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Switzerland.

Science-Switzerland, August – September 2020

News on Swiss science, technology, education and innovation

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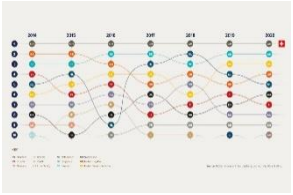
Switzerland Remains World's Most Innovative Country

(WIPO, September 02, 2020)



For a record 10th-straight year, Switzerland ranked first in the annual Global Innovation Index (GII), published by Cornell University, INSEAD and WIPO, followed by Sweden, the US, the UK and the Netherlands. Switzerland displayed a strong and solid performance across all GII seven areas and consistently ranked among the top 3 in Patents by origin, PCT patents by origin, scientific and technical articles, high-tech manufacturing, and intellectual property receipts. Switzerland has been regularly topping the index since 2011 – an extraordinary feat attesting to the strength of the small Alpine nation's innovation ecosystem and the quality of its public higher education and research institutions.
/web/2020/00-200902-99

34 ERC Starting Grants for Swiss Research

(European Research Council, September 04, 2020)

The European Research Council (ERC) recently awarded 34 highly coveted ERC Starting Grants to Swiss-based early-career scientists and scholars in order to help them build their own teams and conduct pioneering research across a wide range of disciplines. This diversity is also reflected in the universities and research centers that host these new laureates, which include CERN, Empa, EPFL, ETH Zurich, the Friedrich Miescher Institute for Biomedical Research, the Graduate Institute of International and Development studies, the University of Basel, the University of Bern, the University of Geneva, the University of Lausanne and the University of Zurich. For this round of the ERC Starting Grants competition, 436 of the 3,722 (approximately 13%) submitted proposals were selected for funding, worth in total €677 million.
/web/2020/00-200904-4f

swissnex Turns 20

(State Secretariat for Education, Research and Innovation, September 25, 2020)

The swissnex network connects Switzerland to the international education, research and innovation community. It supports the global exchange of knowledge, ideas and talent and bolsters Switzerland's reputation as a top-notch location for research and innovation. In this context, flexibility and agility have become the network's hallmark, which allows it to remain closely in tune with developments taking place around the world. As stated by Malin Borg Soares, head of the swissnex network, “the only constant at swissnex is change.” In 2020, swissnex marks its 20th year of existence and under the motto "nex20 – connecting tomorrow," various commemorative events will take place to jointly develop future scenarios and visionary ideas. The swissnex network, which is a SERI initiative, and part of the Federal Administration’s external network run by the FDFA, currently comprises 5 swissnex offices and around 20 science counsellors assigned to Swiss embassies around the world.
/web/2020/00-200925-de

1. Policy

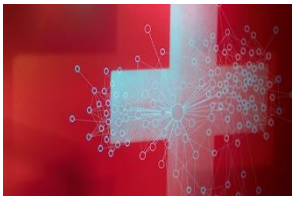
Sabine Süsstrunk Elected Swiss Science Council President

(EPFL, August 13, 2020)

The Federal Council recently elected Sabine Süsstrunk, Professor at the EPFL School of Computer and Communication Sciences, as President of the Swiss Science Council (SSC). Expert of the Swiss educational, research and innovation system within the international networks, Süsstrunk is familiar with the promotional instruments and practices in these domains, and will succeed Gerd Folkers, who has been President of the SSC since 2016, as of January 1, 2021. The SSC is an extra-parliamentary commission that advises the Federal Council on its own initiative, or on behalf of the Federal Council or the Federal Department of Economic Affairs, Education and Research, on all matters relating to research and innovation policy. It currently consists of 15 members with recognized interdisciplinary expertise in science, education, and innovation.
/web/2020/01-200813-f3

Six New National Centres of Competence in Research (NCCRs)

(Swiss National Science Foundation, September 10, 2020)



Despite the ongoing COVID-19 pandemic, six new National Centres of Competence in Research (NCCRs) got under way in summer 2020, with the aim of promoting long-term research networks in areas of strategic importance for Swiss science, the Swiss economy and Swiss society. NCCRs are only launched every 5 to 6 years by the Swiss National Science Foundation (SNSF), which receives this mandate from the State Secretariat for Education, Research and Innovation (SERI). This fifth series of NCCRs includes 146 research groups at 40 institutions, and encompasses innovative treatment methods (NCCR "AntiResist"), sustainable chemistry (NCCR "Catalysis"), intelligent management (NCCR "Dependable Ubiquitous Automation"), the origin and future of language (NCCR "Evolving Language"), using microorganisms (NCCR "Microbiomes") and the development of quantum computers (NCCR "SPIN").
/web/2020/01-200910-b4

New Priorities for Digital Switzerland

(admin.ch, September 11, 2020)

The “Digital Switzerland” strategy provides guidelines for government action on digitalization and is binding on the federal administration. It also serves as an orientation framework for other stakeholders involved, including the economy, science and civil society, which is why the ongoing development of the strategy is being carried out in collaboration with them. In this context, secure data spaces, as well as the protection of the climate and the environment, have been identified as priorities for the next two years. The Federal Council has therefore adopted a revised “Digital Switzerland” strategy, which also addresses other key topics, including: the digital economy, encompassing the themes of the sharing economy, digital finance, research and development, trade relations and competition policy; digital public service; and the role of digitalization in crises, like the Covid-19 pandemic.
/web/2020/01-200911-5f

2. Education

5 New Research Priority Programs at University of Zurich

(University of Zurich, August 18, 2020)

In order to open new avenues for innovative research in areas relevant to our society by fostering cross-disciplinary cooperation between scientist, the University of Zurich recently introduced five new University Research Priority Programs (URPP), which focus on equal opportunities, human reproduction, rare diseases, digital religions and basic principles of learning. These programs, which will run between 8 and 12 years, build on already existing research expertise and are instrumental in promoting the academic career of junior scholars at UZH. Furthermore, joint projects are evaluated by external specialists every 4 years and on average, are awarded an annual funding of CHF 1.7 million from UZH. This latest series of URPP is scheduled to kick off from 1 January 2021.
/web/2020/02-200818-d0

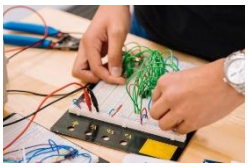
New Bachelor in Health Sciences at University of Lucerne

(University of Lucerne, August 19, 2020)

The University of Lucerne recently announced the launch of a new German-taught, Bachelor of Science in “Gesundheitswissenschaften” (Health Sciences) in fall 2021. Using a combination of theoretical, empirical and application-oriented scientific approaches, students will be able to acquire a comprehensive and interdisciplinary introduction to health, vital functions and well-being. This new undergraduate program will be embedded within the department of health sciences, which is unique in Switzerland for its strong emphasis on the tight link between health sciences and health politics, medicine and rehabilitation. Thanks to this new BSc program, students will soon have the opportunity to study health sciences on all levels – from Bachelor to PhD – at the University of Lucerne.
/web/2020/02-200819-97

New School of Computer Sciences at HSG

(University of St.Gallen, August 20, 2020)



As of August 2020, the University of St.Gallen founded a new School of Computer Science (SCS-HSG), which, starting in September 2021, will welcome its first students in its newly created, English-taught Master’s program in Computer Science. A corresponding Bachelor’s program is scheduled to follow in 2022. Conducted under the slogan “where Computer Science meets Entrepreneurship,” these new programs aim to combine technical computer science insights with general education courses that address contemporary issues, in order to develop competences in new business models, digital innovation, entrepreneurship and leadership. Furthermore, according to Professor Barbara Weber, the SCS-HSG strives to cooperate on projects with leading economic actors of eastern Switzerland and to establish themselves as an internationally recognized hub for computer science.
/web/2020/02-200820-41

