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State Secretariat for Education, Research and Innovation SERI
Swissnex in China and in Japan
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Swiss Federal Office of Energy SFOE
Swiss Academies of Arts and Sciences

Switzerland.

Science-Switzerland, April – May 2022

News on Swiss science, technology, education and innovation

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Swissnex Annual Report 2021

(State Secretariat for Education, Research and Innovation, April 28, 2022)

Swissnex – the global network connecting Switzerland and the world in education, research and innovation (ERI) – recently published its 2021 annual report, which looks back at the wide range of activities run by the network across its six main locations and 21 Science Counselors in Swiss embassies all around world. In this context, Swissnex not only organized over 190 events and activities in collaboration with Swiss and international partners in 2021, but also supported 58 of Switzerland's most promising startups in their internationalization journeys. Additional highlights included the announcement of a new Consulate of Switzerland in Osaka and Swissnex in Japan, which is due to formally open in the second half of 2022, as well as the mobile Swissnex presence at the Swiss Pavilion during the Expo 2020 in Dubai.
/web/2022/00-220428-29

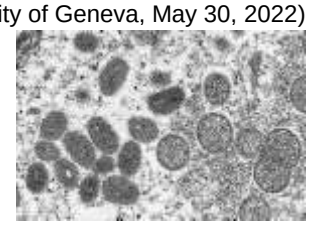
Yves Flückiger Elected New LERU Chair

(League of European Research Universities, May 21, 2022)

The Rectors of the League of European Research Universities (LERU) recently elected Professor Yves Flückiger as the new Chair of LERU – a well-established network of 23 leading research-intensive universities based in 12 countries around Europe that share the values of high-quality teaching within an environment of internationally competitive research. Flückiger has been Rector of the University of Geneva since July 2015, the President of swissuniversities since February 2020, as well as a LERU Board Member since November 2020. His election was moreover welcomed by Professor Kurt Deketelaere, Secretary-General of LERU, who stated that he is "very much looking forward to continue working with Yves, and to push even harder, with a Swiss LERU Chair, for the association of Switzerland […] to Horizon Europe," which also remains the Federal Council's declared goal.
/web/2022/00-220521-24

First Genomic Sequencing of Monkeypox in Switzerland

(University of Geneva, May 30, 2022)



The Geneva Center for Emerging Viral Diseases of the Geneva University Hospitals (HUG) and the University of Geneva recently shared the full monkeypox virus DNA sequence from the two first cases identified in Switzerland. This is an important development, as it will enable further analysis and comparison with genome sequences from other countries. In this context, preliminary results suggest that the virus sequence of the first two cases in Switzerland is genomically linked to cases reported in several other countries in the context of the current outbreak. The virus can be identified with a PCR test – particularly from affected lesions and other samples – and, to date, diagnosis is based on tests developed by specialized laboratories, such as the Virology Laboratory at the HUG.
/web/2022/00-220530-dc

1. Policy

Federal Council Adopts Horizon Europe Measures and Boosts Space Cooperation

(Federal Department of Economic Affairs, Education and Research, May 04, 2022)

Given Switzerland's continued status as a non-associated third country in the 2021-2027 Horizon Europe package, the Swiss Federal Council recently adopted an extensive new package of measures to bridge the gap arising from this situation. Specifically, this means that Swiss researchers participating in EU projects will continue to receive direct funding from the federal government for accessible 2022 calls for proposals, and transitional solutions will be offered for calls for proposals that are currently inaccessible to Swiss participants. In addition, the Federal Council will boost international cooperation in space by signing a Memorandum of Cooperation to set up a new, joint Switzerland-ESA center of excellence, called the "European Space Deep-Tech Innovation Center" (ESDI), and facilitate increased cooperation between Switzerland and ESA.
/web/2022/01-220504-2d

Switzerland and Morocco Strengthen Cooperation in Research and Innovation

(State Secretariat for Education, Research and Innovation, May 30, 2022)

State Secretary Martina Hirayama, accompanied by a scientific delegation made up of representatives of the University of Applied Sciences and Arts Western Switzerland (HES-SO) and the EPFL, recently met with the Moroccan Minister for Higher Education, Scientific Research and Innovation, Abdellatif Miraoui, which concluded with the signing of a Memorandum of Understanding between SERI and the MESRSI aimed at strengthening the two country's cooperation in the fields of research and innovation. During this time, the HES-SO, which had been appointed by the Swiss Confederation as Leading House for the Middle East and North Africa, also signed a cooperation agreement with the MESRSI Directorate of Scientific Research and Innovation, which laid the foundation for a subsequent call for projects that will be open to researchers in Switzerland and Morocco.
/web/2022/01-220530-01

2. Education

Academic Background of Parents Impacts Children's Understanding of Science

(ETH Zurich, April 11, 2022)

A team of researchers led by ETH Zurich psychologist and educational scientist Peter Edelsbrunner, as well as Julia Schiefer from the University of Tübingen, recently examined the profiles of epistemic beliefs – individual beliefs about what knowledge is, as well as about knowledge acquisition – in a group of elementary and secondary school students in order to investigate at what age children can critically engage with science, as well as to determine which factors determine whether they can do this at an early age. In this context, the team not only identified four developmental types through which children progress at their own pace with increasing age, but, crucially, also found that children and adolescents from better-educated families acquire a better understanding, at an earlier age, of how knowledge is constituted.
/web/2022/02-220411-7d

Swiss School System Delivers Added Value in International Cooperation Work

(Federal Department of Foreign Affairs, April 26, 2022)

The Swiss Agency for Development and Cooperation (SDC) and Movetia, the Swiss agency for the promotion of exchanges and mobility in the education system, recently hosted a policy conference in Bern, during which educational, policy, development cooperation and research experts discussed how the

strengths of the Swiss school system can be used to greater effect in Switzerland's international cooperation work, and thus improve standards of education and prospects for children across the globe. However, it is important to note that the idea is not to export Switzerland's educational expertise to other contexts, but rather, to present the alpine country's value-added school system, and its decentralized school system in particular, as a large model construction kit that makes it possible for solutions to be built and adjusted to different local contexts.
/web/2022/02-220426-53

Practical Guide for Game Based Learning

(University of Applied Sciences and Arts Western Switzerland, May 16, 2022)

As part of the University of Applied Sciences and Arts Western Switzerland's 6th call for pedagogical innovation projects, an interdisciplinary team of researchers from the College of Engineering and Architecture of Fribourg, the Institut et Haute Ecole de la Santé La Source and EHL recently developed a practical guide, which aims to enable teachers to easily adopt the "game based learning" approach, and thus strengthen the development of their students' skills. To achieve this, the guide not only contains an easy-to-understand theoretical part, which aims to provide teachers with a comprehensive introduction into the gamification of teaching and serious games, but it also provides a vast, commentated bibliography, as well as numerous examples, which have been classified by subject area to illustrate the theme of game based learning.
/web/2022/02-220516-d4

