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

Switzerland.

Science-Switzerland, December 2021 – January 2022

News on Swiss science, technology, education and innovation

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Switzerland Remains Most Attractive Country for International Talent

(EAER SME Portal, January 19, 2022)

Switzerland recently ranked first in the IMD World Talent Ranking for the sixth consecutive year, thereby highlighting the continued attractiveness of the Swiss economy for international talent, even amidst the COVID-19 pandemic. Specifically, Switzerland ranked first in terms of investment and development of the local workforce, as well as in terms of pure appeal (ability to attract foreign talent and retain local talent), while also placing third with regard to the strengths and skills present in the country. IMD moreover emphasized that Switzerland's performance is strongly supported by its public expenditure in education, its implementation of apprenticeships, the prioritization of employee training, and the overall effectiveness of the health system. The alpine country moreover excels when it comes to wages in the tertiary sector and in management positions.
/web/2022/00-220119-26

New World Record for Battery-Operated Train

(Swiss Chamber of Commerce and Industry in Japan, January 24, 2022)

A Stadler-built battery-operated train called "FLIRT Akku" recently reached a range of 224 kilometers on a single charge, thereby setting a new world record for the greatest distance travelled by battery electric multiple unit (BEMU) on a single charge. Traveling on the German route from Berlin to Warnemünde, and accompanied by independent technical consultants, the test carrier reached this new world record despite wintry temperatures around freezing point, which are not ideally suited for batteries, thereby making the achievement all the more impressive. The three-unit train was developed in 2016 as a local CO2-neutral mobility solution for the climate-friendly operation of unelectrified railway routes, and was introduced to the public in 2018. It has since traveled around 15,000 kilometers in battery-only operation.
/web/2022/00-220124-17

Swiss Energy Prize Watt d'Or 2022

(Swiss Federal Office of Energy, January 06, 2022)

The following projects were recently awarded the coveted "Watt d'Or" trophy by the Swiss Federal Office of Energy, which recognizes outstanding products or services in the energy sector. SBB, which developed an intelligent load management system to reduce power peaks by briefly switching off train coach and points heating systems, won the "Energy Technologies" category. Verora AG, which produces biochar from natural tree and shrub cuttings, which, when used as a feed additive, can not only reduce the formation of greenhouse gases from livestock digestion, but also captures CO2 in the soil for centuries, won the "Renewable Energy" category. Schaerraum AG, which developed an innovative modular planning concept that can be used to build wooden apartment buildings in a climate-friendly, resource-efficient and cost-effective manner, won the "Buildings and Spatial Development" category.
/web/2022/00-220106-86

1. Policy

Greater Flexibility for Innosuisse Innovation Project Funding

(Innosuisse, December 14, 2021)

During the Swiss Parliament's 2021 winter session, both councils adopted a number of important amendments to the Federal Act on the Promotion of Research and Innovation (RIPA), which would in particular provide Innosuisse with greater flexibility regarding its funding contributions for innovation projects. Specifically, these changes would enable Swiss implementation partners to receive direct funding as part of international innovation projects if they would otherwise be at a disadvantage compared with their partners from abroad, as well as alters the ratio of their contribution to the project cost from 50% to a range between 40 and 60%. Startups will also be able to receive direct contributions for their innovation projects before their market entry and Innosuisse will be able to provide direct support to organizations for activities to strengthen the Swiss startup ecosystem.
/web/2021/01-211214-db

2. Education

Upskilling Platform to Fill Educational Gaps Caused by Pandemic

(University of St.Gallen, December 07, 2021)

From February 2022 onwards, the Swiss Federal University for Vocational Education and Training, EPFL, the University of Zurich, the Zurich University of Applied Sciences, as well as the University of St.Gallen, will be working on the development of a new upskilling platform, which aims to help bridge the gap between individuals, companies, and education/training providers by reinventing the way in which people conceive their skills, their career paths and their local labor market. To achieve this, the so-called "Swiss Circular Economy of Skills and Competences" platform aims to enable people to not only get acquainted with local job offers that fit the occupation of their choice, or with courses to train them for the occupation of their choice, but also to support them with digital coaching and new communities, which will make lifelong learning a new habit.
/web/2021/02-211207-46

ETH Board Appoints Record Number of Female Professors

(ETH Board, December 09, 2021)

Despite the fact that there is a still considerable room for improvement when it comes to achieving a good gender balance within technical universities, it appears as though the initiatives implemented within the ETH Domain are slowly bearing fruit, as women accounted for 46.2% of new professorial appointments by the ETH Board in 2021. This is an exciting development, it constitutes the highest ever proportion of women among the newly appointed professors at ETH Zurich and EPFL, and thus underlines the importance that the ETH Board attaches to promoting women in the ETH Domain. The Board moreover appointed Birgit Ottmer as a member of the WSL Directorate, as well as paid tribute to the former Rector of ETH Zurich, Professor Sarah Springman, who recently handed over to Günther Dissertori on reaching retirement age.
/web/2021/02-211209-9c

Benefits of Good Education and Lifelong Learning Extend Into Old Age

(University of Zurich, December 22, 2021)

According to the initial results of a long-term study conducted by University of Zurich Professor Lutz Jäncke and his team, possessing a good education and engaging in lifelong learning not only constitute an excellent way to embark on a successful career and develop your personality, but their benefits could even extend into old age by helping to reduce certain neurodegenerative processes. Specifically, the team found that over the course of seven years, senior citizens with an academic background showed a significantly lower increase in a set of typical signs of brain degeneration, known as "lacunes" and "white matter hyperintensities", as well as were able to process information faster and more accurately, thereby indicating a lower overall decline in their mental processing.
/web/2021/02-211222-e0

Video Game to Improve Reading Skills

(University of Geneva, January 17, 2022)

A team of researchers led by University of Geneva Professor Daphné Bavelier and post-doctoral fellow Angela Pasqualotto from the University of Trento recently developed a new action video game to help children enhance their reading skills. To achieve this, the game features a series of engaging mini-games set in an action game environment, which apply gamified versions of standard clinical exercises designed to improve vital executive functions, such as working memory, inhibition, and cognitive flexibility. Encouragingly, the team found that the children who played the game not only showed a 7-fold improvement in attentional control compared to the control group, but they also significantly improved their reading speed and accuracy. Subsequent assessments moreover confirmed that these improvements were sustained.
/web/2022/02-220117-52

3. Life Science

Fighting Antimicrobial Resistance With Rapid Digital Response

(University of Applied Sciences and Arts of Southern Switzerland, December 13, 2021)