Eastern Switzerland University of Applied Sciences (OST) Founded

(Eastern Switzerland University of Applied Sciences, August 24, 2020)

Following the fusion of the FHS St.Gallen, HSR Rapperswil and NTB Buchs, a new university of applied sciences, called the “Eastern Switzerland University of Applied Sciences” (OST), was officially founded on 1 September 2020. Comprising around 3,800 students in six departments, 1,500 professionals in executive education, and more than 1,000 ongoing research projects, OST brings together 170 years of tradition in education and research to establish itself as an educational hub for the six cantons of Eastern Switzerland and the Principality of Liechtenstein.
/web/2020/02-200824-44

Joint Medical Master in St.Gallen

(University of St.Gallen, August 28, 2020)

The first 27 medical students took up their studies in the Joint Medical Master at the HSG, after having successfully graduated from their three-year undergraduate course at the University of Zurich. The majority of courses will be taught at the HSG campus, which will be complemented by practice-oriented clinical courses at the St.Gallen Cantonal Hospital, as well as further hospitals and primary care providers. Furthermore, the University of Zurich will provide a certain number of live streams of lectures. Like any other course at the HSG, the Joint Medical Master will be subject to the corona measures of conduct and protection and the situation of the hospitals will have to be taken into consideration.
/web/2020/02-200828-b1

Sebastian Wörwag is New BFH President

(Bern University of Applied Sciences, September 01, 2020)

Following his election on 12 December 2019, Sebastian Wörwag recently took on his new post as president of the Bern University of Applied Sciences (BFH). Previously the president of the St.Gallen University of Applied Sciences for 16 years, Wörwag has many years of professional experience at technical universities and proven leadership skills, and stated that he very much looks forward to this new role and the challenges that it entails. The previous president, Herbert Binggeli, retired on 30 June 2020 and during the transition, former vice president Magdalena Schindler Stokar acted as interim head of the BFH.
/web/2020/02-200901-73

Marie-Laure Salles is New IHEID Director

(Graduate Institute, September 01, 2020)

The Graduate Institute of International and Development Studies (IHEID) recently welcomed Marie-Laure Salles as the first woman to direct the Institute since its creation in 1927. She succeeds Philippe Burrin, who directed the Institute for 16 years. Marie-Laure earned her PhD in Sociology from Harvard University and her accreditation to supervise research from Dauphine University in Paris. Her work explores, from a historical and comparative perspective: the evolution of governance and capitalism; questions of business ethics and social responsibility; the role of networks in the diffusion of norms, practices and ideas; and the dynamics of governance, particularly transnational, in economic activities. Marie-Laure Salles was previously the Dean of the School of Management and Innovation at Sciences Po Paris, a school that she helped to found.
/web/2020/02-200901-4b

Sophisticated Learning and Assessment Platform

(University of Zurich, September 08, 2020)

A University of Zurich startup recently developed an innovative learning and assessment platform called SYLVA, which allows teaching staff to individualize and mark exams through an automated process. Unlike other platforms, which often only permit simple question formats, such as multiple choice, feature very limited marking options and operate with predefined model solutions, SYLVA “encompasses many different question types, including open questions and interactive exercises,” which is particularly important for academic subjects such as statistics, mathematics and economics, as explained by co-founder Maik Meusel. The young enterprise recently received CHF 150k in backing from Venture Kick and is planning a larger financing round in order to help drive forward their digital marketing, as well as to employ permanent staff and rent office space.
/web/2020/02-200908-59

New ETH Zurich and EPFL Executive Board Members

(ETH Board, September 25, 2020)

The ETH Board recently appointed two new members of the Executive Board of ETH Zürich and three new members of the Executive Board of EPFL. The appointments at ETH Zurich increase the management structure from five to seven Executive Board domains, thanks to the creation of two new vice presidencies for “Personnel Development and Leadership” and “Knowledge Transfer and Corporate Relations.” The appointments at EPFL are part of Prof. Martin Vetterli’s initiative to streamline his management team, and includes the creation of new vice presidencies for “Responsible Transformation,” “Academic Affairs” and “Operations.” The Board of Directors of Paul Scherrer Institut (PSI) is also being extended through the appointment of Dr. Thierry Strässle. In addition, the ETH Board defined the profile for the vacant position of Director of WSL.
/web/2020/02-200925-f5

3. Life Science

Swiss National Science Foundation Funds 28 New Coronavirus Research Projects

(Swiss National Science Foundation, August 04, 2020)

Following the Federal Council’s mandate on 30 April 2020, the Swiss National Science Foundation (SNSF) launched the National Research Program "COVID-19" (NRP 78) on 30 April 2020 to advance our understanding of the coronavirus disease COVID-19, provide recommendations for clinical management and public health, and expedite the development of vaccines, therapeutics and diagnostics. Of the 190 applications that were submitted, 28 research projects were recently selected to be funded under the NRP "COVID-19" – predominately in biomedicine, clinical research, epidemiology and prevention (23 projects), but also in mathematics, natural and engineering sciences (1 project), as well as in the humanities and social sciences (4 projects).
/web/2020/03-200804-1b

Fighting Bacterial Wound Infections with Peptide-Containing Membranes

(EMPA, August 11, 2020)

Due to the increasingly widespread problem of antibiotic resistance, it has become vital to eliminate bacterial wound infections early on, particularly in complex wounds, as long-lasting infections may fail to heal or even spread throughout the body, leading to life-threatening blood poisoning (sepsis). In this context, a team of Empa researchers, led by Katharina Maniura, recently developed cellulose membranes equipped with antimicrobial peptides, which according to initial results, are well tolerated by human skin, but kill over 99.9% of germs in bacterial cultures. Compared to larger proteins, these multifunctional peptides are easier to produce and more stable, and according to Maniura, future peptides will be equipped with additional functions, such as “binding sites that enable the controlled release of further therapeutic substances."
/web/2020/03-200811-29

Pipetting Robot Dispenses and Traces Individual Cells

(EPFL, August 12, 2020)

EPFL spin-off SEED Biosciences recently developed a pipetting robot called Dispencell that can dispense individual cells one by one without damaging them, while simultaneously recording the cells’ electrical signature using a 50-year-old mechanism called a Coulter counter. This innovation therefore allows for enhanced reliability and traceability, can save researchers several weeks of precious time and as a result, has the potential to greatly speed up development work in pharmaceuticals, cancer treatments

and personalized medicine. SEED Biosciences is currently working on a feature that can distinguish damaged cells from healthy ones, and is carrying out a funding round to support its market launch.
/web/2020/03-200812-7c

Regulation of NTRK2 Gene Reduces Risk of Psychological Trauma

(University of Basel, August 17, 2020)

Traumatic experiences, such as an accident, rape or torture, can become deeply entrenched in a person's memory and cause symptoms of post-traumatic stress disorder (PTSD) even years later. In this context, a team led by University of Basel Professor Dominique de Quervain recently published a study that suggested that increased regulation of the NTRK2 gene reduces memory formation, which results in traumatic experiences not becoming as entrenched in the memory, thereby reducing the risk of developing PTSD. The researchers hope that the findings of this study will contribute to the development of new therapies, which may also help in cases of existing PTSD by preventing recurrent unpleasant recollections from further cementing the traumatic memory.
/web/2020/03-200817-76