Linguistic Landscapes and Educational Spaces

(University of Basel, May 17, 2022)

University of Basel researchers Stephan Meyer and Edina Krompák, together with Víctor Fernández-Mallat from Georgetown University, recently published a book entitled "Linguistic Landscapes and Educational Spaces," which contains a collection of essays that address the meaning of signs in an educational context – in classrooms, in school hallways, in playgrounds, and in communication by the authorities. This is an important development, because as explained by Krompák, researching the landscape of signs in an educational context not only provides valuable insights into the linguistic practices and overt – as well as less overt – language policies of the educational institutions studied, but it also constitutes a suitable didactic resource when it comes to language learning, democracy education and promoting visual literacy.
/web/2022/02-220517-89

3. Life Science

Implant Restores Mobility in Patient With Severe Neurodegenerative Disease

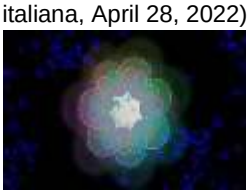
(EPFL, April 07, 2022)

A team of researchers led by Professor Jocelyne Bloch from the Lausanne University Hospital and the University of Lausanne, as well as EPFL Professor Grégoire Courtine, recently developed an innovative new system that enabled a patient suffering from a debilitating neurodegenerative disease known as "multiple system atrophy-parkinsonian type" (MSA-P) to get up and walk again after having been bedridden for over a year. To achieve this, the team implanted a device consisting of electrodes connected to an electrical-impulse generator, which is commonly used to treat chronic pain, directly on the patient's spinal cord, which in turn improved the body's capacity to regulate blood pressure, and, as a result,

enabled the patient to remain conscious for longer periods in an upright position and to begin physical therapy to walk again.
/web/2022/03-220407-2c

Novel Therapy to Impair Metastasis Formation

(Università della Svizzera italiana, April 28, 2022)



A team of researchers led by Professor Andrea Alimonti from the Institute of Oncology Research (IOR), as well as PhD students Martina Troiani and Manuel Colucci, recently developed a novel bioinformatic tool – called the "Senescence Index Tool" (SIT) – which makes it possible to reliably define, characterize, and identify common vulnerabilities in senescent tumor cells of different genetic backgrounds. In this context, the team subsequently discovered that senescent tumor cells are not only highly heterogeneous, but also that they ultimately rely on the same anti-apoptotic gene – namely, Mcl-1 – for their survival. This is a significant development, because by using the Mcl-1 inhibitor "S63845", the team found that they could completely eliminate senescent tumor cells, and, by extension, also impair metastatic dissemination.
/web/2022/03-220428-c8

Needs-Based Long COVID Research Agenda

(University of Zurich, April 28, 2022)

A team of researchers led by University of Zurich Professor Milo Puhan recently joined forces with representatives of Long COVID Switzerland and the Long COVID Network "Altea" to launch a citizen science project to amplify the voices of those living with Long COVID, as well as to help them identify the problems they most urgently want scientists to tackle. In this context, the team found that individuals affected by Long COVID and their families need answers to a long list of 68 questions, which generally fall into the following four areas: medical, healthcare services, socio-economic and disease burden. In addition, the following areas were highlighted as being particularly important to Long COVID patients: treatment, rehabilitation, disease management, healthcare services, ensuring care is not interrupted, as well as Long COVID awareness and its occurrence in children.
/web/2022/03-220428-5f

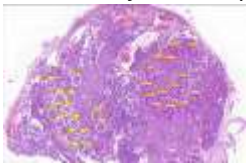
Swiss Biotech Report 2022

(Swiss National Science Foundation, May 03, 2022)

A group of nine organizations led by the Swiss Biotech Association recently released this year's edition of the "Swiss Biotech Report", which presents the most important developments in the biotech scene in 2021, as well as explains the reasons for its success. In this context, the report for example noted that the Swiss Biotech Industry not only saw a record-high revenue figure of CHF 6.7 billion in 2021 – compared to CHF 4.9 billion the previous year – but was also able to raise more than CHF 3.3 billion. In addition, the report highlighted that exports from the Swiss life sciences sector increased to a record CHF 109 billion during the past year – a 9% increase compared to 2020 – thereby accounting for 42% of the total Swiss exports.
/web/2022/03-220503-aa

Using Precision Oncology to Fight Brain Metastatic Prostate Cancer

(University of Bern, May 11, 2022)



A team of researchers led by Professor Mark Rubin of the University of Bern and the University Hospital Bern recently described the molecular biological profile of a rare, but particularly aggressive form of prostate cancer, known as "prostate cancer brain metastases" (PCBM), and found that affected patients could benefit from target treatment, from which they have so far not been eligible. Specifically, the team not only discovered that PCBM cells possess clustered alterations in the cellular repair mechanism, which

repairs everyday damage in the genetic strand of healthy cells, but also, that, in approximately 20 percent of the patients studied, these changes resemble the genetic signature of other cancers for which effective drugs – PARP inhibitors, to be exact – are available.
/web/2022/03-220511-3c

Neuronal Mechanism of Anesthetic Induced Unconsciousness

(University of Basel, May 12, 2022)

A team of researchers led by Professor Botond Roska from the University of Basel and the Institute of Molecular and Clinical Ophthalmology Basel recently conducted a study to investigate how different cell types in cortex change their activity during general anesthesia, and found that there was only one specific cortical cell type – namely, layer 5 pyramidal neurons – whose spontaneous activity consistently became synchronized in vivo by different anesthetics. This is a significant development, because given that layer 5 is a major cortical output, these results suggest that brain-wide synchrony in layer 5 pyramidal neurons may contribute to the loss of consciousness during general anesthesia. As such, these novel insights could in turn also help researchers develop better anesthetic drugs and achieve improved surgical outcomes in the future
/web/2022/03-220512-51

First Successful Liver Transplant After Multi-Day Perfusion

(ETH Zurich, May 31, 2022)

As part of the Liver4Life project, a multidisciplinary team of researchers from the University of Zurich, ETH Zurich and the University Hospital Zurich recently used a specially-developed perfusion machine to store and treat a damaged liver for three days, before subsequently implanting it into a cancer patient. One year on from surgery, the patient is doing well and was able to rapidly recover a normal quality of life without any signs of liver damage, injury, or rejection. This is a significant development, because according to the team, this new storage technique could significantly increase the number of livers suitable for transplant – both by enabling donor livers to be preserved for longer than the current standard and by making it possible to repair organs that are available but too damaged to transplant as is.
/web/2022/03-220531-0d

Improving Early Detection and Prognosis of Cardiac Arrhythmias

(Lucerne University of Applied Sciences and Arts, May 31, 2022)

