

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](mailto:Celine.Lichtensteiger@UniGe.ch).

## WHAT'S UP IN SWITZERLAND?

### Prix Schläfli 2019 - Call for nominations

The Swiss Academy of Sciences (SCNAT) awards the Prix Schläfli 2019 for excellent scientific articles resulting from PhDs to young researchers who did their doctoral thesis at a Swiss university or to

Swiss nationals who completed their PhD thesis abroad and who defended their thesis between **1 November 2015** and **31 October 2018**.

In 2019, four awards are given for four natural sciences disciplines, among one is for physics.

The deadline for nominations is **31 October 2018**. [\[more\]](#)

*Picture: Plume Grand Duc - Prix Schläfli. Credit: Caspar Klein.*



### Science Me! - Science Show Competition

An amazing third edition of "Science Me!", the European science show competition, took place with a cumulative count of ca. 1'400 spectators during the 12<sup>th</sup> "Nuit de la Science" in Geneva, **7-8 July 2018**. Scientific teams from Switzerland, Italy, Germany, Czech Republic, Greece, Estonia, Hungary, Poland, The Netherlands, and Finland offered us fantastic science shows.



Physics was, as tradition dictates, widely represented, with almost 50% of the shows, the other domains being Mathematics, Chemistry, Biology, Astronomy, Neurosciences, and even Social Sciences and Humanities. The event attracts loyal teams, as 5 of them participated in the three editions.

With an incredibly well scripted show on the physics of microwaves, the team of Bonn University (Germany) won the first Prize, while slightly behind the team of Göttingen University (Germany) won the second Prize on the physics of customs clearance with dangerous goods. An independent team of Polish physicists won the third Prize with their improvisation show mostly based on physics. Two Special Prizes were attributed to an Italian chemist for the manufacture of a solar cell (ranking by other teams) and to a tandem of Swiss-Dutch biologists explaining in a funny way the protection paths of the

immune system against virus attacks (ranking by the Jury).

The fourth edition will take place in Hannover, during the IdeenExpo 2019 science fair, **15-23 June 2019**. [\[more\]](#)

*Picture: From left to right: Stéphane Gabioud (Master of Ceremony), Steffi Moll and Florin Hemmann (Universität Bonn, D), Fabrice Riblet and Claire Josse (Jury). Credit: Ines Tascon (UNIGE).*

## CHEOPS ready for its final test campaign

The CHaracterising ExOPlanet Satellite (CHEOPS) was selected in 2012 as the first small mission in the ESA Science Programme. Jointly led by Switzerland and ESA, CHEOPS with a lifetime of 3.5 years will be the first follow-up mission dedicated to measuring transits of selected exoplanets by means of ultrahigh-precision photometry. The CHEOPS exoplanet sample will provide key constraints for a better understanding of planet formation and structure and deliver prime targets for future spectroscopic characterisation of exoplanetary atmospheres.



In a record five years, a Consortium of over 100 scientists and engineers from 11 European countries under the lead of the University of Bern, has built the CHEOPS payload (a 30cm clear aperture space telescope) and developed the ground segment controlling the satellite's scientific operations from the University of Geneva. Early April 2018, the telescope was shipped to Airbus Defence and Space near Madrid to be integrated onto the platform.

The full 280 kg CHEOPS satellite is now undergoing a final extensive test campaign with stops at Toulouse, Zürich, and Noordwijk before returning to Madrid late fall. CHEOPS will then be shipped to Kourou early 2019 for a launch in the first half of the year. Read more: [ESA](#) and [UniBe](#).

*Picture: The CHEOPS satellite laying on its back during integration at Airbus Defence and Space Spain in Madrid. The telescope (the roughly 1.3m in length vertical essentially black structure on the left) is now attached to the silver-coloured hexagonal-shaped spacecraft. At the top of the telescope, the large baffle serves to prevent stray light entering the telescope aperture while the cover (golden colour) prevents dust from entering the optical system before it is in space. These are just some of the design elements ensuring ultra-high precision photometric measurements. Credit: ESA*

## WHAT'S UP IN THE WORLD?

### A single high energetic neutrino just helped crack a 100-year-old cosmic ray mystery

Since they were first detected over one hundred years ago, cosmic rays—highly energetic particles that continuously rain down on Earth from space—have posed an enduring mystery: What creates and launches these particles across such vast distances? Where do they come from?

The observations, made by the IceCube Neutrino Observatory at the Amundsen–Scott South Pole Station and confirmed by the MAGIC, the Major Atmospheric Gamma Imaging Cherenkov Telescope, in the Canary Islands, and the Fermi Gamma-ray Space Telescope in Earth's orbit, helped resolve a more than a century-old riddle about what



sends subatomic particles such as neutrinos and cosmic rays speeding through the universe. The University of Geneva is a member of the IceCube Neutrino Observatory,

and ETHZ participates in the MAGIC Telescope. [\[more\]](#)

*Picture: In this artistic rendering, a blazar emits both neutrinos and gamma rays that could be detected by the IceCube Neutrino Observatory as well as by other telescopes on Earth and in space. Credit: IceCube/NASA*

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