An interdisciplinary consortium composed of 8 public and 4 private Swiss institutions recently joined forces to address the silent pandemic of antimicrobial resistance (AMR) by launching a new, Innosuisse Flagship project, called “Swiss Pandemic & AMR - Health Economy Awareness Detect,” or “SPEARHEAD” for short. This is an important development, because AMR – ability of microorganisms to prevent antimicrobials from working against them – is increasingly causing treatments to become ineffective against infections that were previously easily treatable, and could therefore potentially account for 10 million deaths per year worldwide by 2050. SPEARHEAD therefore aims to build on the partners’ existing expertise in COVID-19 and AMR to rapidly deploy digital pandemic responses to mitigate the expected economic and societal impacts of AMR.
/web/2021/03-211213-f8

Rapid PCR Test Delivers Results in Less Than 30 Minutes

(ETH Zurich, December 13, 2021)

ETH Zurich researchers Michele Gregorini and Philippe Bechtold recently developed a new PCR testing device that can easily be used outside the lab, and which can deliver results in less than 30 minutes. This is an exciting development, because by making this process easier and, above all, quicker, the new method could not only enable patients to get the treatment they need at their very first appointment, but it

could also open the door to PCR testing in developing countries. To achieve this, the two young entrepreneurs, who have since founded their own ETH startup, called Diaxxo AG, developed an innovative new replicable aluminum test cartridge, which enables them to simply pipette a droplet of the patient's sample straight into one of the wells in the cartridge, and subsequently heat and cool the PCR reagents considerably faster than conventional devices.
/web/2021/03-211213-b4

Funding for Development of Four COVID-19 Medicines

(Federal Office of Public Health, December 13, 2021)

The Swiss federal government recently signed contracts with the following four Swiss-based companies to support the development of potentially important medicines in the fight against COVID-19: GeNeuro is developing a monoclonal antibody to treat the long-term effects of COVID-19 in patients suffering from severe neuropsychiatric symptoms; Kinarus is developing an oral drug combination therapy with antiviral and anti-inflammatory activity, for all severities of COVID-19; Memo Therapeutics is developing a monoclonal antibody to treat SARS-CoV-2 infections in patients at risk for a severe course of COVID-19, administered by inhalation or intravenously; and Noorik Biopharmaceuticals is developing an oral pulmonary vasodilator to prevent respiratory failure and reduce the need for mechanical ventilation in the event of hospitalization due to COVID-19.
/web/2021/03-211213-ab

Neuronal Activity During Hearing and Listening

(University of Basel, December 14, 2021)

A team of neuroscientists led by University of Basel Professor Tania Rinaldi Barkat and Dr. Gioia De Franceschi recently examined the activity of neurons in four different areas in the brains of mice known to be involved in increasingly complex sound processing, thereby enabling them to identify ten distinct and specific types of activity change. Specifically, although most of the neurons showed a change that was probably related to varying levels of attention, some of them also showed patterns of activity that were related to the arousal level of the mice, their movement, the availability of a reward, or a combination of these factors. This is a significant discovery, because as explained by Barkat, it makes it clear that "even the detection of a simple sound constitutes a cognitive process that profoundly and extensively shapes the way the brain works."
/web/2021/03-211214-3f

New Effective Combination Cancer Treatment

(Paul Scherrer Institute, December 15, 2021)

A team of researchers at the Paul Scherrer Institute, together with colleagues at the University of Basel and ETH Zurich, recently developed a new combination therapy that consists of an active substance based on rapamycin, as well as a peptide coupled with the radionuclide lutetium, which enabled them to inhibit tumor growth by roughly half compared to treatment with just one of the two active substances. This is an exciting development, because although this type of therapy is already used in practice, the new discovery significantly improves its effectiveness, which is vital, as it is particularly suitable for treating medullary thyroid cancer (MTC) – the third most type of thyroid cancer. As such, the method is currently the subject of clinical trials conducted in close collaboration with Debiopharm International and the University Hospital Basel.
/web/2021/03-211215-5e

Gut Bacteria Aggravate Adhesions After Abdominal Surgery

(University of Bern, December 16, 2021)

A multidisciplinary team of researchers led by Professors Daniel Candinas and Deborah Stroka from the Inselspital and the University of Bern was recently able to identify the initial cells and primary trigger leading to the formation of adhesions in the abdomen after operations contaminated by intestinal bacteria. This is

an exciting development, as these findings provide a promising starting point for a possible future therapy. Specifically, the team found that the inflammatory response after bacterial contamination initiates a process known “EGFR signaling”, which, as explained by first author Dr. Joel Zindel, causes mesothelial cells – which are part of the repair mechanism that is supposed to restore injured tissue in the abdominal cavity – to change their behavior and begin to produce a large amount of scar tissue, rather than forming a smooth surface.
/web/2021/03-211216-4a

"SHIFT" Program to Develop Smart Hospital of Future

(Zurich University of Applied Sciences, December 16, 2021)

A team of researchers led by Zurich University of Applied Sciences Professors Alfred Angerer and Sven Hirsch, together with four other research partners, some 20 hospitals, and 24 industry partners, recently launched a new project entitled "Smart Hospital - Integrated Framework, Tools & Solutions" (SHIFT), which aims to explore the question of how hospitals can be transformed to realize the vision of "the hospital of the future." This is an exciting development, because digital technologies can not only help hospitals cope with cost pressure, demographic change, and quality demands, but also promise to generally increase the possibilities for detecting diseases earlier or even preventing them.
/web/2021/03-211216-0f

Precise Structural Analysis of Omicron Spike Protein

(EPFL, December 29, 2021)

Thanks to the high-power electron microscopes at the Dubochet Center for Imaging, a team of EPFL researchers led by Professors Henning Stahlberg and Didier Trono, as well as group head Dr. Florence Pojer, was recently able to produce a precise image of the structure of the Omicron variant’s spike protein, as well as of the original virus’ spike protein at a resolution of 2Å – the highest resolution obtained so far. This is an exciting development, because as explained by Stahlberg, this enables them to not only see exactly what mutations allow the Omicron variant to resist the AstraZeneca vaccine completely and the Pfizer one partially, but also to improve their understanding of how the mutated spike protein binds to ACE2 cellular receptors – the method by which the virus enters human cells – which could in turn help pave the way to new therapeutic approaches.
/web/2021/03-211229-03

More Sleep and Better Quality of Life for Adolescents During Lockdown

(University of Zurich, January 05, 2022)

Although the school closures in Switzerland in spring 2020 had a negative effect on the health and well-being of many young people, a team of researchers led by University of Zurich Professors Oskar Jenni and Reto Huber recently found that the homeschooling phase also had an upside. Specifically, the team found that compared to a survey conducted in 2017, the participating adolescents not only got about 75 minutes more sleep per day during the lockdown, but also rated their health-related quality of life higher, and reported a reduction in their consumption of alcohol and caffeine. These findings are important, because as underlined by Jenni, they "clearly indicate the benefit of starting school later in the morning so that youngsters can get more sleep."
/web/2022/03-220105-a2