A team of researchers from the Lucerne University of Applied Sciences and Arts recently joined forces with the Swiss eHealth startup "evismo" to develop new systems and algorithms that can detect atrial fibrillation, palpitations or other cardiac arrhythmias in a patient's ECG data at an early stage. This is an important development, because although cardiac arrhythmias often consist of atrial fibrillations, which generally do not present an acute danger, they can, in the worst case, result in a stroke if left untreated. As such, it is imperative that cardiac arrhythmias are diagnosed and treated as soon as possible. Excitingly, a central component of the project is moreover to identify gender-specific differences in cardiac arrhythmias, which will in turn help close historically-grown data gaps, and thus contribute to more gender-appropriate diagnostics.
/web/2022/03-220531-60

4. Nano / Micro Technology / Material Science

Temperature-Dependent Phase Transitions in Artificial Spin Ice

(Paul Scherrer Institute, April 04, 2022)

A team of Paul Scherrer Institute and ETH Zurich researchers led by Professor Laura Heyderman and Dr. Kevin Hofhuis, with the support of Professor Peter Derlet, was recently able to detect magnetic phase transitions in artificial kagome spin ice for the first time. To achieve this, the team used a state-of-the-art lithography process to not only repeatedly form a small, hexagonal pattern of nanoscale permalloy magnets, but also to asymmetrically connect them with tiny magnetic bridges. This in turn led to small changes in the system, which made it possible for the researchers to tune the phase transition in such a way that they could observe it by using a special method, called "photoemission electron microscopy," as well as to deduce the configuration of the spins.
/web/2022/04-220404-05

Low-Temperature Annealing Method for Alloy Nanostructures

(EPFL, April 08, 2022)

A team of engineers led by EPFL Professor Olivier Martin recently developed a new, low-temperature annealing method, which maintains the nanostructure shape of gold and silver when the two metals are combined in an alloy. This is an exciting development, because according to the team, the new discovery could prove useful in the manufacture of contact lenses, holographic optical elements and other optical components, as the new alloys reflect the full spectral range. To achieve this, the researchers first heated both metals to 300°C for eight hours, and then to 450° for a further 30 minutes, before subsequently using incredibly thin nanoscale layers to produce an alloyed gold-silver thin film. In this context, the team found that that their method not only maintains the structures of the two metals, but also that the new material could reflect the full spectral range.
/web/2022/04-220408-29

Highly-Efficient Solar Water Filter

(EPFL, April 12, 2022)

A team of scientists at EPFL led by László Forró and Endre Horvath recently developed a highly efficient and easy-to-scale water purification filter, which is powered by nothing but sunlight and can thus also be used to supply clean drinking water to small populations in remote places. To achieve this, the team interwove titanium dioxide (TiO2) nanowires, which can efficiently purify water in the presence of sunlight, with carbon nanotubes in order to form a composite material that adds an extra layer of decontamination by pasteurizing the water – killing off human pathogens such as bacteria and large viruses. The team already tested their device with E. Coli, and contend that it should also work with other bacteria pathogens, such as Campylobacter Jejuni, Giardia Lamblia, Salmonella, Cryptosporidium, the Hepatitis A virus, and Legionella Pneumophila.
/web/2022/04-220412-f8

Studying Bulk Metallic Glass in the International Space Station

(Empa, May 05, 2022)

In a few months, a team of researchers including Empa Professor Antonia Neels, EPFL Professor Roland Loge, as well as Markus Mohr and Professor Hans Fecht from Ulm University, will study a sample of a super-hard and corrosion-resistant alloy known as "bulk metallic glass" (BMG) in the microgravity of the International Space Station (ISS). This is an exciting development, because although BMGs represent a new development in materials science, with the major advantage to possess superior mechanical – among

others – properties compared with materials in their conventional crystalline state, they currently still constitute a tough nut to crack, even for professionals in materials science. In this context, the upcoming experiments on the ISS offer ideal conditions for the team to define vital thermo-physical parameters of the melt.
/web/2022/04-220505-2a

5. Information & Communications Technology

Blockchain-Based Platform for Used Car Dealers

(University of Zurich, April 11, 2022)

As part of her PhD thesis, University of Zurich information systems analyst Liudmila Zavolokina, together with three other doctoral candidates, and under the supervision of Professor Gerhard Schwabe, set up a special platform, called "cardossier", in order to investigate whether forgery-proof blockchains could dissipate potential buyers' suspicions about used car dealers. In this context, one of the first things Zavolokina established was the need to build belief in blockchain technology, which largely depends on three decisive factors: performance, process and purpose. In other words, blockchain must do what is expected of it, and its mechanisms and objectives must be clear.
/web/2022/05-220411-eb

Hybrid Machine Learning Excels With Reduced Data Volumes

(Bern University of Applied Sciences, April 19, 2022)

A team of researchers led by Simon Walther and Axel Fuerst from the Bern University of Applied Sciences recently found that in cases where machine learning is faced with a shortage of data, a hybrid approach may yield better results than a conventional machine learning model. To come to this conclusion, the team used a conventional and hybrid approach to observe a single bearing and found that although the conventional machine learning approach is generally easier and more straightforward to implement, this approach can reach its limits very fast. However, if the understanding of the system and the physical knowledge was used to prepare the data so that the algorithm could work with it, the team found that the model's performance could not only be significantly improved, but the classification could even be executed manually.
/web/2022/05-220419-e4

DeepLabCut: High-Performance Animal Tracking in Videos

(EPFL, April 22, 2022)

A team of EPFL researchers led by Professors Alexander Mathis and Mackenzie Mathis recently made significant strides in computer-aided animal tracking by expanding their widely-used software, DeepLabCut, to offer high-performance tracking of multiple animals in videos. To achieve this, the team not only created a new multi-task neural network that can predict keypoints, limbs, and animal identities directly from single frames, but also developed an assembly algorithm that is "agnostic" to the body plan, which is vital when working with animals that can vary widely in their body shapes. The new algorithm is moreover based on a metric learning with vision transformers, which enables scientists to re-identify animals and continue tracking them, even when multiple animals hide from view and re-appear later.
/web/2022/05-220422-4b

Decentralized Component Certificate Tracking System Using Blockchain

(University of Applied Sciences and Arts Northwestern Switzerland, April 28, 2022)

A team of researchers led by University of Applied Sciences and Arts Northwestern Switzerland Professor Petra Asprion and Pascal Moriggl, in collaboration with 4eyes GmbH and Micos Engineering GmbH, and

with the support of ESA and the Swiss Space Office, recently developed a new, decentralized certificate management service, called "DCCTS", to facilitate tracking and coordination of the entire supply chain in the space and aerospace industry. This is an exciting development, because thanks to its modular blockchain framework and open-source approach, DCCTS can be easily and safely integrated into existing IT landscapes, and thus provide aerospace product supply chain participants with a simple tool to efficiently upload, manage and share their certifications and documentations electronically.
/web/2022/05-220428-72

Dual-Mode Memristors for Neuromorphic Computing

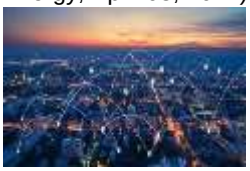
(ETH Zurich, May 18, 2022)

