurs when several identical light emitters are bunched together in a tight space. Scientists from a collaboration which includes an EPFL group, [Babcock et al.](#), show by simulations that superradiance may occur when the multitude of tryptophan amino-acid residues that form microtubules are subject to ultraviolet excitation. This is supported by experiments that find enhanced quantum yields of luminescence of microtubules relative to the individual tubulin protein dimers and isolated tryptophan molecules. This is one of the observables of superradiance, and the remarkable observation here is that **it occurs at room temperature**. The manifestation of collective quantum phenomena in microtubules is exciting because these objects play a crucial role in the transmission of information in our brain.

The theoretical model was developed at Howard University (Washington, USA) and the University of Puebla (Mexico), while the experimental work was carried out at the Ecole Polytechnique Fédérale de Lausanne in the group of [Emeritus Professor M. Chergui](#).

Announcement of the Genera General Assembly

GENERA, a Horizon 2020 project, aims to improve gender equality plans in physics research institutions. Its consortium of 13 partners, together with associate partners and observers, is dedicated to the monitoring and improvement of these plans, aiming to increase women's participation in physics by creating supportive organisational structures and tackling gender bias. GENERA also works with schools to promote physics from an early age.



The Genera General Assembly provides a unique opportunity to raise awareness within the scientific community on the crucial issue of women's representation in science. Your participation will contribute to meaningful discussions and actions aimed at promoting gender equality in physics research. Join the event to make a difference! **The event will take place at CERN on September 25 and 26.** Registrations for the event are open [here](#).

The final portrait of women in MAP is published

In March 2021, [SCNAT's MAP](#) platform launched the publication of a first series of 12 portraits of women researchers. The aim of this initiative is to show how women scientists have established themselves in the fields of Mathematics, Astronomy and Physics (MAP) in Switzerland.



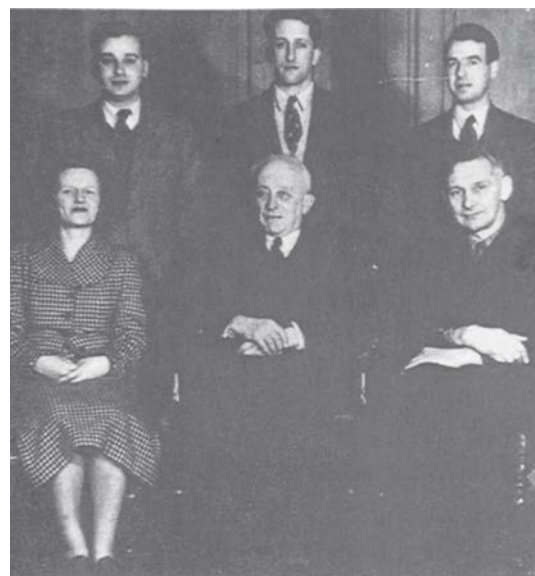
In 2023, a new series of portraits was launched. Titled "**Science opens doors**", it tells the story of women who have left academia and are now using their skills in different fields. The final portrait of this series is of [Miriam Gantert](#), a physicist and co-owner of "Superloop Innovation", a company that advises public authorities and non-governmental organisations on the development of innovative and customer-oriented services.

WHAT'S NEW IN THE WORLD

65 Years of 'Born & Wolf'

2025 is the [International Year of Quantum Sciences and Technologies, IQST 2025](#) (SCNAT reported the news [here](#)), and it is an occasion to celebrate the pioneers of quantum mechanics, including Max Born.

Born also played a crucial role in modern optics, and together with his assistant, Emil Wolf, published [The Principles of Optics, Electromagnetic Theory of Propagation, Interference and Diffraction of Light](#) in 1959, still one of the most widely read monographs in optics.



In this work, they demonstrated the importance of coherence functions and their propagation one year before the first laser was demonstrated by Theodore Maiman in 1960. The 65th anniversary of Born and Wolf's book is being commemorated with an exciting publication [here](#). Unfortunately this article is only available to OPTICA members, but to learn more about the fruitful collaboration between Born and Wolf, we recommend reading the [article published in the SPS Journal](#) on the occasion of the 2015

Unesco International Year of Light. This article presents the Emil Wolf's personal memories of Max Born.

Picture of the Born's departement at the University of Edinburgh in 1953. Standing (from left to right) E. Wolf, D. J. Hooton, A. Nisbet. Sitting (from left to right) Mrs Chester, M. Born, and R. Schlapp. Image from SPS.

Claudia Sheinbaum: new President of Mexico and climate-scientist

Mexico has elected [Claudia Sheinbaum](#) as its new president. With a PhD from the Autonomous University of Mexico, extensive research experience in climate science, and more than [100 scientific publications](#) and two books on energy, environment and sustainable development, she will be the most scientifically experienced national leader in history. She also contributed to two Intergovernmental Panel on Climate Change (IPCC) reports in 2007, leading to the [2007 Nobel Peace Prize](#), and in 2014.



This election seems to indicate a renewed trust in science among Mexicans.

Image: Portrait of Claudia Scheinbaum, image from Maritza Ríos for the Secretaría de Cultura de la Ciudad de México.

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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