New Method to Precisely Track Prostate Cancer Progression

(Università della Svizzera italiana, January 10, 2022)

By jointly reprocessing the raw data from 1,200 prostate cancer patients raging from primary to end-stage disease, a team of researchers led by USI Professor Jean-Philippe Theurillat, Dr. Marco Bolis and Dr. Daniela Bossi recently generated a comprehensive gene expression atlas for prostate cancer, thereby enabling the researchers to subsequently discover a uniform and predictable trajectory to disease

progression, which involves the same transcriptional modification occurring overtime. This is a significant development, because as explained by Bolis, it implies that they are able to anticipate which biological mechanisms are activated by the tumor cells, and, as a result, adapt pharmacologic interventions that inhibit the androgen receptor – the key therapeutic target in this disease – accordingly.
/web/2022/03-220110-8f

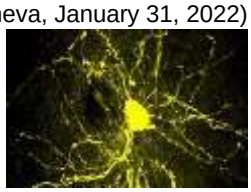
Bionic Muscles Fueled by Metabolic Energy

(University of Fribourg, January 18, 2022)

An international team of researchers led by Alessandro Ianiro, José Augusto Berrocal, and Professor Michael Mayer from the University of Fribourg was recently awarded a highly competitive European Pathfinder grant to develop novel artificial muscles as part of the "INTEGRATE" project. Specifically, the researchers are working to develop soft actuating devices fueled by metabolic (biochemical) energy, which could subsequently be used to create implantable materials to replace damaged muscles, or even be built into complex prosthetic devices that can be powered by small and non-invasive power units integrated within the body. To achieve this, the team will in particular focus on the development of next-generation soft actuating materials, on the large-scale 3D printing of these materials, as well as on the creation of an artificial "Energy-Harvesting Organ."
/web/2022/03-220118-ea

Gene-Environment Interactions Drive Autistic Disorders

(University of Geneva, January 31, 2022)



A team of researchers led by University of Geneva Professor and Director of the NCCR Synapsy, Camilla Bellone, was recently able to illustrate how a change in cell environment can trigger the onset of autistic symptoms in mice with a genetic vulnerability for the first time, thereby providing vital evidence of the close interactions between genes and the environment in the social dysfunctions typical of autistic disorders. This is significant, because the findings not only highlight the importance of environmental factors, which have been largely underestimated until now, but also that, depending on the gene-environment interactions and inflammatory mechanisms specific to each patient, it could be possible to identify a treatment that would correspond exactly to the cellular and molecular modification at stake in the brain circuits.
/web/2022/03-220131-3d

4. Nano / Micro Technology / Material Science

Environmentally-Friendly Carbon Ink for Electrical Circuits

(Swiss Federal Laboratories for Materials Science and Technology, December 20, 2021)

A team of Empa researchers led by Gustav Nyström recently developed an environmentally friendly carbon ink for electrical circuits, which is non-toxic, metal-free, and biodegradable. This is an exciting development, because the metal particles currently used to make such "inks" electrically conductive are not only expensive, but their disposal also exacerbates the problem of electronic waste. To address this issue, the researchers mixed inexpensive elongated graphite platelets with tiny soot particles in a matrix made of shellac – a well-known biomaterial that is obtained from the excretions of scale insects. Excitingly, its advantages correspond exactly to the researchers' desired profile, and, on top of that, it is soluble in alcohol – an inexpensive solvent that evaporates after the ink is applied so that it dries.
/web/2021/04-211220-8f

Integrating Quantum Devices Into Semiconductor Technology

(Paul Scherrer Institute, December 22, 2021)

A team of researchers led by Paul Scherrer Institute researchers Vladimir Strocov and Tianlun Yu, together with Cornell University Professor John Wright, recently identified a composite material that could integrate quantum devices into semiconductor technology, thereby making electronic components much more powerful. Specifically, by using a well-established method known as “angle-resolved photoelectron spectroscopy using soft X-rays” – or SX-ARPES for short – at the ADRESS beamline of the Swiss Light Source, the team investigated how the electrons behave at the contact interface of a promising layered system composed of the superconductor niobium nitride (NbN) and the semiconductor gallium nitride (GaN), and, encouragingly, found that the electrons remain in their original material and do not interact with the electrons in the neighboring material.
/web/2021/04-211222-5d

Ecological Protective Coating for Fruit and Vegetables

(Swiss Federal Laboratories for Materials Science and Technology, January 07, 2022)

A team of Empa researchers led by Gustav Nyström, together with the retailer Lidl Switzerland, recently developed an ecological protective coating for fruit and vegetables, which can not only extend their shelf life, but also aims to dramatically reduce packaging waste. To achieve this, the team processed pomace – the solid residue left over after extracting juice from fruit, vegetables or plants – into fibrillated cellulose, which can subsequently be sprayed onto the produce, or applied as a dip, and thus acts as a protective coating to extend shelf-lives and prevent food-waste. The coating is in turn easy to wash off, and, as it is harmless to the consumer, it can also be consumed without harm. In addition, it is also possible to add vitamins, antioxidants, or other additives to the coating to further expand its potential.
/web/2022/04-220107-c2

Landmark Research Grant for Quantum Materials

(Swiss Federal Laboratories for Materials Science and Technology, January 31, 2022)

A team of Empa researchers led by Professor Roman Fasel, together with Pascal Ruffieux, Oliver Gröning and Gabriela Borin Barin, recently received a CHF 15 million research grant for the next ten years to help them lay the foundations for novel quantum technologies, which may even operate at room temperature – in contrast to current technologies, which generally require cooling to near absolute zero. To achieve this, the so-called "CarboQuant" aims to build on a special spin effect in graphene nanoribbons, known as "spin fractionalization", so that they can manipulate them deliberately, and, for example, reverse the spin at one end of the nanoribbon and thus elicit a corresponding reaction at the other end. This would be a significant achievement, as it would provide the team with a stable quantum effect that could be manipulated with moderate cooling, or even at room temperature.
/web/2022/04-220131-82

5. Information & Communications Technology

Breakthrough in Quantum Computing Error Correction

(ETH Zurich, December 08, 2021)

A team of researchers led by ETH Zurich Professor Andreas Wallraff was recently able to demonstrate, for the first time, that errors in a quantum computer working with quantum bits (qubits) can be corrected quickly and repeatedly, thereby providing evidence that fault-tolerant quantum computation could be practically realizable. This is an exciting development, because although quantum computers are widely

seen as a beacon of hope for future information processing, uncertainty nevertheless persists as to whether, or not, they will ever be able to replace conventional computers, due to the fact that they are extremely error-prone. To achieve this breakthrough, the team performed the error correction with what is known as the surface code on a chip, which was specially produced in ETH Zurich's own cleanroom laboratory.
/web/2021/05-211208-19

New Principle to Improve Optical Chips

(EPFL, January 07, 2022)