A team of researchers at ETH Zurich, the University of Zurich and Empa recently developed an innovative new concept for a memristor – an electronic circuit that emulates the human brain and is more efficient at performing machine-learning tasks than conventional systems – which, for the first time, can be reliably switched between volatile and non-volatile modes on demand. This is an exciting development, because the new memristor could not only be used in a far wider range of applications than its predecessor, but, due to the fact that it comes closer to real neurons than previous ones, it could also help researchers to better test hypotheses in neuroinformatics and hopefully gain a better understanding of the computing principles of real neuronal circuits in humans and animals.
/web/2022/05-220518-b5

6. Energy / Environment

LANTERN and SWICE Receive SWEET Funding

(Swiss Federal Office of Energy, April 08, 2022)



Following the second call for proposals for the SWEET funding program on the topic of "Living & Working", an expert panel recently selected the following two consortia as the recipients of the funding. The "LANTERN" project aims to develop a better understanding of relevant socio-technical aspects within Switzerland's energy transition by co-developing, testing, validating and scaling measures for a resource-efficient, decarbonized Switzerland in so-called "Living Labs." In this context, the focus will be on households, leisure activities and places of work. The "SWICE" on the other hand aims to identify and quantify the potential for saving energy while improving the quality of life. In this context, the focus will be placed on urban scenarios, with new forms of living and working, as well as on leisure and mobility behavior.
/web/2022/06-220408-09

Nanoplastic Uptake and Transport in Forest Trees

(WSL, April 25, 2022)

A team of researchers led by Arthur Gessler from WSL recently investigated the uptake of nanoplastics in three common species of forest tree – namely birch, spruce and sessile oak – which demonstrated that these particles can indeed be taken up through tree roots into the tree's central cylinder, before subsequently being conveyed through the tree by a process known as "acropetal transport," via the xylem – the vessels that move water around the plant. This is an important finding, because although the quantities absorbed during the experiment were very small, the team contends that if trees are exposed to these concentrations for years on end, it can be expected that significant volumes will be transported to and consequently accumulate in the leaves, trunk and branches.
/web/2022/06-220425-77

Machine-Learning-Based Method to Predict Toxicity of Chemicals to Fish

(Eawag, April 26, 2022)

A team of Eawag researchers led by Marco Baity-Jesi and Kristin Schirmer recently developed a new machine-learning-based approach, which enabled them to predict the toxicity of chemicals to fish with an accuracy of over 93%. This is an important development, because although it is currently unlikely that machine learning alone will be able to completely replace animal testing anytime soon, it can certainly make it possible to reduce it tremendously, as well as to help priorities environmental research. Moreover, although the researchers focused on fish mortality, they contend that their approach could also be valid for any combination of chemicals, effects and taxa – provided the right data is available.
/web/2022/06-220426-88

European Seismic Hazard and Risk Models

(ETH Zurich, April 28, 2022)

An international team of European seismologists, geologists, and engineers, with leading support of members from the Swiss Seismological Service (SED) and the Group of Seismology and Geodynamics at ETH Zurich, recently developed the first openly available Seismic Risk Model for Europe, as well as published an updated version of Europe's Seismic Hazard Model. This is an important development, as the two models significantly improve our understanding of where strong shaking is most likely to occur, as well as the potential effects of future earthquakes in Europe, and thus create the basis for establishing mitigation measures and making communities more resilient.
/web/2022/06-220428-24

New World Record for Fully Textured Perovskite-Silicon Device

(EPFL, April 29, 2022)

A team of researchers led by EPFL Professor Christophe Ballif, together with engineers from CSEM, recently developed an innovative new tandem solar cell, which can deliver a certified efficiency of 29.2% on a surface of 1 cm2, and thus set a new world record for a fully textured perovskite-silicon device. This is a significant development, as it shows high promise to cut the power generation cost per kWh, and could thus be very attractive for the photovoltaics industry. Excitingly, the team also already sees a clear path to achieving yields of beyond 30% by taking advantage of the high current provided by the silicon texture. However, it is important to note that it will still take several years of R&D to bring such technology and manufacturing processes to market.
/web/2022/06-220429-cd

Boosting Sustainable Land Use Planning With Archeology

(University of Neuchâtel, May 16, 2022)

In light of current ecological challenges, University of Neuchâtel Professor Marc-Antoine Kaeser recently published an insightful essay, which not only aims to demonstrate that collaboration between archaeologists and specialists in territorial development is scientifically legitimate, but also that it can be extremely constructive. This is important, because as explained by Kaeser, a look into the past allows for a better integration of past and future environmental changes in land use planning, which in turn also reduces the risk of making planning mistakes. However, above all, Kasser contends that archaeological discoveries can enhance the value of spaces and give them meaning by revealing the dynamic relationship between human beings and nature, which goes back thousands of years.
/web/2022/06-220516-2f

Cognitive Bias Inhibits Widespread Adoption of Electric Vehicles

(University of Geneva, May 19, 2022)

A team of researchers led by University of Geneva Professor Tobias Brosch and doctoral researcher Mario Herberz recently conducted a study to investigate what psychological factors might be blocking the widespread adoption of electric vehicles (EV), and found that car owners systematically underestimate the

compatibility of available battery ranges with their annual mobility needs. This is an important finding, because this underestimation is in turn associated with increased demand for long battery ranges and reduced willingness to adopt EVs, as consumers often believe that the autonomy of current batteries is not sufficient to cover their daily journeys – even if this is not the case. However, by providing tailored compatibility information, the team was subsequently able to effectively reduce range concern.
/web/2022/06-220519-20

Satellite Monitoring of Biodiversity Moves Within Reach

(University of Zurich, May 19, 2022)

A team of researchers led by University of Zurich postdoc Anna Schweiger and Professor Etienne Laliberté from the Université de Montréal recently demonstrated that changes in plant species composition and diversity can be effectively and reliably assessed with imaging spectroscopy across terrestrial ecosystems at the beta-diversity (diversity among communities) scale – the spatial scale of space borne missions. This is an exciting development, because both ESA, as well as its North American counterpart, NASA, are currently developing satellite-based image spectrometers, which are intended to image the entire globe approximately every 16 days with a pixel size of about 30x30 meters. As such, the team contend that close-to-real-time biodiversity monitoring at the planetary level is now firmly within reach.
/web/2022/06-220519-92

7. Engineering / Robotics / Space

New Methods to Assess Job Automation Risks and Resilient Alternatives

(University of Lausanne, April 14, 2022)

By combining the scientific and technical literature on robotic abilities with employment and wage statistics, a team of researchers led by EPFL Professor Dario Floreano and University of Lausanne Professor Rafael Lalive recently developed two new methods, which not only make it possible to calculate the automation risk of nearly 1,000 existing occupations, but also to suggest career transitions with lower risks and minimal retraining effort. This is an important development, because the novel methods can in turn be used by governments to measure how many workers could face automation risks and adjust retraining policies, by companies to assess the costs of increasing automation, by robotics manufacturers to better tailor their products to the market needs, as well as by the public to identify the easiest route to reposition themselves on the job market.
/web/2022/07-220414-bf