Early Diagnosis of Parkinson's Disease

(University of Lugano, August 18, 2020)

A team of researchers from the Cardiocentro Ticino and the EOC Neurocentro – both of which are directly involved in the training activities of the Faculty of Biomedical Sciences of the Università della Svizzera italiana (USI) – recently concluded a project that delivers a message of hope in the fight against Parkinson's disease. Currently, the diagnosis of Parkinson's disease occurs at an advanced stage of its clinical manifestations – a limitation that significantly affects the therapeutic approach. In order to mitigate this issue, the study therefore focused on the analysis of blood plasma microvesicles (exosomes), which could allow the disease to be detected at a very early stage, thereby favoring more effective therapeutic approaches. The new method, which is non-invasive and economical, only requires a simple peripheral blood sample.
/web/2020/03-200818-58

ReMask Consortium Tackles Protective Mask Shortage

(EMPA, August 23, 2020)

In order to meet Switzerland's need for protective equipment during the Corona crisis, as well as to prepare for future pandemics, researchers from Empa, ETH Zurich, EPFL and the Spiez Laboratory, together with a large number of partners from the health care sector and industry, recently launched the "ReMask" project. The aim is to develop technologies to reuse existing masks, as well as to promote the domestic production of efficient protective equipment and alternative masks with new properties to trap and kill viruses. The knowledge gained will subsequently be used to support the "National COVID-19 Science Task Force" (SN-STF), which provides independent scientific expertise from academic and research circles to the Federal Office of Public Health (FOPH) and other federal agencies that are engaged in containing and mitigating the spread of SARS-CoV-2.
/web/2020/03-200823-3e

Using Deep Learning to Find New Therapeutic Antibodies

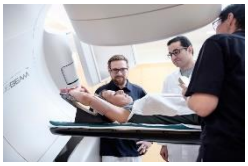
(startupticker.ch, August 24, 2020)

ETH Zurich spin-off deepCDR Biologics recently won CHF150k from Venture Kick to continue their early growth and client acquisition. By combining gene editing, deep sequencing, and deep learning, the Basel-based startup has developed a novel technology platform that radically accelerates the therapeutic antibody discovery process, compared to conventional experimental screening methods. In addition,

these processes are highly scalable and allow running multiple drug discovery and optimization campaigns for a fraction of the costs. Within the context of the ongoing global pandemic, deepCDR has collaborated with ETH Zurich to help discover highly potent and neutralizing antibodies for the treatment of COVID-19.
/web/2020/03-200824-e9

Cancer Repair Genes Influence Success of Radiotherapy

(University of Bern, August 25, 2020)



Although radiotherapy, which aims to stop tumor growth by destroying the DNA of cancer cells, is widely regarded as a cornerstone of today's cancer treatment, it remains unclear why certain patients respond better to this therapy than others. However, by using genetic screening to investigate the cancer cells' self-repair, a team led by University of Bern Professor Sven Rottenberg, along with colleagues from the Netherlands Cancer Institute, recently discovered that if certain repair genes are missing in cancer cells, they are unable to repair themselves after irradiation, thereby increasing the chances of a successful radiotherapy. According to Rottenberg, these findings therefore demonstrate the "importance of personalized cancer therapy that takes the genetic predisposition of the people affected into account."
/web/2020/03-200825-ef

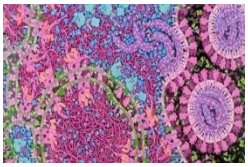
Using Brain Stimulation to Reduce Dyslexia Deficits

(University of Geneva, September 09, 2020)

While investigating the phonological deficit – a difficulty in processing language sounds that is widely considered to be the main possible cause of dyslexia – a team of neuroscientists from the University of Geneva recently demonstrated a causal relationship between brain oscillations at a specific frequency (30 Hz) and the ability to process phonemes that is essential for reading. In this context, phonological deficits and reading accuracy could be improved in adults with dyslexia by using a non-invasive electrical stimulation technique capable of synchronizing neural activity at the stimulation frequency. This study therefore paves the way for targeted non-invasive treatments, and will continue within the new National Center of Competence in Research (NCCR) "Evolving Language," where neuroscientists will try to obtain equivalent results with neurofeedback.
/web/2020/03-200909-9b

Coronavirus Replication Mechanism Discovered

(ETH Zurich, September 14, 2020)



Researchers at ETH Zürich and the University of Bern recently discovered a mechanism by which SARS-CoV-2, the causative agent of the COVID-19 pandemic, manipulates human cells to ensure its own replication. Using cryo-electron microscopy, the researchers were able to demonstrate that the viral protein NSP1 inhibits the production of the cell's own proteins by binding to a channel on the ribosome – the cellular machines that produce proteins – thereby interfering with ribosomal function. Based on this detailed picture of the binding mode of NSP1, the researchers were subsequently able to produce modified NSP1 variants that lack the aforementioned inhibitory effect. This is significant because SARS-CoV-2 viruses with such inactive variants of the NSP1 protein will likely be attenuated that they can no longer cause severe disease and can potentially be used as a vaccine.
/web/2020/03-200914-9a

CERN and CHUV Design Innovative Radiotherapy Facility

(CERN, September 15, 2020)

CERN and the Lausanne University Hospital (CHUV) are collaborating to develop the conceptual design of an innovative "FLASH" radiotherapy facility, used for cancer treatment. In radiotherapy, the FLASH effect appears when a high dose of radiation is administered almost instantaneously, thereby damaging tumor tissue in the same manner as with conventional radiotherapy, but with nearly no side effects. To achieve this, Walter Wuensch, project leader at CERN, explained that they used the "CLIC [Compact Linear Collider] high-performance linear electron accelerator technology," to design a "facility which is capable of treating large and deep-seated tumors in the very short timescales needed for FLASH therapy" and that is compact enough to be installed in existing hospitals. The first phase of the study is scheduled to conclude in September 2020.
/web/2020/03-200915-3c

Analyzing Neural Circuits Involved in Flexible Decision-Making

(University of Zurich, September 16, 2020)

Although it is well known that humans, like other animals, have the ability to constantly adapt to new situations, the biological processes that enable this amazing feat are still poorly understood. In this context, a team of University of Zurich neuroscientists recently simulated a relearning process under controlled conditions in a series of experiments with mice, during which they were able to demonstrate that the orbitofrontal cortex, a region of the cerebral cortex that sits behind the eyes, is capable of reprogramming neurons located in sensory areas. According to Professor Fritjof Helmchen, these findings may "contribute to a better understanding of brain disorders in which the flexibility in decision making is impaired, as it is, for example in various forms of autism and schizophrenia."
/web/2020/03-200916-73

Enhanced Thermotolerance Increases Resistance of Viruses

(Eawag, September 18, 2020)

According to a recent study conducted by a team of researchers led by Tamar Kohn and Anna Carratalà Ripollès from EPFL, including Tim Julian from Eawag, viruses appear to becoming more resistant, not only to environmental conditions but also to disinfectants, such as chlorine. In order to come to this conclusion, the researchers experimentally adapted a human enterovirus, which can cause infections such as a cold or polio, to four climate regimes, before exposing the virus populations to heat, simulated sunlight and microbes. The findings revealed that temperature was the main driver of adaptation, leading the researchers to hypothesize that global warming could cause viruses to evolve, rendering them less susceptible to inactivation by heat, sunshine and microbes, as well as other disinfectants, such as chlorine.
/web/2020/03-200918-7a

Ruedi Aebersold Wins 100th Marcel Benoist Swiss Science Prize

(ETH Zurich, September 21, 2020)