A team of researchers led by EPFL Professor Camille-Sophie Brès, as well as PhD students Edgars Nitiss and Jianqi Hu, was recently able to successfully apply a novel principle for introducing second-order optical nonlinearity into silicon nitride chips, which can be manufactured with standard techniques developed for electronics, known as "CMOS", and makes it possible to efficiently generate different colors of light on a chip. This is an important development, because current photonic chips compatible with CMOS processes generally use standard photonic materials, which do not possess second-order nonlinearity and are therefore not inherently capable of transforming light in this way. This inhibits the advancement of technology, because as explained by the authors, light, and optics more broadly, are functional in making compact and portable chips.
/web/2022/05-220107-10

Stable Quantum Bits for Compact Quantum Computers

(Paul Scherrer Institute, January 20, 2022)

A team of Paul Scherrer Institute researchers recently investigated the electron distribution below the natural oxide layer of two semiconductors, which could potentially be used to create a new, particularly stable type of quantum bit, known as a "topological quantum bit". This is an exciting development, because as explained by Niels Schröter, topological quantum bits promise to be immune to leakage of information that plagues most types of qubits today, and would thus enable researchers to use just a few qubits to achieve a slim, functioning quantum computer. In this context, the team found that indium antimonide has a particularly low electron density below its oxide layer, which would be advantageous for the formation of so-called "topological Majorana fermions," which could act as information carriers – ergo, as quantum bits – in a quantum computer.
/web/2022/05-220120-e3

AI-Method to Automatically Render Animated Avatars

(ETH Zurich, January 25, 2022)

A team of researchers led by ETH Zurich Professor Otmar Hilliges and doctoral student Xu Chen recently developed new, AI-based approach, which can render animated avatars – computer-generated, dynamic representations of people – in any conceivable pose, just by observing a few 3D scans of a real person. Excitingly, this enabled a computer model to subsequently represent new, never-before-seen motion patterns for the first time, including acrobatic movements, such as wild dancing, somersaults, or a back bridge. This is a significant development, because AI avatars have hardly been applicable until now – especially for interactive application – as previous methods involved trying to capture the entire possible repertoire of movements, which not only entailed a significant effort for 3D scanning, but also required enormous computing power.
/web/2022/05-220125-e0

6. Energy / Environment

New Experimental Energy Storage Facility

(Swiss Federal Laboratories for Materials Science and Technology, December 01, 2021)

Empa and Eawag are currently building a new, future-oriented research campus called "co-operate", which will not only enable scientists to conduct groundbreaking research in a variety of fields, but also constitutes an object of research itself. This is because co-operate will feature an experimental, borehole thermal energy storage (BTES) facility, which consists of a field of 144 geothermal probes that can be charged with waste heat in summer and discharged with a heat pump for heating in winter. This will in turn enable Empa to reduce the CO2 emissions of its buildings to a minimum and thus make a huge step towards a sustainable energy future. Moreover, this innovative BTES facility will be studied in depth to obtain a better understanding of how it affects the campus' energy supply, operations and security of supply.
/web/2021/06-211201-56

Growing Carbon Footprint of Plastics

(ETH Zurich, December 02, 2021)

Having analyzed the global plastics value chain over a 20-year period, a team of ETH Zurich researchers led by Senior Scientist Stephan Pfister and Professor Stefanie Hellweg recently revealed that the impact of plastics on climate and health is bigger than originally thought, due in particular to the increased use of coal for process heat, electricity, and as a raw material in production. This is significant, because although research on the environmental impacts from the global value chain of plastics has typically focused on the disposal phase, these results illustrate that it is actually the production phase of plastics, which is responsible for the vast majority (96%) of the carbon footprint of plastics, while the end-of-life stages, including recycling, incineration and landfills, induced a minor fraction.
/web/2021/06-211202-48

Climate Impact of Blue Hydrogen

(Paul Scherrer Institute, December 02, 2021)

An international group of scientists led by Paul Scherrer Institute researcher Christian Bauer and Heriot-Watt University Professor Mijndert Van der Spek recently carried out an in-depth analyses of the climate impact of blue hydrogen, and found that it can indeed play a positive role in the transition to a carbon-neutral society, but only under certain conditions. Specifically, according to the researchers, the question of whether blue hydrogen actually benefits the climate depends to a large extent on how much methane is lost on the way from the point of extraction to hydrogen production, as well as how effectively carbon is captured during the steam reforming of the natural gas. These findings thus underline that the key to generating blue hydrogen in the most climate-friendly way is to ensure a high standard of technology.
/web/2021/06-211202-cd

Online Tools to Visualize State of Swiss Forests

(Swiss Federal Institute for Forest, Snow and Landscape Research, December 16, 2021)

As part of the new thematic module “Forest services and climate” of the Swiss National Center for Climate Services (NCCS), WSL recently launched two online tools, called “FORTE” and “FORTE Future”, which aim to provide forest managers and owners, decision-makers, teachers and otherwise interested citizens with an easy way to access reliable information on the current state of the Swiss forests (FORTE) and their long-term development (FORTE Future). In addition to these tools, the NCCS website also conveys four key messages using fictional narratives, which aim to illustrate that the Swiss population is

already being affected in very concrete ways by the impacts of climate change on forest ecosystem services, and will be even more affected in the future.
/web/2021/06-211216-93

New Recycling Process for Lithium-Ion Batteries

(Bern University of Applied Sciences, December 16, 2021)

The Institute for Intelligent Industrial Systems (I3S) at the Bern University of Applied Sciences, in collaboration with LIBREC, Empa, and the Switzerland Innovation Park Biel/Bienne, recently launched a new Innosuisse research project in order to develop and optimize an existing recycling process for used lithium-ion batteries, known as "LithoRec II", to reach material recycling rates of over 90%. To achieve this, the project not only aims to obtain a holistic view of the recycling process by focusing on six key aspects, but also envisions the launch of a new recycling center for drive-system batteries in early 2024, which will combine all old battery services in one facility. This will in turn contribute towards more sustainable resources management, as well as achieve impressive energy and cost efficiency.
/web/2021/06-211216-ec

Climate and Soil Determine Distribution of Plant Traits

(University of Zurich, December 23, 2021)

An international team of researchers led by Julia Joswig from the University of Zurich and the Max Planck Institute for Biogeochemistry, together with colleagues from Leipzig University, recently demonstrated that the global distribution of plant traits are largely influenced by joint effects of climate and soil. This is significant, because as explained by Professor Miguel Mahecha, although many of the relationships described by the team were already known from small-scale, local studies, the fact that these processes could now be shown globally and their significance quantified constitutes an important milestone, and could provide crucial insights to improve Earth system models to better represent the complex interaction of climate, soil and biodiversity.
/web/2021/06-211223-f8

New Approach to Artificial Photosynthesis

(EPFL, January 11, 2022)