New Imaging Method to Track Microrobots in Body

(ETH Zurich, May 11, 2022)

A team of researchers from the Max Planck ETH Center for Learning Systems led by doctoral fellow Paul Wrede, as well as Professors Daniel Razansky and Metin Sitti, recently developed an innovative new imaging technique, which, for the first time, makes it possible to individually identify and track cell-sized microrobots at high resolution in a living organism. To achieve this, the researchers not only devised cell-sized nickel-based spherical Janus magnetic microrobots, but also developed a dedicated optoacoustic tomography technology in order to be able to detect the tiny robots one by one, in high resolution and in real time. In addition, the researchers coated one half of the robot with gold to make them highly visible in the images, as well as tested the use of small bubbles called nanoliposomes, which could be used to develop new targeted drug delivery approaches.
/web/2022/07-220511-08

Robotic Lunar Explorer “GLIMPSE" Advances to Final

(University of Zurich, May 12, 2022)

The robotic explorer "GLIMPSE", which was created at the University of Zurich and ETH Zurich, recently qualified for the final round of the ESA-ESRIC Lunar Polar Challenge, which called on European and Canadian research teams to develop robots and tools capable of mapping and prospecting the shadowy south polar region of the moon. This is an exciting development, as the winners stand to gain 550,000 euros to use for the further development of their robot designs, and it is even conceivable that GLIMPSE could be used in a real ESA mission to the south pole of the moon sometime in the next decade. GLIMPSE is fully equipped with a variety of spectrometers to recognize rock types, and its robotics are based on the Anymal robot type developed by the ETH spin-off ANYbotics.
/web/2022/07-220512-d4

Drone for Ultrafast Transitions between Air and Water

(Empa, May 19, 2022)

A team of researchers from Beihang University, Imperial College London and Empa recently developed a self-contained, rotor-based robot, which can seamlessly transition from an underwater drone to an aerial vehicle within 0.35 seconds. In addition, this innovative aerial-aquatic robot also features a suction pad inspired by remora fish – a family of species known for their adhesive discs, which help them catch a ride on marine creatures, including whales and sharks – which in turn not only enables it to perform rapid attachment and detachment on challenging surfaces both in air and under water – including curved, rough, incomplete, and biofouling surfaces – and achieve long-duration adhesion with minimal oscillation, but also to attach to and hitchhike on moving surfaces.
/web/2022/07-220519-3a

Switzerland Joins Square Kilometer Array Observatory

(EPFL, May 25, 2022)

Switzerland recently became a member of the SKA Observatory (SKAO) – the largest and most ambitious radio astronomy collaboration in the world, which promises to revolutionize our understanding of the Universe and the laws of fundamental physics. This is an exciting development, because in exchange for committing CHF 33.6 million to the project for the period 2021-2030, Switzerland will gain access to the vast amounts of data (~650 PBytes/year) generated by the SKA telescopes for fundamental research, including areas such as cosmology, dark energy and astrobiology, to name a few. In addition, the participation of Switzerland in the construction and operation of SKAO will also generate plentiful opportunities for Swiss high-tech companies to position themselves within this unique market.
/web/2022/07-220525-f0

New Theoretical Model Solves Part of "Solar Problem"

(University of Geneva, May 31, 2022)

An international team of astronomers led by Patrick Eggenberger, Gaël Buldgen and Sébastien Salmon from the University of Geneva, in collaboration with the University of Liège, recently developed a new theoretical model, which solves part of the so-called "polar problem" and thus makes it possible to accurately explain the chemical structure of the Sun. To achieve this, the new solar model not only includes the evolution of rotation, which was probably faster in the past, but also the magnetic instabilities it creates, and considers how these two phenomena simultaneously affect the transport of chemical elements in stellar models. In doing so, the new model is not only able to correctly predict the concentration of helium in the outer layers of the Sun, but also of its surface lithium abundance, which has resisted modelling until now.
/web/2022/07-220531-c1

8. Physics / Chemistry / Math

Chemical Synthesis on Gold Surface

(Empa, April 14, 2022)

A team of researchers from Empa and the Max Planck Institute for Polymer Research recently discovered a new chemical synthesis method, which enables them to assemble molecular building blocks on a gold surface under ultrahigh vacuum conditions. To achieve this, the scientists omitted liquids in their chemical synthesis and instead attached the starting materials – in this case, diisopropyl-p-terphenyl – to a gold surface in an ultra-high vacuum, where it could initially be observed resting calmly in the cooled-down scanning tunneling microscope. However, once the team turned up the heat to about 200 degrees Celsius, an amazing reaction occurred, which would never happen in liquids: the two isopropyl groups – which are normally completely inactive from a chemical point of view – combined to form a benzene ring.
/web/2022/08-220414-f4

Real-Time Visualization of Crystal Nucleation

(University of Geneva, April 20, 2022)

A team of researchers led by University of Geneva Professor Takuji Adachi and co-first authors Oscar Urquidi and Johanna Brazard, together with Nathalie LeMessurier and Professor Lena Simine from McGill University, was recently able to observe the nucleation process of an individual crystal at the micrometric scale in real time, thereby revealing a previously-invisible stage of crystallization in the process. This is an exciting development, because it will not only enable researchers to more effectively direct certain molecular manipulations, but it could also make it easier to obtain purer and more stable crystal structures for certain substances used in the design of many drugs or materials. To achieve this, the team used lasers to highlight the molecular structure during the nucleation, as well as to induce the nucleation phenomenon.
/web/2022/08-220420-84

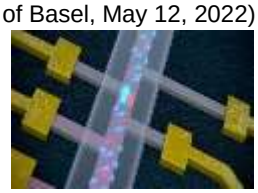
Large Hadron Collider Restarts After 3 Years of Upgrades

(CERN, April 22, 2022)

The Large Hadron Collider (LHC) – the world's largest and most powerful particle accelerator, which is located on the outskirts of Geneva – recently restarted after a break of more than three years for maintenance, consolidation and upgrade work. This is an exciting development, because it not only marks the end of the second long shutdown for the LHC, but it also constitutes the beginning of preparations for four years of physics-data taking from collisions at a record energy of 13.6 trillion electronvolts (13.6 TeV), as well as in unparalleled numbers. This is significant, as it will enable physicists to study the Higgs boson in great detail, as well as to put the Standard Model of particle physics and its various extensions to the most stringent tests yet.
/web/2022/08-220422-5c

Quantum One-Way Street in Topological Insulator Nanowires

(University of Basel, May 12, 2022)



An international group of scientists led by the groups of Professors Jelena Klinovaja and Daniel Loss from the University of Basel, as well as the group of Professor Yoichi Ando from the University of Cologne, recently demonstrated that wires more than 100 times thinner than a human hair can act like a quantum one-way street for electrons when made of a peculiar material, known as a topological insulator. Specifically, the researchers were able to show that, under the right circumstances, they could artificially produce an extremely large and controllable rectification effect – a process whereby electric currents can flow more

easily in one direction compared to the other – which offers a wide range of applications and forms the basis of most wireless technologies.
/web/2022/08-220512-1b