Ruedi Aebersold, Professor Emeritus of Molecular Systems Biology at ETH Zürich and the University of Zurich, is to receive the Marcel Benoist Swiss Science Prize, often referred to as the Swiss Nobel Prize, for his pioneering work in the field of systems biology. Using a novel mass spectrometry-based analytical methodology, Aebersold has devoted his research career to finding a way to qualitatively and quantitatively record all the proteins of a cell or living organism at a given point in time (the proteome). This approach allowed him to usher in a paradigm shift in favor of the quantitative measurement and systemic observation of proteins, thereby not only transforming our understanding of organisms and biology in general, but also influencing the field of translational medicine and laying the foundation for the personalized medicine of the future.
/web/2020/03-200921-fa

Rheon Medical and Coat-X Win Swiss Medtech Award

(startupticker.ch, September 22, 2020)

Illustrating an “ideal synergy of engineering, microtechnology, and materials technology,” as stated by Peter Biedermann, Managing Director of Swiss Medtech, Rheon Medical and Coat-X were recently awarded the coveted Swiss Medtech Award for revolutionizing the surgical treatment of glaucoma – a term used to describe a group of diseases that affects the eyes. Specifically, Rheon Medical developed a non-invasive pressure equalization system, with which a patient's intraocular pressure can be easily monitored and corrected with a few simple external adjustments during routine check-ups. A key component of this system is its rotating magnetic plate, which is protected from erosion by body fluids by the innovative coating technology of Coat-X – an important prerequisite for the implantation of an eyeWatch.
/web/2020/03-200922-b6

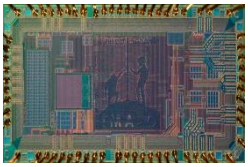
Sports Improve Memory Performance

(University of Geneva, September 23, 2020)

By evaluating memory performance following a sport session, neuroscientists from the University of Geneva recently demonstrated that an intensive physical exercise session as short as 15 minutes improves memory, including the acquisition of new motor skills. Subsequent analyses revealed that the faster individuals are, the more they activate their hippocampus (the brain area of memory) and the caudate nucleus (a brain structure involved in motor processes), and the higher their endocannabinoid (molecules known to increase synaptic plasticity) levels are. Interestingly, the team had previously observed that a moderate sport session produced better results on associative memory, thereby illustrating that as not all forms of memory use the same brain mechanisms, not all sports intensities have the same effects. However, it should be noted that in all cases, physical exercise improves memory more than inaction.
/web/2020/03-200923-4a

Microelectronics Shed Light on Neural Behavior

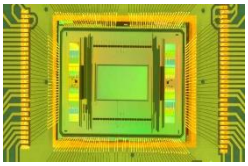
(ETH Zurich, September 24, 2020)



Researchers at ETH Zurich, in collaboration with colleagues from EPFL and Harvard Medical School, recently developed a system that allows them to optically stimulate individual nerve fibers in living mice. Through this process, they were able to demonstrate that the nervous system has a direct influence on the immune system, which, as explained by the researchers, may potentially point the way to new approaches in areas such as the treatment of chronic pain, or persistent inflammation. Highlighting the term “electroceuticals” – a combination of electronics and pharmaceuticals – ETH Professor Qiuting Huang believes that electrical engineering will play an increasingly important role in human health in the future, but also points out that advances in electrical engineering continue to only come about as a result of tremendous effort.
/web/2020/03-200924-8d

New Generation of Chips for Measuring Nerve Impulses

(ETH Zurich, September 28, 2020)



Researchers led by ETH Zürich Professor Andreas Hierlemann, together with Urs Frey and his colleagues from the ETH spin-off MaxWell Biosystems, recently developed a new generation of microelectrode-array chips that can be used to precisely excite nerve cells in cell cultures and to measure electrical cell activity. While the previous generations of chips only allowed the team to measure up to 50 nerve cells, the new chip enables them to simultaneously perform detailed measurements of more than 1,000 cells in a culture, as well as produce electrical images of the extension of their axons and determine how fast a nerve impulse is transmitted to the farthest reaches of the axons. Such comprehensive

measurements are suitable for testing the effects of drugs, meaning that researchers can now conduct research and experiments with human cell cultures instead of relying on lab animals.
/web/2020/03-200928-c3

Guidelines for Cancer-Related Fatigue Surveillance

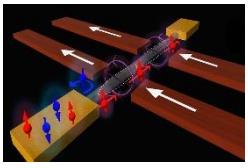
(University of Lucerne, September 28, 2020)

Although the long-term survival of childhood, adolescent, and young adult (CAYA) cancers has improved significantly over the past decades, most survivors still experience late effects from cancer and its treatment, such as Cancer-related fatigue (CFR) – a well-known problem during the active treatment phase of cancer, but which can also be a frequent problem for survivors many years after completion of therapy. In this context, an international research team, which, among others, was led by University of Luzern Professor Gisela Michel, recently reviewed four existing clinical practice guidelines (CPGs), as well as performed systematic literature searches, in order to develop an evidence-based CPG with internationally harmonized CRF surveillance recommendations for CAYA cancer survivors diagnosed < 30 years. In particular, the researchers recommend that healthcare providers adopt regular screening to detect and treat CRF early.
/web/2020/03-200928-d9

4. Nano / Micro Technology / Material Science

Efficient Valves for Electron Spins

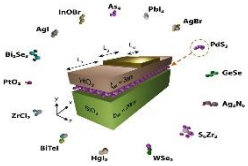
(University of Basel, August 06, 2020)



Researchers at the University of Basel, in collaboration with colleagues from Pisa, recently developed a new concept that uses the electron spin to switch an electrical current. To achieve this, the scientists formed two small semiconductor islands (quantum dots) behind each other on a nanowire and generated magnetic fields in the quantum dots using nanomagnets. Using an external field, they were subsequently able to control these magnets individually and thus could determine whether a quantum dot allowed electrons to pass with a spin directed upward (up) or downward (down) with far greater efficiency than in conventional spin valves. In addition to fundamental research, the concept could also prove useful in the quest to use electron spins as the smallest information unit (quantum bit) in a quantum computer.
/web/2020/04-200806-95

Using 2-D Materials to Build Tiny High-Performance Transistors

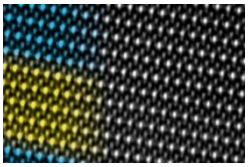
(ETH Zurich, August 10, 2020)



Due to the increasing challenges associated with the miniaturization of electronic components, it is widely believed that Moore's scaling law will reach its limits in the near future, which means that the currently manufactured silicon-based transistors (Si FinFETs) will no longer be able to be made arbitrarily smaller, due to quantum effects. However, a research group led by ETH Professor Mathieu Luisier and EPFL Professor Nicola Marzari recently suggested that this problem could be overcome with new two-dimensional materials, after having simulated the 100 most promising contenders that were identified in a previous theoretical study by Marzari and his team in 2018. Following their evaluations, the researchers identified 13 possible compounds with which future transistors could be built, and which could also enable the continuation of Moore's scaling law.
/web/2020/04-200810-32

Composite Nicklates for Energy-Efficient Electronics

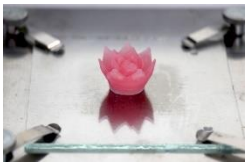
(University of Geneva, August 18, 2020)