A team of researchers led by EPFL chemical engineer Astrid Olaya recently developed a new approach to artificial photosynthesis, which consists of capturing sunlight in order to produce hydrogen from water. This is an exciting development, because hydrogen constitutes a promising, green alternative to fossil fuels, as it can be consumed in simple fuel cells for energy and only leaves behind water. To achieve this, the team photo-oxidized water with a simple organic molecule, called tetrathiafulvalene (TTF), which, as explained by Olaya, has been shown to be able to self-assemble into microrods that not only act as antennas to capture the visible light, but also as electron pumps to oxidize water to oxygen. Excitingly, TTF is only made up of widely-available carbon, sulfur and hydrogen atoms, which means that the new method is also cost effective and sustainable.
/web/2022/06-220111-d7

Agroscope Work Program 2022-2025

(Agroscope, January 18, 2022)

Agroscope recently released its new Work Program for 2022 to 2025, which aims to take up the many and varied challenges of the agriculture and food sector by structuring agriculture and food systems in an ecologically, economically, and socially sustainable manner, as well as by strengthening system research, and increasingly co-creating research with farmers. Encompassing over 100 projects, the Work Program has six core themes, and in particular seeks to find solutions that reduce trade-offs within today's

agricultural production and food systems, whilst also bearing in mind that producers need to generate a high enough income, and that they make an important contribution to food security, as stated by Eva Reinhard, Head of Agroscope,
/web/2022/06-220118-28

Granular Activated Carbon Filtration Removes Micropollutants

(Swiss Federal Institute of Aquatic Science and Technology, January 18, 2022)

A team of researchers led by Marc Böhler from Eawag, together with several other partners, recently demonstrated that the process of space filtration with granular activated carbon (GAC) can not only efficiently remove micropollutants from municipal wastewater, but it is also technically and economic feasible, and thus constitutes a viable alternative to ozonation and powdered activated carbon (PAC) processes. According to Böhler, GAC filtration has not only proven to be a very robust and easy-to-handle technology in their tests, but it is also very similar in operation to the established sand filtration at wastewater treatment plants. In addition, unlike ozonation, GAC can moreover achieve a significant dissolved organic carbon reduction in the effluent of the wastewater treatment plants, and it also has a significantly better CO2 footprint than PAC processes.
/web/2022/06-220118-67

CHF 1.5M for Cryospheric Research in Central Asia

(University of Fribourg, January 25, 2022)

The Swiss Polar Institute (SPI) recently awarded CHF 1.5 million to a research consortium led by WSL and the University of Fribourg to investigate the Pamir Mountains' unique cryosphere (snow and permafrost) as part of its new SPI Flagship Initiative. This is an important project, because although the glaciers in the Pamir Mountains have exhibited very little ice mass change over the past 20 years, they have been shown to be particularly vulnerable to future climate changes, which could be devastating for the water supplies of the Amu Darya basin. In this context, more than 30 Swiss researchers will investigate the mystery of this region's anomalous ice, for which few measurements have been available since the collapse of the Soviet Union, thus providing crucial data for modelling the future of the region's ice masses and the water flowing from them.
/web/2022/06-220125-1f

7. Engineering / Robotics / Space

Exoplanet Orbiting Extremely Hot and Massive Star System

(NCCR PlanetS, December 09, 2021)

An international team of researchers, which also included the participation of the National Center of Competence in Research (NCCR) PlanetS, ETH Zurich, and the University of Zurich, recently succeeded in capturing an image of a unique new planet, which pushes common theories of planet formation to their limits. Specifically, this new planet, called "b Centauri b", not only constitutes one of the most massive planets ever discovered – around ten times as massive as Jupiter – but it also resides in a stellar system, which has at least six times the mass of the sun and is more than three times as hot, thereby making it quite a destructive and dangerous environment in which large planets are unlikely to form. The planet also orbits its stars in one of the farthest orbits discovered so far, with more than 500 times the radius of the Earth's orbit around the Sun.
/web/2021/07-211209-ae

Two-Year Launch Anniversary of CHEOPS

(University of Bern, December 14, 2021)

Since its launch in 2019, the CHEOPS space telescope has not only quickly become a key instrument for astronomers in Europe by reliably revealing details of some of the most fascinating exoplanets, but it has also led to fruitful collaborations throughout the continent, as nearly 100 scientists coming from 40 institutions all over the continent have thus far had the chance to benefit from the unique capabilities of CHEOPS. This initial success in turn is not only exciting for space research in general, but also for Switzerland, as CHEOPS was developed as part of a partnership between the European Space Agency and Switzerland, under the aegis of the University of Bern, in collaboration with the University of Geneva.
/web/2021/07-211214-27

Using AI to Improve Process Quality

(ETH Zurich, December 15, 2021)

A team of ETH Zurich researchers led by Julian Senoner and Torbjørn Netland, together with Stefan Feuerriegel from LMU Munich, recently developed a new artificial intelligence (AI) algorithm, with which they were able to reduce the number of defective products by over 50% in an experiment with the semiconductor manufacturer Hitachi Energy. This is an exciting development, because unlike traditional methods, which only enable engineers to examine a few parameters at a time, this novel AI-based method can be used to analyze any number of factors and relationships in the production process, as well as to reveal more complex interrelationships between parameters, thus making it possible to identify sources of error in a more systematic way, and throughout the entire production process.
/web/2021/07-211215-33

Branch-Perching Drone to Monitor Forest Canopies

(Swiss Federal Institute for Forest, Snow and Landscape Research, December 17, 2021)

A team of WSL and ETH Zurich researchers led by Professor Stefano Mintchev and Steffen Kirchgeorg recently developed a new, specialized drone, called "HEDGEHOG", which can perch on tree branches and turn off its motors, thereby enabling scientists to discretely observe the environmental conditions in forest canopies over long periods of time. This is an exciting development, because despite the enormous importance of forests for biodiversity, climate regulation, and ecological balance, collecting vital data from the treetops has, until now, been difficult. To overcome this issue, HEDGEHOG possesses a cylindrical protective cage, which houses the propellers and allows safe flight, even when contact with leaves and branches is unavoidable, as well as a set of "origami-style" spikes, which can adapt to irregular branch surfaces and enables the drone to cling to branches.
/web/2021/07-211217-57

Mind-Controlled Assistive Robot for Tetraplegic Patients

(EPFL, December 21, 2021)

A team of researchers led by EPFL Professors Aude G. Billard and José del R. Millán recently developed a machine-learning program, which can control the movements of a robot solely based on electrical signals from the brain. This is an exciting development, because the hope is that this invention will enable tetraplegic patients to recover some of their lost dexterity, and, by extension, to carry out more day-to-day activities on their own. To achieve this, the team connected their novel algorithm to a head cap equipped with electrodes for running electroencephalogram (EEG) scans of a patient's brain activity, thereby enabling patients use the system by simply looking at the robot.
/web/2021/07-211221-e1