Revised Fundamental Principle of Fusion Research

(EPFL, May 17, 2022)

Working within a large European collaboration, a team of physicist led by EPFL Professor Paolo Ricci and PhD student Maurizio Giacomin recently revised a foundational principle of fusion research, known as the "Greenwald limit", which correlates fuel density to the minor radius of a tokamak and the current that flows in the plasma inside the tokamak. This is an important development, because the new equation in particular posits that the Greenwald limit can be raised almost two-fold in terms of fuel in the international fusion research megaproject "ITER", which means that tokamaks, such as ITER, can actually use almost twice the amount of fuel to produce plasmas without having to worry about disruptions and thus obtain more energy than previously thought.
/web/2022/08-220517-82

Tunable Quantum Traps for Excitons

(ETH Zurich, May 25, 2022)

A team of researchers led by ETH Zurich Professors Ataç Imamoğlu and David Norris, as well as postdoc Puneet Murthy and PhD student Deepankur Thureja, was recently able to trap excitons – quasiparticles consisting of negatively charged electrons and positively charged holes – in a semiconductor material using controllable electric fields for the first time, as well as to demonstrate the quantization of their motion. This is an exciting development, because as explained by Murthy, such strongly trapped excitons are extremely important both for practical applications and basic questions, including being able to create scalable arrays of identical single-photon sources for quantum information processing, as well as to study nonequilibrium states of strongly interacting excitons.
/web/2022/08-220525-8e

9. Architecture / Design

Wooden Dome Constructed From Reused Building Materials

(ETH Zurich, April 26, 2022)

A team of researchers led by ETH Zurich Professor Catherine De Wolf recently constructed a geodesic dome from nothing but reused building materials as part of a hands-on project to illustrate how and where digitalization can help to achieve greater sustainability in the construction industry. To achieve this, the team first dismantled an entire floor of an old car depot in Geneva that was scheduled for demolition, before subsequently using an algorithm, which was specially-programed by doctoral student Matthew Gordon, to calculate the optimum geometry and dimensions of their structure, based on the available timber. Given the challenges associated with sourcing suitable second-hand materials, doctoral student Brandon Byers moreover created an online platform for building materials as part of the dome project.
/web/2022/09-220426-2d

Wooden Floor Elements With Acoustic Black Holes

(Empa, May 12, 2022)

Using a physical theory from the 1990s and the tools of digitization, a team of researchers led by Stefan Schoenwald and Sven Vallely from Empa's Building Acoustics laboratory recently developed an innovative new floor element, which utilizes so-called "acoustic black holes" to improve impact sound insulation in

timber construction. Excitingly, the researchers not only received positive feedback from their preliminarily computer models, but the measured values of their initial prototype also agreed very well with the model calculation, thereby encouraging them to develop a method that automatically points out the best arrangement and shape of the acoustic black holes to the desired floor size and shape.
/web/2022/09-220512-4e

10. Economy, Social Sciences & Humanities

AI-Based Method to Detect Burnouts

(Bern University of Applied Sciences, April 05, 2022)

A team of researchers led by Bern University of Applied Sciences Professor Mascha Kurpicz-Briki recently developed a promising new technique to detect indicators for burnout by using natural language processing and machine learning methods. To achieve this, Kurpicz-Briki and her team first built up a database of more than 13,000 free-text samples from the social media platform "Reddit", which was subsequently used as an example to train several models. As each of these employed a different approach to determine whether a text contained indicators of burnout or not, the models could then be pooled to create an effective diagnostic method, which was able to successfully identify 93% of burnout cases during the team's test.
/web/2022/10-220405-3f

Machine Learning Framework to Monitor Development Aid

(ETH Zurich, April 13, 2022)

A team of researchers led by ETH Zurich doctoral students Malte Toetzke and Nicolas Banholzer, as well as Ludwig-Maximilians-Universität München Professor Stefan Feuerriegel, recently developed an AI-based algorithm, which makes it possible to monitor the global distribution of money flows in development aid across various thematic areas, countries and years. This is an exciting development, because it not only enables a global overview of money flows in development aid for the first time, but the new categorization is also more differentiated than previous approaches, which in turn has enabled the team to find categories that have not been systematically analyzed before or have only recently become topical, such as greenhouse gas emissions reduction and maternal health care.
/web/2022/10-220413-59

COVID-19 Vaccination Uptake Varies Between Population Subgroups

(Zurich University of Applied Sciences, April 27, 2022)

A team of researchers led by Marc Höglinger from the ZHAW School of Management and Law recently conducted a study to analyze COVID-19 vaccination uptake during the first 12 months of vaccine availability in Switzerland, and found that uptake rates differed considerably between population subgroups, with the less educated, less well-off, and rural population showing the lowest rates. In this context, the team moreover found that lower vaccine uptake was also associated with lower health literacy for males, lower adherence to COVID-19 prevention measures, as well as with low levels of trust in government and science. However, no – or only small – differences could be found between genders, the language regions and between respondents with and without migration background.
/web/2022/10-220427-25

Entrepreneurship and Well-Being Across Institutional Contexts

(University of St.Gallen, April 29, 2022)

A team of researchers led by University of St.Gallen Professor Isabella Hatak, in cooperation with Professor Ute Stephan from King's College London and Professor Andreas Rauch from the Audencia

Business School, recently conducted a meta-study of entrepreneurship and well-being across institutional contexts, and found that although self-employed people generally enjoy a higher degree of well-being than employees, one cannot say that self-employed people have fewer negative emotional states or mental challenges than employees. In this context, the study in particular highlighted that one of the main reasons for the greater measure of contentment among self-employed people appears to be the higher degree of autonomy that characterizes entrepreneurship.
/web/2022/10-220429-df

New Project to Counteract Racism in Sports

(University of Lucerne, May 04, 2022)

A team of researchers from the University of Lucerne-based Swiss Sports History platform recently launched a new project to identify and counteract racism in sports. To achieve this, the project is not only based on a scientifically-sound mediation concept, which was developed by the PH Luzern, but it also features the inclusion of contemporary witnesses, who, in video interviews and during school visits, will share their experiences of being a victim of racist incidents, as well as explain what, from their point of view, needs to be done to intervene against racism in society and sports. This is an important project, because according to the team, there is currently a lack of in-depth debate about the reasons and mechanisms that lead to racism in sports, as well as about what can be done about it. In addition, the views of those affected are often not given enough space.
/web/2022/10-220504-a5

Brain Reinforces Positive Emotions During REM Sleep

(University of Bern, May 13, 2022)

