

Dear Reader,

You scientists shape this newsletter.

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. If you would like to share some news with us, please contact Celine.Lichtensteiger@UniGe.ch.

WHAT'S UP IN SWITZERLAND?

General Assembly and Award Ceremony 2020

Wednesday, 1 July, 14:00

The corona outbreak forced us to cancel the SPS Annual Meeting 2020. The General Assembly, where new members of the SPS executive board and a new vice-president will be elected, and the Award Ceremony, where outstanding achievements are honoured, will take place via digital means, using Zoom. **Registration for the General Assembly is required before 30 June 2020, 18:00. The Award Ceremony is open to the public** without registration and will start after the General Assembly. [\[More\]](#)



The 7th Swiss Conference on Data Science

Held online for the 1st time - Friday 26 June 2020

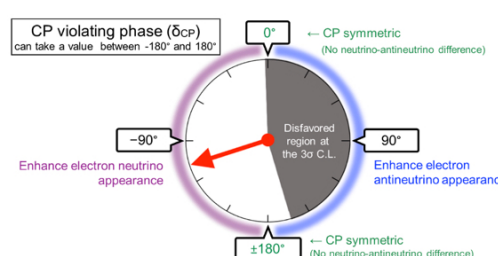
The Swiss Conference on Data Science connects data scientists, developers, opinion leaders, decision makers and pioneers, creating and exchanging ideas for innovative products and services, with a non-exclusive focus on the Swiss market. Talks and contributions focusing on applied data science, data-driven innovation concepts and business impact will be presented at the SDS2020. The full program and registration can be found [here](#).



New T2K results on matter-antimatter symmetry breaking in neutrino oscillation

Watch the presentation by Prof. Federico Sanchez

T2K is a neutrino experiment designed to investigate neutrino oscillations, i.e. how neutrinos change from one flavour to another as they travel. The [T2K Collaboration](#) has published [new results](#) showing the strongest constraint yet on the parameter that governs the breaking of the symmetry between matter and antimatter in neutrino oscillations. Using beams of muon neutrinos and muon antineutrinos, T2K has studied how these particles and antiparticles transition into electron neutrinos and electron antineutrinos, respectively. The parameter governing the



matter-antimatter symmetry breaking in neutrino oscillation, called δ_{CP} phase, can take a value from -180° to 180° . For the first time, T2K has disfavored almost half of the possible values at the 99.7% (3σ) confidence level, and is starting to reveal a basic property of neutrinos that has not been measured until now. This is an important step on the way to knowing whether or not neutrinos and antineutrinos behave differently. These results, using data collected through 2018, have been published in [Nature on 16 April 2020](#). The T2K International Co-Spokesperson, Prof. Federico Sanchez of University of Geneva, has presented these results at a [CERN seminar](#) with the [slides](#) as well as the [webcast](#) being available publicly (please skip the first 16 minutes of the webcast). Comments by Prof. Sanchez can be found in an [announcement](#) by the Swiss Institute of Particle Physics (CHIPP).

Image: The arrow indicates the value most compatible with the data. The gray region is disfavored at 99.7% (3σ) confidence level. Nearly half of the possible values are excluded. © [T2K Collaboration](#)

SKA will be the biggest radio telescope ever built

The Square Kilometre Array (SKA) is an impressive radio telescope project, which will build an array of 130 15m-diameter dish antennas in South Africa and an array of 130'000 TV-like antennas in Western Australia in the coming years. Thanks to it, some of the Universe's greatest mysteries will be studied

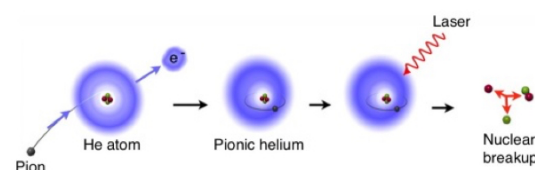


with a whole new level of precision by astronomers and physicists. As a first step towards Swiss participation in this huge adventure, EPFL was just granted special member status of the SKA Organisation and will be the lead institution coordinating the contributions to the SKA on behalf of the Swiss academic community. [\[More\]](#)

Image: © UniGE SKA Organisation

Pionic helium spectroscopy

The [ASACUSA](#) collaboration took their experimental equipment from [CERN](#) to the Paul Scherrer Institut ([PSI](#)) to create a theoretically predicted but never before verified pionic helium, where one of the electrons of the helium-4 atom is replaced by a negatively charged pion, a bound state of a



quark with and antiquark $|\pi^- \rangle = |\bar{u}d \rangle$. Spectroscopic measurements of exotic atoms where negatively charged mesons replace one of the electrons, allow to determine with high precision the mass and other properties of the constituent mesons, as well as to place limits on possible new forces involving mesons. The results, published in [Nature](#), mark the first time such spectroscopic measurements have been made of an exotic atom containing a meson.

Image: A pion replaces one of the two electrons in a normal helium atom to form pionic helium. © CERN

Educamint.ch

Educational offers for school and leisure

Find activities that will excite children, adolescents and adults! Enrich your math, informatics, natural science and technical lessons (MINT)! On the mandate of SERI and the Swiss Academies, the [educamint.ch](#) platform has been collecting educational offers for school and leisure in the field of



MINT for all target groups in Switzerland for the last 4 years and makes them available to the public in a database. With nearly 1'000 offers listed, this platform is a veritable gold mine. In order to allow [educamint.ch](#) to respond even better to the needs of people who are looking for MINT offers for professional reasons (for example teachers and education

staff) and/or private individuals, educamint.ch is carrying out an extensive online survey. If you are interested in MINT (and even if you do not know educamint.ch yet), you can fill in this survey: it will be useful for the future development of the platform. [\[More\]](#)

WHAT'S UP IN THE WORLD?

International Day of Light 2020 (IDL2020)

Celebrate IDL2020 from your home - 16 May 2020

In these challenging times, let's come together to share the role of light in our lives! Although many activities that have been planned for the International Day of Light (IDL) 2020 on **16 May 2020** will no longer be able to take place as scheduled, there are two new initiatives to celebrate IDL 2020 from your home: share how you celebrate light on social media and submit your video for the IDL. [\[More\]](#)



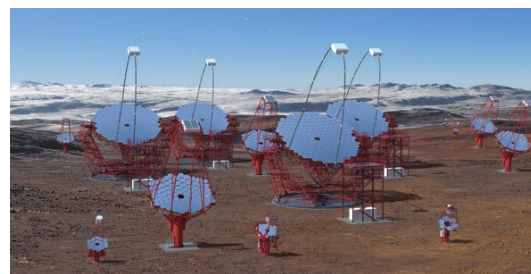
Image: lightday.org

JOB OFFER

Postdoctoral Research Associate

Department of Particle Physics, University of Geneva

The Multi-Messenger High-Energy Group of the Department of Particle Physics, UniGE, invites applications for a postdoctoral research associate. The group has established a rich program in Astroparticle Physics (Neutrinos and Gamma-rays), and in applications using Photosensors. The activity will be carried on in



the context of a Department with broad expertise in Astroparticle physics, and with valuable electronics and mechanics workshops. The candidate will be involved in the Cherenkov Telescope Array (CTA) project and the physics program of the large size telescope (LST). The candidate will be responsible of software development for the calibration, data quality monitoring and analysis of data in the context of the CTA. She/he will be active in the development of the pipeline of the data and their calibration. [\[More\]](#)

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.

[Unsubscribe](#) | [Manage profile](#) | [About](#)

[Subscribe as new user](#)