Rugby Ball-Shaped Exoplanet

(University of Geneva, January 11, 2022)

With the help of the CHEOPS space telescope, an international team of researchers, which also included the University of Bern, the University of Geneva, and the National Center of Competence in Research (NCCR) "PlanetS", was recently able to detect the tidal deformation of an exoplanet – in this case, "WASP-103b" – for the first time, thereby not only allowing the team to draw conclusions about the shape of the planet, but also about its interior. This is because based on the transit light curve of WASP-103b, the team was able to derive a parameter called the "Love number," which indicates how the mass is distributed within the planet. In this context, the researchers for example found that WASP-103b's Love number is similar to Jupiter's, thus suggesting that the two planets' internal structures are similar – even though WASP-103b is twice as large.
/web/2022/07-220111-73

8. Physics / Chemistry / Math

Micro-Device to Transform Infrared Into Visible Light

(EPFL, December 03, 2021)

Researchers from EPFL, the Wuhan Institute of Technology, the Valencia Polytechnic University, and AMOLF recently developed a new micro-device, which uses vibrating molecules to transform invisible mid-infrared light into visible light. This is an exciting development, because by being able to extend the "sight" of commonly available and highly sensitive detectors for visible light far into the infrared, this breakthrough device could usher in a new class of compact sensors for thermal imaging and chemical or biological analysis. Vitally, the conversion process of the new device is coherent, which means that all information present in the original infrared light is faithfully mapped onto the newly created visible light, thereby allowing high-resolution infrared spectroscopy to be performed with standard detectors, like those found in cell-phone cameras.
/web/2021/08-211203-33

Federal Council to Increase Support for CERN Projects

(Federal Council, December 10, 2021)

In order to help secure the long-term development potential of CERN, the Federal Council recently began work to draw up a new federal sectoral plan to clarify and facilitate the administrative procedures for spatial planning, as well as to improve planning security for all CERN projects, including the Future Circular Collider (FCC) – a new large particle collider, which would be built in a 100km-long, circular tunnel under Lake Geneva and the French–Swiss border – in the event of its implementation. According to the current state of planning, the Federal Council intends to submit a dispatch to Parliament to create the necessary legal basis by the end of 2022.This is an important development, because in addition to its considerable contributions to science and innovation, CERN has also brought significant economic benefits to Switzerland.
/web/2021/08-211210-e4

Improper Hydrogen Bonds Stabilize Oil Droplets in Water

(EPFL, December 13, 2021)

By combining vibrational sum-frequency scattering spectroscopy with molecular dynamics simulations, a team of researchers led by EPFL Professor Sylvie Roke and Dr. Ali Hassanali from the International Center of Theoretical Physics recently discovered that improper hydrogen bonds constitute the underlying mechanism that enables oil to form stable droplets that carry a negative electrophoretic mobility (and

negative charge) upon dispersing in water. This is an exciting development, because this strange behavior has not only long vexed scientists for a long time, but the interface between oil droplets and water also exhibits strong similarities on the molecular scale with interfaces involved in protein folding or biological membrane formation, and could thus have important implications for understanding interactions throughout biology and chemistry.
/web/2021/08-211213-7c

Efficient Electron-Beam Modulation With Integrated Photonics

(EPFL, December 23, 2021)

An international team of researchers led by EPFL Professor Tobias Jan Kippenberg and Professor Claus Ropers at the Max Planck Institute for Biophysical Chemistry and the University of Göttingen was recently able to successfully demonstrate an extremely efficient electron beam modulation using integrated photonic microresonators. This is an exciting development, because although the past decade has seen significant interest in combining electron microscopy with optical excitations, researchers have thus far struggled to overcome the rather weak interaction of propagating electrons with photons. However, by using specially engineered photonic chips based on low-loss silicon nitride, the team was able to modulate the electron beam with only a few milliwatts from a continuous wave laser – a power level generated by a common laser pointer.
/web/2021/08-211223-6b

9. Architecture / Design

Multifunctional Construction Elements to Lower Energy Needs of Buildings

(EPFL, December 20, 2021)

A team of engineers led by EPFL Professor Thomas Keller and tenure-track Assistant Professor Dolaana Khovalyg recently developed an innovative, multifunctional construction slab made of glass fiber-polymer composites, which can not only be used as a structural element in a building, but which can also serve as an energy-efficient floor heating element. This is an exciting development, because it demonstrates that modular pre-fabricated multifunctional building elements could potentially play a significant role in reducing the environmental footprint of buildings, which, according to the Swiss Federal Office of Energy, currently account for almost half of Switzerland's energy consumption during both their construction and use.
/web/2021/09-211220-c5

CERN "Collide" Residency Award

(CERN, January 12, 2022)

The Swiss-based Polish–Lithuanian artist duo composed of Dorota Gawęda and Eglė Kulbokaitė was recently selected as the winner of this year's Collide award – the flagship program of Arts at CERN, which invites artists worldwide from all creative disciplines to submit proposals for a research-led residency, based on interaction with CERN's scientific community. Working together since 2013, Gawęda and Kulbokaitė's multi-faceted practice navigates between performance, fragrance, installation, sculpture, video and painting – all of which are rooted in feminist theory and fiction. The jury moreover selected the following Honorary Mentions, who will be invited to take part in Arts at CERN's Guest Artists program: Indonesian filmmaker Riar Rizaldi, New Zealand-based collective The Observatory Project and Barcelona-based Colombian artist María Paz.
/web/2022/09-220112-9b

10. Economy, Social Sciences & Humanities

Empathy-Based Counterspeach Can Reduce Hate Speech

(ETH Zurich, December 07, 2021)

A team of researchers led by ETH Zurich Professor Dominik Hangartner, together with University of Zurich Professors Karsten Donnay and Fabrizio Gilardi, as well as 13 ETH Master's students, recently investigated the effectiveness of three often-used counterspeech strategies in addressing online hostilities, and found that whereas the use of humor or warnings of possible consequences had little effects, inducing empathy for those affected not only significantly increased the probability that a hate tweet was subsequently deleted by its author, but also reduced the amount of racist or xenophobic comments that were posted during the 4-week follow-up period. This is an exciting development, because as highlighted by Hangartner, although they certainly did not find a panacea against hate speech on the internet, they nevertheless uncovered important clues about which strategies might work, and which do not.
/web/2021/10-211207-64

Technology Transfer in Antiquity

(University of Zurich, December 08, 2021)