A team of researchers led by Professor Antoine Adamantidis from the University of Bern and the Inselspital was recently able to provide vital new insights into how the brain helps to reinforce positive emotions and weaken strongly negative or traumatic emotions during REM sleep. Specifically, the team found that REM sleep is associated with a somatodendritic decoupling in pyramidal neurons of the prefrontal cortex, whereby the cell somas are kept silent while their dendrites are activated. In other words, the brain favors the discrimination of safety versus danger in the dendrites, as well as blocks the over-reaction to emotion, in particular danger. This is crucial, because if this discrimination is missing and excessive fear reactions are generated, this can lead to anxiety disorders.
/web/2022/10-220513-6c

Ethics Assessment Framework for Humanitarian Drones

(University of Zurich, May 25, 2022)

Although new and emerging technologies, such as unmanned aerial vehicles, or "drones", can be used to considerably speed up humanitarian response and optimize relief operations, their use also raises a number of substantial legal and ethical questions, which must be addressed. In an effort to help shed light on the nature, type and scope of ethical challenges that humanitarian organizations may confront when embarking upon innovation programs, a team of researchers from the Digital Society Initiative of the University of Zurich have therefore been working with partners to explore the notion of "value sensitive innovation" by investigating how to integrate ethical values in the humanitarian use of drones. This has in particular resulted in the development of the so-called "Framework for the Ethics Assessment of Humanitarian Drones" (FEAHD).
/web/2022/10-220525-e2

11. Start-ups / Technology Transfer / IPR / Patents

ETH Zurich Spark Award Winners 2022

(ETH Zurich, April 28, 2022)

Daniel Richter, Edgars Lakis and Professor Joern Piel were recently awarded this year's ETH Zurich Spark Award for their innovative biochemical method, which can be used to link a selected protein to any payload they choose, such as a drug molecule or a biomarker. Significantly, the reaction that creates this linkage is highly selective, which in turn makes it possible to modify cell function with a high degree of precision. This year's winners in turn follow in a long tradition of successful innovations from Switzerland, which currently not only ranks as the world's most-innovative economy (see WIPO's 2021 Global Innovation Index), but also constitutes the global leader in patent applications per capita (see EPO's Patent Index 2021). In this context, ETH Zurich contributes some 100 patents a year – many of which lead to the creation of successful companies.
/web/2022/11-220428-72

Swiss Entrepreneurs Featured on Forbes 30 Under 30 Europe List

(startupticker.ch, May 04, 2022)

The following Swiss-based entrepreneurs recently secured a spot on this year's Forbes 30 Under 30 Europe list, which features 300 inspiring young personalities, who are shaping business and society in ten categories: Alexandre H. C. Anthis (Veltist) developed a surgical adhesive to prevent post-surgery leakages; Margaux Duchamp (ArcoScreen) aims to help pharma companies more easily and quickly test new drug compounds; Loulia Kassem (Rea Diagnostics) developed a non-invasive way to detect issues early during pregnancy; Pau Molas-Roca (Coactum) aims to provide simple, secure and fast in-space transportation services; Patrizio Bonzani, Joel Roos & Ben Simon (VAY) aim to democratize professional human motion analysis; and Mirko Schmiedl (Staking Rewards) developed an independent data aggregator and research platform for crypto interest rates.
/web/2022/11-220504-84

Swiss Economy Quickly Benefits From Innosuisse Funding

(Innosuisse, May 06, 2022)

Innosuisse recently investigated the impact of its supported innovation projects on companies with a systematic monitoring, thereby enabling it to demonstrate the wide-ranging effects of innovation promotion. For example, the study not only illustrated that every franc invested in innovation projects lead to an additional value added of CHF 5.10 for companies over a period of three years, but also that 1,080 jobs were created from the 364 projects completed in 2018. In addition, the study found that approximately half of the funded projects are pursuing a radical or disruptive form of innovation, as well as that every third innovation supported by Innosuisse constituted a world market first. The evaluation moreover highlighted that partners often continued to collaborate for the long term and that 55% of projects completed in 2021 dealt with digital solutions.
/web/2022/11-220506-2e

EPFL Startup Champions Seed Night 2022

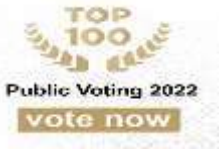
(Venturelab, May 06, 2022)

The following 19 startups recently presented their innovative solutions at the 11th edition of the EPFL Startup Champions Seed Night – an annual startup presentation event that brings together the most promising entrepreneurs from EPFL and the Canton of Vaud, angel investors, mentors, industry leaders, and scientists: Bloom Biorenewables (best pitch of the Champions Seed Night 2022), Composite Recycling

(finalist), Neurosoft Bioelectronics (finalist), TWIICE (finalist), autonomy, Bearmind, CodeDepot, Green Future Logistics, KimboCare, MATIS, Mirrakoi, Oniri, Perovskia Solar AG, Qaptis, RAAAM Memory Technologies, Resilio, SwissInspect, and Virtuosis.
/web/2022/11-220506-65

TOP 100 Public Voting

(Venturelab, May 09, 2022)



Venturelab recently opened the public voting for this year's TOP 100 Swiss Startup Award, which provides LinkedIn users with the chance to vote for the startup that most impresses them from any of the following ten categories: Biotech, Cleantech, Engineering, Fintech, Foodtech, ICT, Medtech, Proptech, Robotics and Security. Every year, the TOP 100 Swiss Startup Award showcases the 100 most innovative and promising Swiss startups, selected by a jury of 100 leading investors and experts. The TOP 100 Public Voting runs parallel to the expert jury ranking and highlights outstanding Swiss startups that will be celebrated on stage during the award night on 7 September 2022. The 10 winning startups will moreover be announced in the TOP 100 Swiss Startup Magazine 2022.
/web/2022/11-220509-a6

STAGE UP 2022 Winners

(University of Bern, May 12, 2022)

The University of Bern Entrepreneurship Center recently announced the winners of this year's Bernese Business Creation Competition "STAGE UP", who were not only able to convince a jury of renowned Bernese entrepreneurs with an elevator pitch in the first round, but also an engaged live audience during the recently-held award night. In this context, "ATANIS Biotech AG", which developed a novel diagnostic test method to detect allergies, won first place, followed by "Capt'n Greenfin", which developed a fish bait, which is 100% natural and completely degrades within two weeks, in second place, and "Sensawear", which enables near-infrared spectroscopy using thin optical fibers that can be integrated into any garment, in third. The top three were in turn complemented by the two remaining finalists: "Compact Motion" and "YLAH".
/web/2022/11-220512-4a

Swiss Ethics Award 2022

(Eastern Switzerland University of Applied Sciences, May 13, 2022)

As part of the Swiss Excellence Forum, Tide Ocean was recently awarded the Swiss Ethics Award 2022 for its innovative solution to upcycle ocean-bound plastic waste and transform it into a premium raw material, which brands can use for new, sustainable products. To achieve this, Tide Ocean teamed up with researchers from the Eastern Switzerland University of Applied Sciences to develop an innovative new method to upcycle a variety of plastics, such as Polyethylene terephthalate plastics (PET), Polypropylene (PP) and Polyethylene (PE), into a versatile granular material, which can be used for plastic injection for watches, furniture, electronic devices, automotive parts and any type of hard plastic product. In addition, Energie 360°, Hunziker Partner, Recycling-Paradies, and yourharvest were also nominated for this year's Swiss Ethics Award.
/web/2022/11-220513-13

HSG Impact Award 2022

(University of St.Gallen, May 16, 2022)

The following three research projects were recently awarded the distinguished "HSG Impact Award" in recognition of their valuable, and clearly recognizable, contribution to society: In a series of articles in leading public media in the German-speaking world, Professors Thomas Beschorner and Martin Kolmar provided a valuable contribution to the debate regarding the social and ethical dimensions of COVID-19.