Researchers at the University of Geneva, in collaboration with their colleagues from EPFL, the University of Zurich, the Flatiron Institute of New York and the University of Liège, recently discovered a hitherto-unknown physical phenomenon in an artificial material made up of very thin layers of nickelates, which could be exploited to develop new, more energy-efficient electronic devices. Nicklates are unique in that they switch from an insulating state to an electrical conductor above a certain temperature, which, under normal circumstances, varies between layers. However, by refining the layers until each one was no larger than eight atoms, the researchers were able to get the entire sample to behave like a single material, with only one large jump in conductivity at an intermediate transition temperature, as explained by first author Claribel Domínguez.
/web/2020/04-200818-e5

3D Printed Aerogel Microstructures

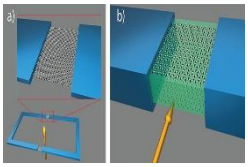
(EMPA, August 20, 2020)



A team of Empa researchers led by Shanyu Zhao, Gilberto Siqueira, Wim Malfait and Matthias Koebel recently succeeded in producing stable, well-shaped microstructures from silica aerogel – light, porous foams that provide excellent thermal insulation – by using a 3D printer. Thanks to this patent-pending method, it is possible for the first time to print complex 3D multi-material microstructures, which can achieved by precisely adjusting the flow and solidification properties of the silica ink from which the aerogel is later produced, so that both self-supporting structures and wafer-thin membranes can be printed. This opens up numerous new application possibilities in the high-tech industry, for example in microelectronics, robotics, biotechnology and sensor technology.
/web/2020/04-200820-1f

A New, Minuscule SQUID to Detect Faint Magnetic Fields

(University of Basel, September 07, 2020)



A team led by University of Basel Professor Christian Schönenberger recently succeeded in creating one of the smallest superconducting quantum interference devices, or SQUIDs, ever built, which is able to measure extremely faint magnetic fields. Unlike conventional SQUIDs, which consist of a superconducting ring interrupted at two points by weak links, this new SQUID is made up of a stack of two-dimensional materials, including two graphene layers separated by a thin film of boron nitride, and as a result, has a “very small surface area, limited only by the constraints of nanofabrication technology,” as explained by Paritosh Karnatak. Although the researchers’ primary goal in developing the novel SQUIDs was to analyze the edge currents of topological insulators, instruments like this have a wide array of applications in applied fields, such as medicine, as well as in basic research.
/web/2020/04-200907-56

Printing Transistors on Flexible Substrates

(EMPA, September 10, 2020)

A new revolution in the production of electronic circuits is on the way to accommodate the growing demand for cheap and easy to manufacture circuits that are realizable on thin and flexible substrates. In this context, Empa researchers Jakob Heier and Yaroslav Romanyuk, together with their teams and other colleagues from the Paul Scherrer Institut and EPFL, are working on the Functional OXIdes Printed on Polymers and Paper (“FOXIP”) research project, which aims to print thin-film transistors on paper and PET films. To do this, the researchers are focusing on solving several key challenges, such as optimizing of the substrate itself, perfecting the composition of the ink and the accuracy of the printing technology, and ensuring that the paper or film does not get damaged during the thermal curing of the layers.
/web/2020/04-200910-8b

Electronic Chip with Microfluidic Cooling System

(EPFL, September 10, 2020)

In an effort to solve the issue of how to cool electronic devices, a team of EPFL researchers, led by Professor Elison Matioli and his doctoral student Remco van Erp, recently created a semiconductor chip that combines a transistor and microfluidic cooling system. To achieve this, the researchers placed microfluidic channels in close proximity to the transistor's hot spots, thereby allowing a cooling liquid – in this case deionized water – to flow inside the chip and efficiently manage the large heat fluxes generated by the transistors. According to Matioli, this novel cooling technology will therefore enable them to "make electronic devices even more compact and could considerably reduce energy consumption around the world." The team is currently looking at how to manage heat in other devices, such as lasers and communications systems.
/web/2020/04-200910-c7

Customizing an Electronic Material

(Paul Scherrer Institute, September 22, 2020)

Using sophisticated X-ray scattering, Paul Scherrer Institut scientists, alongside colleagues in Poland, the US and France, were recently able to acquire a fundamental understanding of strontium-iridium oxide (Sr2IrO4) – a highly promising material that could be suited to future data storage applications. In order to obtain these insights, the researchers investigated the magnetic and electronic properties of the material as a thin film, and analyzed how these properties can be systematically controlled by manipulating the films. Although it may take another 10 or 20 years before the current findings might contribute to the development of new data storage applications, Thorsten Schmitt, head of the Spectroscopy of Novel Materials research group, nevertheless stressed that their task of producing fundamental research is "vitally important as a stepping-stone in the future development of new materials."
/web/2020/04-200922-78

5. Information & Communications Technology

Security Loophole Renders PIN Code Ineffective

(ETH Zurich, September 01, 2020)

A team of ETH researchers recently discovered a serious security loophole in a protocol used by credit card company Visa, which would enable fraudsters to obtain funds from cards that have been lost or stolen, despite the fact that the amounts should be validated by entering a PIN code. Although the researchers were able to demonstrate that this fraud scheme works with debit and credit cards issued in different countries in a range of currencies, they have already alerted Visa to the vulnerability and proposed three changes that could be made to the protocol with minimal effort to solve this problem.
/web/2020/05-200901-bd

Rayshaper Develops Next Generation of Digital Imaging

(startupticker.ch, September 01, 2020)

RayShaper is set to disrupt high-resolution video capture with BeeHive – a modular compound computational system designed to allow professionals and end users to set the resolution, lens, spectrum, and other configurations of the system to meet their specific needs. To achieve this, the camera hardware is coupled with a very powerful family of algorithms for enhancement, AI, computer vision, as well as other advanced low-latency signal processing algorithms, which enable BeeHive to efficiently process ultra-high definition multimedia information with low latency in real-time. Although the system is not yet available to the public, due to the Covid-19 outbreak, the Valais-based startup already leases beta systems for projects and

several high profile events, and recently won the “Best of the Best” Red Dot Design Award for its Bee Hive Intelligent Camera Array.
/web/2020/05-200901-c3

European Laboratory for Learning and Intelligent Systems (ELLIS)

(ETH Zurich, September 15, 2020)

Spanning 14 European countries and several world-class institutions, including ETH Zürich and EPFL, the European Laboratory for Learning and Intelligent Systems (ELLIS) was recently inaugurated at a virtual ceremony. The central goal of ELLIS is to foster research excellence and technology transfer in machine learning and related fields, and to train the next generation of talent through Europe-wide network activities. According to ETH Zurich President Joel Mesot, ELLIS will therefore “give us the chance not only to make our economies more dynamic and competitive, but also to develop an AI that meets ethical requirements.” ELLIS currently comprises 30 research units, which have committed some €300 million in funding for an initial period of 5 years.
/web/2020/05-200915-56

Optical Modem for Ultrafast Underwater Communications

(EPFL, September 22, 2020)

EPFL spin-off Hydromea SA recently developed a miniature optical modem called LUMA that allows for ultrafast underwater communications through a rapidly blinking blue light. According to Felix Schill, the company’s CTO, blue light was chosen because “even though water is generally opaque for electromagnetic waves, there is a small transparency band for blue and green light,” which enables their system to “send and receive data over long distances" (over 50 meters). LUMA is designed to work at depths of up to 6,000 meters and has already been tested at 4,280 meters below sea level in the Pacific Ocean. The spin-off continues to collaborate with EPFL, and is currently helping to develop robotics and communications systems for LéXPLORE, a research platform located just off the shores of Lake Geneva.
/web/2020/05-200922-58