A team of researchers led by Dr. Patrick Wertmann from the University of Zurich recently found that an exceptionally well-preserved, nearly complete, leather scale armor, which was discovered in 2013 in a tomb near the modern-day city of Turfan (China), shared a few stylistic and functional similarities to a second contemporary armor of unknown origin held by the Metropolitan Museum of Art, which suggest that the two armors were intended as outfits for distinct units of the same army. This is an exciting development, because if the researcher's hypothesis is correct – namely, that both armors were manufactured in the Neo-Assyrian Empire – this would constitute one of the rare actual proofs of West-East technology transfer across the Eurasian continent during the first half of the first millennium BCE.
/web/2021/10-211208-7d

Launch of "AIZI": A Unique Database of Chinese Characters

(University of Art and Design Lausanne, December 08, 2021)

Resulting from unique collaboration between the University of Art and Design Lausanne (ECAL) and EPFL, a team of designers and engineers led by Shuhui Shi recently launched an innovative new research project entitled "AIZI", which aims to develop a machine learning algorithm that can automatically generate Chinese typefaces based on less than 500 basic characters, thus helping to give rise to a richer type design environment for the Chinese script. This is an exciting development, because despite being used by some 900 million native speakers, the Chinese writing system currently relies on a small number of digital typefaces, which, in part, is due to the quantity of characters. For reference, whereas a standard Chinese typeface needs to cover at least 6,763 commonly used characters, a comparable Latin set would only need to include approximately 400 glyphs.
/web/2021/10-211208-6f

Best Scientist-as-Filmmakers-Award Winner

(University of Applied Sciences and Arts Northwestern Switzerland, December 09, 2021)

Petra Sidler, a research associate at the University of Teacher Education FHNW, recently received the Best Scientist-as-Filmmakers-Award for her short film entitled "Who is (not) Swiss?", which she made together with Kristina Eiviler and Monika Molnar from the University of Zurich. The film, which was shot and edited in just three days during last year's FIlmmaking Marathon – an annual marathon organized by the Swiss Science Film Academy, which aims to train researchers in tools used in dramatic storytelling and

filmmaking to more effectively communicate their research – addresses the topic of how appearances may lead to curiosity about where someone is from, as well as the associated obliviousness as to how such a curiosity may label an individual as being different from a certain group, and thus potentially impinge on personal belonging.
/web/2021/10-211209-e2

Socio-Economic Impact of Monetary Policies

(University of St.Gallen, December 16, 2021)

Although low base rates – the interest rate at which commercial banks can borrow money from the national bank – are generally associated with an increase in corporate borrowing, investments, and private consumption, a team of researchers from the University of St.Gallen, together with several colleagues, recently published a series of articles that illustrate that this effect not only differs from country to country, but also within the population. For example, the team found that in Switzerland, unexpected base rate cuts are more strongly reflected in lower mortgage rates than in Germany and Italy, which in turn increased the probability that Swiss tenants would become home owners. Regarding the inter-population differences, the model for example illustrated that in Germany, the age group of the 35-44-year-olds registered the smallest increase in consumption after an unexpected base rate cut, whereas the 65-74-year-olds registered the highest increase.
/web/2021/10-211216-ac

Lack of Equal Opportunities Due to Insufficient Writing Skills

(Zurich University of Applied Sciences, December 17, 2021)

A team of researchers from the Zurich University of Applied Sciences, together with colleagues from the Pedagogical University of Weingarten and the FH Vorarlberg, recently found that it is not only young people with a migration background who often possess a low writing competence profile, but also vocational learners who grew up in Switzerland and who, in the case of this study, speak German as their first language. This is an important finding, because without sufficient written language skills, young people in particular could run the risk of being marginalized professionally and socially, thereby underlining the vital need for action in this domain.
/web/2021/10-211217-52

Restoring Justice Through Narrative Identity and Dialogue

(Università della Svizzera italiana, January 03, 2022)

In an effort to introduce the concept of "restorative justice" (RJ) to a wider audience in Switzerland, a team of Università della Svizzera italiana researchers recently not only created a Tichino chapter of the Swiss RJ Forum, but, in collaboration the Division of Justice of the Canton of Ticino, also devised an innovative course, as part of USI's continuing education programs, which is addressed to former convicts and focuses on the concepts of narrative identity and dialogue. This is a significant development, because contrary to the often-used punitive criminal justice methods, this new approach aims to look towards the future, rather than the past, and focuses on what needs to be healed, what needs to be repaid, what needs to be learned in the wake of a crime.
/web/2022/10-220103-30

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

Tech4Eva Accelerator to Support Femtech Entrepreneurs

(EPFL, December 06, 2021)

The inaugural year of the Tech4Eva femtec startup acceleration program recently culminated in the first Tech4Eva conference, which brought together entrepreneurs, innovators, university researchers, ecosystem-builders, and other stakeholders to discuss the present and future of the femtech industry. This is an exciting occasion, because in its first year, Tech4Eva not only opened the door to CHF 60 million in funding for the selected startups, but also helped to build awareness about the importance of R&D in this domain, of compiling much-needed data, of providing the requisite training in medical schools, as well as of the need to break down the taboos around discussing fertility, menstruation, and menopause.
/web/2021/11-211206-c7

Swiss Startup Radar 2021/2022

(startupticker.ch, December 09, 2021)

University of Lausanne Professor Michael Rockinger, together with Stefan Kyora, editor-in-chief of the news portal startupticker.ch, recently published the fourth edition of Swiss Startup Radar, which not only examined the performance of the Swiss startup ecosystem, but also compared it with other countries and regions on the basis of quantitative analyses. In this context, the report in particular highlights that Switzerland remains an attractive location for founders from abroad, as well as that the proportion of CEOs and executives in Switzerland with doctorates is higher than in any other comparable country. The report moreover illustrates that deeptech startups have made significant progress in generating venture capital in recent years, and that in general, Switzerland is doing well in early financing rounds.
/web/2021/11-211209-27

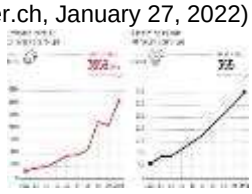
Ten Startups Join SASBI Africa Residency Program

(Venturelab, January 10, 2022)

The following ten startups were recently selected to participate in this year's SASBI Africa Residency Program, which aims to provide ambitious Swiss-based entrepreneurs with the opportunity to boost their know-how and advance growth opportunities in Africa by staying at innovation hubs, as well as by benefitting from business contacts with local partners, such as Swiss embassies, innovation offices at local universities, or AfriLabs innovation hubs: anavo medical, breathe, Diaxxo, ennos, Gaia Technologies, Hatusha, Perovskia Solar, Pneumoscope, Testmate Health & Wildlife-Box. The SASBI Africa Residency Program is led by the University of Basel and supported by the Swiss State Secretariat for Education, Research and Innovation (SERI).
/web/2022/11-220110-f9

Swiss Venture Capital Report 2022

(startupticker.ch, January 27, 2022)