Professors Sebastian Kernbach, Martin J. Eppler and Sabrina Bresciani investigated the impact of the St.Gallen Life Design approach on individuals, organizations and society, especially with regard to the development of psychological capital. Finally, Professors Heike Bruch and Nils Fürstenberg, together with PhD student Frederik Hesse, investigated how companies – and, within the context of their study, the Hilti Group in particular – can best design the future of work.
/web/2022/11-220516-57

12. General Interest

Highly Successful Swiss Pavilion at Expo 2020 Dubai

(Federal Department of Foreign Affairs, April 01, 2022)

Presence Switzerland recently announced that it was very pleased with the Swiss Pavilion's performance at the World Expo in Dubai, during which Switzerland successfully showcased itself as a leading innovation hub. Specifically, with 1.7 million visitors, the Swiss Pavilion was not only one of the most popular and most visited pavilions in Dubai, but it also regularly came out on top in rankings, and even won 3 prizes. In addition, through 150 events, over 50 Swiss companies and 20 higher education institutions, as well as other institutional partners, used the platform to promote and deepen exchange with Switzerland's largest trading partner in the Middle East. Furthermore, according to a survey conducted at the pavilion, it made a good or very good impression on the vast majority of visitors, and thus positively impacted their perception of Switzerland.
/web/2022/12-220401-de

SNSF Invested CHF 882 million in Research in 2021

(Swiss National Science Foundation, May 05, 2022)

According to its 2021 annual report, the Swiss National Science Foundation approved CHF 882 million in funding last year to support approximately 1,800 new research projects, including 400 fellowships abroad, as well as to ensure that over 1,000 scientific publications are accessible free of charge. Of these CHF 882 million, the SNSF invested more than half – CHF 459 million, to be exact – in project funding, CHF 218 million in career funding, CHF 147 million in programs, CHF 44 million in infrastructure, and CHF 13 million in science communication. In addition, the SNSF launched three new Horizon Europe transitional measures for Swiss researchers on behalf of the government, and a fourth at the beginning of 2022, as well as further expanded cross-border funding options for researchers, and continued to support research relating to COVID-19.
/web/2022/12-220505-5b

New Swiss Alliance for Capacity-Building in PeaceTech

(EPFL, May 19, 2022)

EPFL and the Geneva Graduate Institute recently signed an agreement to create the “Swiss PeaceTech Alliance”, which will connect experts from both institutions and beyond in order to build an interdisciplinary reference group to support PeaceTech initiatives worldwide. To achieve this, the alliance aims to stimulate the emergence of hybrid knowledge – from peace to tech and from tech to peace – necessary to design and operate PeaceTech, as well as to assess its use. It will also support research projects aimed at developing innovative practice in PeaceTech, as well as to evaluate and report on the evolution of the field – all while keeping a critical eye on sustainability and the long-term effects of the use of tech in peacebuilding, peacemaking and violence prevention.
/web/2022/12-220519-d5

Swiss Artist's Books

(Swiss National Library, May 31, 2022)

The Swiss National Library, in association with Buchhandlung Walther und Franz König, recently released a unique and encyclopedic compendium, which traces the development and significance of artists' publications in Switzerland. This is an exciting development, because although artists' publications have experienced something of a boom in Switzerland and internationally over the last 20 years, there has not been any critical overview of these books in Switzerland, until now. To close this gap, editor and author Susanne Bieri therefore used one of the most extensive collections of artists' books in Switzerland – that of the Swiss National Library – to explore the Swiss artist's book in an international context through 112 interviews with 450 questions, which in turn sparked over 650 annotations, associations and anecdotes.
/web/2022/12-220531-53

13. Calls for Grants/Awards

Call: Postdoc Mobility Fellowships for Research Abroad

(Swiss National Science Foundation Foundation, May 04, 2022)

The Swiss National Science Foundation Foundation recently opened applications for its "Postdoc.Mobility" fellowship program, which aims to provide postdoctoral researchers who intend to pursue a scientific or an academic career in Switzerland with the opportunity to complete a research stay abroad. The fellowships include a grant for subsistence costs, a flat rate for travel expenses, as well as a possible contribution to research and conference costs. In addition, fellowship holders can apply for a return grant, which includes a salary and social security contributions, to finance their initial period of research after returning to Switzerland. The funding period is in principle 24 months (fellowship) and 3 to 12 months (return phase). Submission deadline: 1 August 2022.
/web/2022/13-220504-3a

Call: Boldbrain Startup Challenge 2022

(Università della Svizzera italiana, May 10, 2022)

The Fondazione AGIRE, in close collaboration with the USI Startup Center and a network of competent partners, recently opened applications for the fifth edition of the Boldbrain Startup Challenge – a three-month acceleration program for early-stage startups, which aims to provide participants with the needed tools to assess whether their idea is valid or not, as well as if it has the prerequisites to be transformed into a scalable business. In this context, the prerequisites for applying are the innovative nature of the idea and the scalability of the project. Moreover, for the 2022 edition, there has been an important change in the regulation, which now allows teams from abroad to apply. Application deadline: 15 July 2022.
/web/2022/13-220510-dd

Upcoming Science and Technology Related Events

Swiss Conference on Data Science
June 22-23, 2022
https://is.gd/nJkBNA
IT, Web, Electronics
Lucerne

>>venture>> Award Ceremony 2022
June 28, 2022
https://is.gd/ERdOR9
Startups, Investors, Pitching
Zurich

World Biodiversity Forum
June 26 - July 1, 2022
https://is.gd/INl9Ks
Biodiversity, Business, Economy
Davos

Mars Habitat Challenge 2022
July 5, 2022
https://is.gd/HiRtM2
Startups, Biz Dev, Space
Flums

Swiss Nanoconvention
July 5-6, 2022
https://is.gd/L5F8db
Nanoscience, Biotech, Medtech
Fribourg

X Days
July 5-6, 2022
https://is.gd/BycZ5w
Cyber Security, Metaverse
Baden

Female Innovation Forum 2022
July 7, 2022
https://is.gd/034WVl
Startups, Innovation, Awards
Dielsdorf

Swiss-US Energy Innovation Days 2022
August 14-16, 2022
https://is.gd/xekxvU
Energy, Innovation, Networking
Bern

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