Top 100 Digital Shapers in Switzerland

(startupticker.ch, September 24, 2020)

For the fifth time, BILANZ Wirtschaftsmagazin, in collaboration with the Handelszeitung und Le Temps, recently recognized the 100 most important people driving digitization in Switzerland. This diverse group of digital shapers includes managers, bosses of small and medium sized enterprises (SMEs), startup founders, academics and a farmer, who are divided into several categories: corporates, mentors, fintechies, sustainers, transformers, creatives, infrastructure builders, scalers, thinkers, investors and hall of fame. A complete list of the Digital Shapers 2020 can be found in German on the Handelszeitung website.
/web/2020/05-200924-79

Seervision Receives EU Grants

(startupticker.ch, September 25, 2020)

Powered by computer vision and machine learning, ETH spin-off Seervision develops software that enables cameras to identify and track a person’s movements, while autonomously adapting the focus, zoom and framing to produce the ideal shot. Following the formal launch of their first product in 2019, Seervision has deployed 25 systems to over a dozen paying clients and recently obtained three non-dilutive grants from the European Union, worth more than CHF 2.5 million. The grants are coming at the perfect time to complement the startup’s recently launched financing round, aimed to close by the end of 2020, and will support Seervision’s next step, which according to co-founder and CEO Nikos Kariotoglou, consists of deploying their system in “cloud servers and remove the need for dedicated processing hardware.”
/web/2020/05-200925-b7

6. Energy / Environment

Precise Snowmelt and Water Inflow Predictions for Hydropower Plants

(University of Zurich, August 13, 2020)

Although snow constitutes an important source of water for hydroelectric plants, it can be difficult for operators to optimize water retention, as well as power production, as this requires a precise knowledge of when and how much meltwater flows into their water reservoirs. To address this issue, a team comprised of the University of Zurich spin-off ExoLabs, Norwegian start-up Think Outside and UBIMET from Austria developed a model that uses remote sensing to predict snowmelt and help hydropower operators generate energy more efficiently. As proof of its great potential, this innovative business idea was recently announced as one of 15 winners of the EU's Parsec Accelerator program, earning the group €110k in funding, as well as the support of the European Union.
/web/2020/06-200813-b1

Unprecedented Rise of Anthropogenic CO2 Emissions

(University of Bern, August 20, 2020)

Using high-resolution measurements made on an Antarctic ice core to reconstruct previous CO_2 concentrations in the atmosphere, a team of European researchers led by the University of Bern recently demonstrated that although abrupt CO_2 rises are a pervasive feature of our climate system, today's anthropogenic CO_2 rise far exceeds any natural precedent. According to lead author Christoph Nehrbass-Ahles, "natural jumps in the CO_2 concentration in the atmosphere happened almost ten times slower than the human-driven increase over the last decade." In addition, the study found that the largest centennial CO_2 jump in the past is approximately equivalent to current CO_2 emissions over only six years, thereby underlining the need for continued efforts to protect the climate.
/web/2020/06-200820-96

Binding Carbon Dioxide Using Broken Concrete

(ETH Zurich, August 24, 2020)

In an effort to reduce construction-related emissions, ETH spin-off Neustark recently developed a new technology that sustainably binds CO_2 in the pores and on the surface of concrete granulate as limestone, which can subsequently be mixed into fresh concrete as a replacement for sand and gravel. Therefore, less cement is required for construction, which in turn improves its carbon balance, as some production-related emissions can be avoided. Furthermore, by employing their additional trick of capturing CO_2 from the air, Neustark founders Johannes Tiefenthaler and Valentin Gutknecht contend that they can even reverse CO_2 emissions. Considering that cement production worldwide releases around four times as much CO_2 into the air as global air traffic, the value of this novel approach cannot be understated.
/web/2020/06-200824-5d

Novel Electrocatalyst to Optimize Fuel Cell Powered Vehicles

(University of Bern, August 24, 2020)

An international research team led by Professor Matthias Arenz from the University of Bern recently succeeded in developing an electrocatalyst for hydrogen fuel cells, which, in contrast to the catalysts commonly used today, does not require a carbon carrier and is therefore much more stable. This was achieved thanks to a special process called "cathode sputtering," which is industrially applicable and can be used to further optimize fuel cell powered vehicles without CO_2 emissions. According to Arenz, their findings are of particular importance for the "further development of sustainable energy use, especially in view of the current developments in the mobility sector for heavy goods vehicles."
/web/2020/06-200824-08

Climate Change and Land Cultivation Accelerate Water Induced Soil Erosion

(University of Basel, August 24, 2020)

An international team of researchers led by the University of Basel recently predicted that soil loss due to water runoff could increase greatly around the world over the next 50 years, due to climate change and intensive land cultivation. To obtain these results, the researchers considered three scenarios, which are also used by the Intergovernmental Panel on Climate Change (IPCC), that outline potential developments in the 21st century, based on several different socio-economic postulations. Soil erosion has far-reaching consequences, such as the loss of fertile soil, which reduces agricultural productivity and therefore threatens the food supply for the world's population. As such, the authors highlight that it is critical to promote a more widespread use of sustainable agricultural practices.
/web/2020/06-200824-60

160 Biodiversity-Damaging Subsidies

(WSL, August 24, 2020)

In a recent study by the WSL and the Biodiversity Forum of the Swiss Academy of Sciences, a team of researchers identified and quantified over 160 biodiversity-damaging subsidies, assessed the degree of damage they cause, and estimated how easy it would be to change them in each case. According to the study, the subsidies, which mainly relate to transport, agriculture, energy production and settlement development policy, are not only ecologically problematic, but also economically inefficient, as they can cause initial damage, which then often requires further public funding to remedy – as well as further funding for biodiversity support in many instances. In order to slow the decline in biodiversity, as well as comply with the Swiss Biodiversity Strategy, the researchers therefore contended that the government has to reconfigure or abolish harmful subsidies, and drew up concrete recommendations.
/web/2020/06-200824-82

Early Recognition of Pollutants in Soils and Sediments

(Agroscope, August 25, 2020)

Countless chemicals are used daily in households and industry. Many of them end up, intentionally or unintentionally, in the environment, with only a fraction of these being systematically recorded. As the variety of organic substances increases, it is important to identify how they behave in the environment, and to detect undesirable concentrations in reservoirs, like soils and sediments, as early as possible. In a study conducted on behalf of the Swiss Federal Office for the Environment, researchers from Agroscope, Eawag, the University of Bern and ETH Zurich recently developed a method for comprehensively detecting organic pollutant residues in reservoirs. Initial results show that, in addition to known substances, a range of further substances were detected for the first time, such as the veterinary drug niclofolan, the antibacterial agent cloflucarban and the fungicide mandipropamid.
/web/2020/06-200825-81

Simplifying the Microbial Conversion of Biomass into Chemicals

(Bern University of Applied Sciences, August 27, 2020)

Non-edible plants, and lignocellulose in particular – biomass from plants like grass, leaves, and wood, which do not compete with food crops – offer a promising alternative to crude oil in the production of a variety of useful chemicals and fuels, but until recently, their heterogeneous composition has made it difficult to cost-effectively convert them using just one type of microorganism. To address this issue, a research team under BFH Professor Michael Studer, in collaboration with researchers from EPFL and Cambridge University, recently developed a process called "lactate platform," in which a consortium of up to four different microorganisms engages in the conversion of lignocellulose into various chemicals. According to Studer, this technology "complements the existing toolkit for the successful development of effective communities of microorganisms for a wide range of other novel applications."
/web/2020/06-200827-af

