

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 [Céline Lichtensteiger](#).

GUSTAV HERTZ PRIZE 2018 AWARDED TO A SWISS PHYSICIST

Dr. Lavinia Heisenberg, Junior Fellow at the ETH Institute for Theoretical Studies, awarded the Gustav Hertz Prize 2018 of the German Physical Society.

Lavinia Heisenberg is awarded the Gustav-Hertz Prize 2018 at the DPG Tagung in Erlangen, Germany on **7 March 2018** "for her groundbreaking contributions to the development of gravitational theories. With her works, in particular on Proca-type Lagrangian densities for vector fields and their cosmological relevance, she has opened new directions of research on gravity." The Gustav Hertz Prize is awarded yearly for outstanding recent work by young physicists. More: [DPG website](#) and [Physik Journal of DPG](#).



BOOK & COURSES

MOOC covering introductory aspects of synchrotron and XFEL radiation

If you want to learn about synchrotron and XFEL radiation, you can follow the Massive Open Online Course (MOOC) from the EPFL (Ecole Polytechnique Federale de Lausanne), given by [Philip Willmott](#) (picture).

The course includes the following themes: interaction of X-rays with matter; production and physics of synchrotron and XFEL radiation; X-ray optics, beamlines, and instrumentation; X-ray diffraction and scattering; UV and X-ray spectroscopies; X-ray imaging (mainly tomography and lensless imaging/ptychography); phasing techniques in macromolecular crystallography.

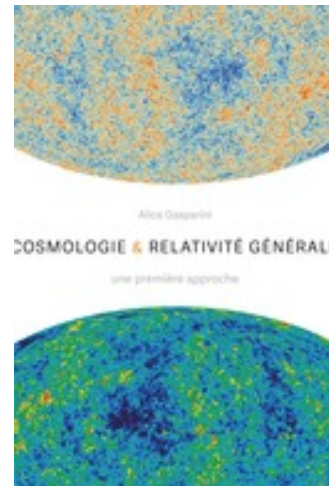


The course began on **5 March 2018** and will last for nine weeks - each week, two to three new videos are released that can be downloaded and viewed at leisure, each approximately 20 minutes long, plus optional problems and optional final exam at the end of the course. Enrollment on the course is free. This is an excellent opportunity, especially for younger staff and students, to learn more about the fascinating and interdisciplinary

world of synchrotron science and all its myriad possibilities in an engaging and exciting manner! [\[more\]](#)

"Cosmologie & relativité générale" by Alice Gasparini

SwissMAP and the physics education group at the University of Geneva proposes a course and several series of learning activities (in French) introducing high school pupils to general relativity and modern cosmology. Subjects like cosmological expansion, cosmological equations, dark matter and dark energy, black holes, and gravitational waves are approached with a medium level of difficulty, i.e. based on a high school level in mathematics and physics.



This material was developed on the occasion of the 100th anniversary of general relativity between 2015 and 2018, with the aim to complete the "classical" physics curriculum with a modern, motivating subject. The course book was published by Presses Polytechniques et Universitaires Romandes in **February 2018** and can be purchased [here](#). The activities are available on the [SwissMAP website](#).

CONFERENCES & EVENTS

Final round of the Swiss Physics Olympiad, Aarau, 24-25 March 2018

For the first time Swiss Physics Olympiad (SwissPhO) introduced an additional round to the competition. In **January 2018**, the best 80 students from Switzerland and Liechtenstein qualified in the first round, gathered in Lugano, Lausanne, Bern and Zurich for a second one-day round of examinations.



[\[more\]](#)

The final round to qualify for the International Physics Olympiad will take place at Neue Kantonschule Aarau on **24-25 March** with the 28 retained students. The event is supported by SPS and SCNAT. The two best finalists will get our "SPG Nachwuchsförderpreis" in the frame of the ceremony. [\[more\]](#)

International Jost-Bürgi Symposium, Lichtensteig, 14 April 2018

This year's International Jost-Bürgi Symposium on Saturday morning, **14 April 2018**, 9:15 - 13:00, in Lichtensteig is dedicated to astronomy and presented by international experts in astronomy research ([Aurora Sicilia Aguilar](#)) and space science ([Claude Nicollier](#)). Their talks are combined with presentations of Bürgi experts, highlighting new results about his person and his scientific work, performed in close cooperation with Johannes Kepler. [\[more\]](#)



European Vacuum Conference (EVC-15), Geneva, 17-22 June 2018

The International Union for Vacuum Science, Technique and Applications ([IUVSTA](#)) organises the 15th European Vacuum Conference in Geneva **17-22 June 2018**.



The IUVSTA will celebrate its 60th anniversary with a special session on **Monday afternoon 18 June 2018**. Invited speakers are: [Joe Greene](#), U. of Illinois (US), Linköping University (SE), Taiwan Tech (TW): *History of Materials Science since the Big Bang*; [Anne L'Huillier](#), Lund University (SE): *Exploring Matter at Ultrashort Time Scales*; [Cristoforo Benvenuti](#), CERN (CH) ret.: *Getter Pumping for Accelerators*; [Claude Nicollier](#), ESA (EU) ret.: *Working in vacuum - Extravehicular Activities around the ISS*. Everyone is invited to

attend the lectures (entry is free). [\[more\]](#)

2018 Swiss Workshop on Materials with Novel Electronic Properties, Les Diablerets, 29-31 August 2018

The Swiss Workshop on Materials (SWM) is a biennial conference on Materials with Novel Electronic

2018 Swiss Workshop on Materials with Novel Electronic Properties
Basic research and applications
Les Diablerets
Switzerland



August 29th - 31st, 2018

Properties open to all scientists interested in this field. It provides an outstanding scientific forum with the possibility to share the latest developments and offers networking opportunities.

Applications are open until **11 May 2018**. The MaNEP Network provides free accommodation and child care at the conference hotel for children under 8 years old. Other accompanying persons pay a reduced fee. [\[more\]](#)

25th International Workshop on Oxide Electronics - Les Diablerets, 1-3 October 2018

The 25th International Workshop on Oxide Electronics (iWOE) will take place in Les Diablerets, Switzerland, **1-3 October 2018**.



The iWOE series has become an important venue to discuss recent advances and emerging trends in this developing field.

iWOE 25

The aim of the workshop is to provide an interdisciplinary forum for researchers - theorists as well as experimentalists - on understanding the fundamental electronic and structural properties and also on the design, synthesis, processing, characterization, and applications of (epitaxial) functional oxide materials. Registration is now open. [\[more\]](#)

COMSOL Conference 2018, Lausanne, 22-24 October 2018

You are invited to attend the COMSOL Conference 2018 to advance your



numerical simulation skills and connect with fellow modeling and design experts. This event focuses on multiphysics simulation and its applications. A great variety of sessions offers everything from inspiring keynotes by industry leaders to one-on-one meetings with application engineers and developers. You can customize the program to your own specific needs whether the purpose is learning new modeling techniques or connecting with fellow users of the COMSOL® software. Join us at the COMSOL Conference to: Stay up-to-date with current multiphysics modeling tools and technologies; Pick up new simulation techniques in a variety of minicourses and workshops; Present a paper or poster and gain recognition for your design and research work; Interact with your colleagues in industry-specific panel discussions; Get assistance for your modeling problems at demo stations; Learn how to build and deploy simulation apps for your team or organization; Draw inspiration for your next design innovation from leaders in multiphysics simulation. [\[more\]](#)

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.

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