Startupticker.ch and SECA, in cooperation with startup.ch, recently published this year's edition of the annual Swiss Venture Capital Report, which not only provides a comprehensive list of financing rounds in 2021, as well as analyses by sector, canton and investment phase, but also the results of a survey among VCs about their new funds. In this context, the report in particular contends that with an increase of 44% in invested capital and a breakthrough of the CHF 3 billion mark, the Swiss startup scene has made an impressive comeback after the slight decline in 2020 – with records in trade sales, IPOs and new funds. For example, the amount invested has almost tripled since 2018, driven primarily by ICT and fintech startups (+CHF 799 million, compared 2020). In addition, the cleantech and healthcare sectors also set records in terms of the number of financing rounds, as well as funds invested.
/web/2022/11-220127-cf

12. General Interest

Mutually Beneficial Interactions Between Insect Herbivores

(University of Neuchâtel, December 01, 2021)

A team of researchers led by University of Neuchâtel Professor Ted Turlings, as well as scientists at the Chinese Academy of Agricultural Sciences recently found that two of the most devastating pests of rice – namely, the brown planthopper and the rice striped stem borer – not only directly and indirectly benefit from jointly attacking plants, but even adapted their host plant selection and oviposition behavior to optimize the benefits that they derive from each other. This is significant, because it not only challenges the underlying assumption of the prevailing “interspecific competition theory,” but it also illustrates the often-neglected complexity and intricate dynamics of the interaction between plants and insects, which could in turn help researchers develop rice varieties that disrupt the cooperative interaction as a potential strategy to control the two pests.
/web/2021/12-211201-b7

"Catalyse": Building Bridges Between Science and Politics

(University of Lausanne, December 01, 2021)

With politicians increasingly being confronted with big scientific issues, such as climate change, energy, and epidemics to name a few, the University of Lausanne and the Canton of Vaud recently brought together a group of prominent political figures and researchers to exchange their roles for half a day in an effort to help promote a closer exchange between these two spheres. During the simulation, career politicians were asked to play the role of scientist and were thus placed in the situation of producing scientific knowledge on the topic of negative emission technologies – i.e., technologies that make it possible to capture CO2 from the atmosphere and subsequently store it permanently. The scientists on the other hand were tasked with playing the role of the politicians, and thus had to make complex public and political decisions.
/web/2021/12-211201-73

New Research Program for Sustainable Development

(Swiss National Science Foundation, January 13, 2022)

As part of the UN's "Decade of Action", the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC) recently renewed their partnership for a further ten years, as well as launched a new, transdisciplinary, and solution-oriented research program, called the "Solution-oriented Research for Development Program" (SOR4D). Building on its predecessor, the SOR4D will aim to generate solutions, innovations, and improved knowledge to foster sustainable development and reduce poverty in the least developed and low- and middle-income countries. To achieve this, the program will not only promote cooperation between researchers in Switzerland and in developing countries, but it will also enable the research community to work hand in hand with practitioners on the ground.
/web/2022/12-220113-af

13. Calls for Grants/Awards

SNSF Project Funding for Independent Research

(Swiss National Science Foundation, January 03, 2022)

The Swiss National Science Foundation (SNSF) recently opened applications for its "project funding" scheme, which enables qualified researchers from all disciplines to independently conduct research

projects with topics and goals of their own choice. In this context, applicants can apply for funding of research costs and staff salaries, as well as of scientific cooperation, networking, and communication. However, they may not apply for their own salaries. The funding period ranges from one to four years, with grants starting at CHF 50,000. The SNSF moreover recommends that researchers focus on one project and plan it for a four-year period. Application deadline: 1 April 2022.
/web/2022/13-220103-73

Swiss Entrepreneurship Championship: SwissSkills 2022

(startupticker.ch, January 12, 2022)

EntrepreneurSkills recently opened applications for the newly-created "Entrepreneurship" category of the upcoming SwissSkills championship 2022, which will bring together over 1,000 young professionals from 150 vocations to help showcase the uniqueness of the dual vocational education system, as well as the career prospects for apprenticeships in Switzerland. In this context, EntrepreneurSkills is calling on young professionals who were born in 1999 or later, and who are currently enrolled in-, or who will soon graduate from, an apprenticeship recognized by the "Berufsbildungsgesetz" (i.e. EFZ, EBA, FMS*, WMS or BM), to apply for their closest selection event until 28 February 2022. A total of 8 teams, composed of 2-3 people each, will subsequently be selected to compete at the SwissSkills 2022, which will be held in Bern from 7-9 September 2022.
/web/2022/13-220112-02

Call: "BRIDGE Discovery" Grants for Experienced Researchers

(Swiss National Science Foundation, January 18, 2022)

Innosuisse and the Swiss National Science Foundation recently launched the sixth call for proposals for the "BRIDGE Discovery" funding scheme, which provides experienced researchers from all disciplines with the opportunity to explore and implement an independent research project, based on an innovation with a strong societal or economic impact. To achieve this, BRIDGE Discovery funds projects for up to four years in order to help cover the salaries of project employees, as well as research costs directly linked to the project. To apply, interested researchers must submit a letter of intent by 28 February 2022 via the mySNF platform. Applicants can submit a proposal on their own, or as part of a consortium of up to three researchers, and the project must be characterized by scientific excellence, as well as a clear vision of a future application.
/web/2022/13-220118-46

Call: "BRIDGE Proof of Concept" Grants for Young Researchers

(Swiss National Science Foundation, January 19, 2022)

Innosuisse and the Swiss National Science Foundation recently launched a call for proposals for the "BRIDGE Proof of Concept" funding scheme, which provides young researchers from all disciplines with the opportunity to develop their research results into a marketable product and gain the confidence needed to make a market entry. To achieve this, BRIDGE Proof of Concept provides up to CHF 130k per year for a maximum of 18 months (initially 12 months, which can be extended once for a maximum of 6 months), which can be used to cover the salary of successful applicants, as well as any costs that are directly linked to the execution of their project. Submission deadline 7 March 2022.
/web/2022/13-220119-7e

Upcoming Science and Technology Related Events

NTN IB Swiss Food Ecosystems
February 17, 2022
https://is.gd/75N1tK
Food Ecosystems, Innovation
Bern

IFZ FinTech Konference 2022
March 9, 2022
https://is.gd/TsgXMy
FinTech, Startups, Banking
Rotkreuz

Venture Day
March 22, 2022
https://is.gd/5QmjR0
Startups, Deeptech, VC
Hybrid (Tba & Online)

Start Summit 2022
March 24-25, 2022
https://is.gd/eG8Miv
Entrepreneurship, Technology, Investors
Hybrid (St.Gallen & Online)

Applied Machine Learning Days
March 26-30, 2022
https://is.gd/BrO2jF
AI, Workshops, Talks
Lausanne

Swiss National Photovoltaic Conference
March 29-30, 2022
https://is.gd/YKAcq6
Power, Renewable Energy, Storage
Hybrid (Bern & Online)

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