Mini Power Plants from Coated Blue-Green Algae

(EMPA, August 27, 2020)

Using bio-templating technology, Empa researchers led by Laetitia Philippe recently equipped blue-green algae of the genus Spirulina with semiconductor coatings to create mini power plants, which supply biofuels and are photocatalytically active in sunlight. While a nickel coating is used to retrieve the tiny power plants, due to its magnetic properties, Philippe explained that the combination of two zinc compounds in subsequent coatings makes it possible to use a wider wavelength range of the solar spectrum as an energy source. Furthermore, as the chemical reaction oxidizes and neutralizes pollutants when exposed to light, Philippe contends that “it should be possible to develop a sustainable, simple and inexpensive process for water treatment" with the coated algae's photocatalytic activity. And what's best: The chemical reactions are circular – they form a sophisticated raw materials cycle.
/web/2020/06-200827-06

Record-Breaking Investment into Direct Air Capture CO2 Removal

(startupticker.ch, September 02, 2020)

Founded by engineers Christoph Gebald and Jan Wurzbacher, Climeworks is one of the global leaders in carbon dioxide removal and has the mission to inspire 1 billion people to remove carbon dioxide from the air. To achieve this, the company developed and patented a direct air capture technology that removes carbon dioxide directly from the air – all while using clean, renewable energy. Backed by a group of committed investors, Climeworks recently announced that as of August 2020, its funding round had been completed with a total equity investment amount of CHF 100 million – the largest ever investment into direct air capture. According to Gebald, this investment will help Climeworks rapidly implement the next steps of their scale-up roadmap and further improve their technology.
/web/2020/06-200902-e2

Ingo Burgert and Tanja Zimmermann Win SDG Award 2020

(EMPA, September 03, 2020)

The Swiss Green Economic Forum presented wood researcher Ingo Burgert with the SDG Award 2020 for sustainability, while also paying tribute to Tanja Zimmermann, to recognize their efforts in the development of potential uses for the renewable resource wood as a bio-based high-performance material. In this context, the team of researchers from Empa and ETH Zurich succeeded in developing innovative technologies with which wood can be used as a sustainable alternative and supplement to other building materials, while simultaneously striving to make wood increasingly usable in recycling and refinement processes in the sense of a circular economy. Wood can therefore make a positive contribution to the current climate debate, not only thanks to its high availability and excellent mechanical properties, but also through climate-friendly production and recycling.
/web/2020/06-200903-04

Rising Mammal Extinction Rate Primarily Driven by Humans

(University of Fribourg, September 04, 2020)

After having compiled and analyzed fossil data for 351 species of extinct mammals, University of Fribourg Professor Daniele Silvestro and Tobias Andermann of the University of Gothenburg recently published a study that suggests that humankind has had a much greater influence on biodiversity than climate change, even when compared to temperature variations as great as those of the last Ice Age. While most previous studies focused on one region and certain species, this one considered all continents and all extinct mammals, including many rodents, and used an advanced modelling procedure to disentangle the effects of humans and climate and test their respective influences. However, despite the bleak prospects, the authors remain adamant that hundreds of species can still be saved from extinction with “more targeted and efficient conservation strategies."
/web/2020/06-200904-a6

"Power" Project Aims to Develop More Efficient Solar Panels

(Innosuisse, September 09, 2020)

Within the context of the BRIDGE program, proposed by Innosuisse and the Swiss National Science Foundation (SNSF), research teams from CSEM, EPFL and Empa have combined their efforts to develop and demonstrate a new approach for the development of high-performance solar cells. In this context, the "Power" project aims to develop a new generation of solar cells by combining emerging perovskite cells with market-proven CIGS and crystalline silicon cells, thereby paving the way towards the realization of cost effective solar cells with >30% performance, surpassing 25 years lifetime. Despite the challenges of working with completely new light-absorbing materials, which, according to CSEM engineer Arnaud Walter, can be very different in their structure and behavior from what has previously been used, "Power" is close to achieving technological success and is preparing to enter the industrialization phase.
/web/2020/06-200909-5a

Ceramic Thin Films for High-Performance Batteries

(EMPA, September 17, 2020)

Empa researchers recently achieved a milestone in the search for a solid electrolyte – the conductive medium for future solid-state batteries – by having successfully produced an ultra-thin film of a special ceramic (chemically speaking, Li7La3Zr2O12, or LLZO for short), using a method called magnetron sputtering. Measurements on the ultra-thin material layer demonstrated a significantly higher conductivity compared to previously known materials, which is complemented by the fact that the thin films can be produced at much lower temperatures than the LLZO pellets known to date, thereby making the process faster, cheaper and more reliable. LLZO solid-state batteries are particularly interesting for smaller devices with high power requirements, such as in consumer electronics or IoT (Internet of Things) devices.
/web/2020/06-200917-91

Swiss Cleantech Report

(energeiaplus.com, September 23, 2020)

The Swiss Federal Office of Energy (SFOE), the Federal Office for the Environment (FOEN) and CleantechAlps, among others, recently published the third edition of the Swiss Cleantech Report, which aims to provide an insight into the Swiss cleantech landscape. To do this, the report presents a wide range of technologies, products and projects developed by Swiss SMEs, research institutes and startups, which are grouped into five different categories: intelligent agriculture and drones, advanced and recycled materials, environmental technologies, urban solutions and energy systems, as well as transport and mobility. The report is available in English and can be downloaded free of charge.
/web/2020/06-200923-c0

Membrane Filters Radioactive Elements from Water

(ETH Zurich, September 29, 2020)

ETH Zürich Professor Raffaele Mezzenga and Sreenath Bolisetty, CEO and Co-founder of the ETH spin-off BluAct Technologies, recently demonstrated the efficiency of their filter membrane, made primarily of denatured whey protein and activated carbon, at purifying hospital effluents contaminated with radioactive elements. In this context, laboratory tests showed that the membrane is able to remove radionuclides used in the medical field from water with efficiencies of over 99.8% in just one filtration step, and according to Mezzenga, their membrane makes it possible to “enormously reduce the amount of waste and to store the radiating elements as compact, dry solids.” BluAct Technologies is currently preparing a pilot project with a large Swiss hospital and Bolisetty is holding negotiations with a Japanese company involved in the Fukushima clean-up operation.
/web/2020/06-200929-a7

Wastewater is a Valuable Resource

(Eawag, September 29, 2020)

Although circular economy primarily concerns the recycling of materials and raw materials nowadays, closing cycles also holds enormous potential in other areas. At NEST, Eawag has therefore been conducting research on decentralized wastewater treatment, because as explained by Carina Doll, Project Coordinator at Eawag, "wastewater contains many valuable resources. For example, urine contains large quantities of nitrogen and phosphorus, which can be recycled as plant fertilizer. In addition, wastewater can also serve as a source of energy and water." In this context, one success story has been Empa's close cooperation with Keramik Laufen AG, which developed the innovative urine separation toilet "Save!", as well as the Eawag Spin-off Vuna, which uses a process in the NEST's Water Hub to produce the liquid fertilizer made of urine "Aurin", to complete the urine recycling loop.
/web/2020/06-200929-35

7. Engineering / Robotics / Space

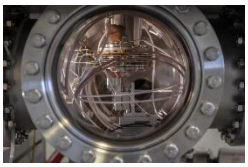
New Model to Interpret Exoplanetary Biosignatures

(EPFL, August 18, 2020)

One way to determine whether there is life on another planet is to look for biosignatures in the light that is scattered off its atmosphere using gas spectroscopy. However, while much progress has been made on detecting exoplanetary biosignatures, several important questions regarding the implications of this kind of research remain. Therefore, a team of scientists from EPFL and Tor Vergata University of Rome recently developed a statistical model that can help astronomers interpret the results of this analysis, which, according to EPLF scientist Claudio Grimaldi, includes a novel method to weigh and compare existing assumptions that are used to evaluate how credible life is on a given planet. This is especially relevant in light of the new data that is projected to be collected over the coming years.
/web/2020/07-200818-f6

Hypersensitive Mass Spectrometry System to Search for Extraterrestrial Life

(University of Bern, August 19, 2020)



Researchers at the University of Bern have developed the highly sensitive mass spectrometer ORIGIN, which can provide proof of the smallest amounts of traces of life. Space agencies such as NASA have already expressed interest in testing ORIGIN for future missions and if successful, the instrument could for example be used on missions to the ice moons of Europa (Jupiter) and Enceladus (Saturn). According to Andreas Riedo, one of the project leaders, their novel technology is particularly compelling because "no complicated sample preparation techniques, which could potentially affect the result, are required, [which] was one of the biggest problems on Mars until now."
/web/2020/07-200819-f5

First Daytime Observation of Space Debris

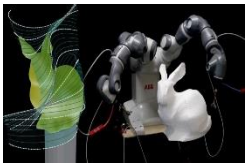
(University of Bern, August 28, 2020)

Space debris represents a constant threat to active satellites, which, as a result, must perform costly evasive maneuvers on a regular basis. In this context, the satellite laser ranging method has proven to be an effective technology to improve the trajectory accuracy of space debris, but until recently, only a few observatories worldwide succeeded in making such measurements, and only at night. However, on June 24,

2020, researchers led by University of Bern Professor Thomas Schildknecht were able to carry out the first daylight observations of space debris, using a geodetic laser at the Zimmerwald Observatory. This not only implies that the number of measurements of space debris could be multiplied, but using the existing network of stations with geodetic lasers, a highly precise space debris orbit catalog could be built up in the future.
/web/2020/07-200828-8c

RoboCut Accurately Guides Highly Flexible Tools

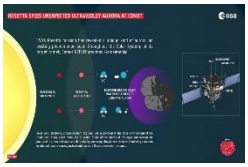
(ETH Zurich, September 09, 2020)



A team of ETH computer scientists recently developed a hot-wire cutter robot, called the RoboCut, with a wire that bends flexibly as it works, thereby allowing it to create much more complex shapes in significantly fewer cuts than previous systems, where the electrically heatable wire was rigid. This is predominantly achieved thanks to a series of complex optimization calculations, which according to Simon Dünser, “are needed to find the most efficient tool paths possible while melting the desired shape from the polystyrene block as precisely as possible." In addition to the fundamental improvement on traditional hot-wire methods, this novel technology could also be used in architecture to produce individual polystyrene molds for concrete parts, which would enable a more varied design of façades and the development of new types of modular building systems.
/web/2020/07-200909-0f

First Observation of an Ultraviolet Aurora at a Comet

(University of Bern, September 21, 2020)



Thanks to the analysis of data from the European Space Agency's Rosetta mission, an international consortium involving the University of Bern recently discovered an ultraviolet aurora at a comet – in this case, comet 67P/Churyumov-Gerasimenko, or Chury for short – for the first time. This was an exciting discovery because although UV emissions had already been previously observed at Chury, it was wrongly assumed at that time that these emissions were caused by particles of sunlight, known as photons, as opposed to solar wind electrons. Furthermore, according to University of Bern Professor and co-author of the study Martin Rubin, beyond the aesthetic value of the observation of cometary aurora phenomena, the "UV observations from Earth could one day also provide information about the solar wind at these comets."
/web/2020/07-200921-0a

First Study with CHEOPS Data

(University of Geneva, September 28, 2020)

Eight months after the space telescope CHEOPS started its journey into space, the first scientific publication using data from CHEOPS has been issued, revealing details of the exoplanet WASP-189b – one of the most extreme planets known. According to Monika Lendl, lead author of the study from the University of Geneva, “WASP-189b is especially interesting because it is a gas giant that orbits very close to its host star” – which is one of the hottest stars known to have a planetary system – and because it has a permanent day and night side, which means that its climate is completely different from that of the gas giants in our solar system. Based on the observations using CHEOPS, the researchers estimate the temperature of WASP-189b to be 3,200 degrees Celsius.
/web/2020/07-200928-c2

8. Physics / Chemistry / Math

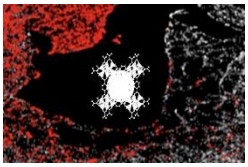
First Attosecond Measurements of Electron Movements in Liquids

(ETH Zurich, August 20, 2020)

Although electron movements constitute a key event in chemical reactions, researchers until now have only been able to carry out measurements on molecules in gaseous form because they take place in a high-vacuum chamber. However, by making use of photoemissions in water, a team of researchers led by ETH Professor Hans Jakob Wörner was recently able to observe how electrons shift within molecules in a liquid state during the initial few dozen attoseconds (1 attosecond = 1x10-18 of a second) of a chemical reaction for the first time. According to Wörner, this ability to conduct measurements in liquids constitutes an important step, as most chemical reactions – especially those that are biochemically interesting, such as numerous processes, like photoemissions in water, that are triggered by light radiation – occur in liquids.
/web/2020/08-200820-b0

Machine Learning Helps Organize MOF Databases

(EPFL, September 11, 2020)



Due to their extreme versatility and considerable range of potential uses, material scientists have been rapidly developing, synthesizing, studying, and cataloguing metal-organic frameworks (MOFs) – a class of materials that contain record-breaking internal surface areas, thanks to their nano-sized pores. However, although exciting, the sheer number of MOFs – currently over 90,000 have been published – is making it difficult to tell if a newly synthesized MOF is “truly a new structure and not some minor variation of a structure that has already been synthesized,” as explained by EPFL Professor Berend Smit. To address the issue, Smit teamed up with MIT Professor Heather Kulik, and used machine learning to develop a “language” for comparing two materials and quantifying the differences between them, thereby allowing the researchers to explore chemical diversity in MOF databases.
/web/2020/08-200911-42

Maryna Viazovska Wins National Latsis Prize

(Swiss National Science Foundation, September 21, 2020)

Following her scientific breakthrough in solving the centuries-old sphere-packing problem, EPFL Professor Maryna Viazovska was recently announced as the winner of the 2020 National Latsis Prize, which is awarded to young researchers under the age of 40. Viazovska caused a sensation in the world of modern mathematics with her original and amazingly simple calculation of the densest sphere packing in the much more complex 8th and 24th dimensions – the latter in cooperation with a research group. Research on sphere packing in high-dimensional spaces have several practical applications in everyday technology, such as in the analysis of crystal structures, or in troubleshooting signal transmission of mobile phones, space probes or internet connections, and Viazovska also hopes that the prize “will help to inspire young girls to go into mathematics.”
/web/2020/08-200921-03

9. Architecture / Design

Turning Skyscrapers into Sustainable Power Plants

(Venture Kick, September 29, 2020)

Buildings are one of the largest energy consumers in Europe, responsible for approximately 40% of energy consumption and 36% of the CO2 emissions. In order to make the global real estate market more sustainable, iWin developed a patent-pending solution, based on photovoltaic venetian blinds, that transforms building facades from passive elements that ensure insulation and waterproofing, into active surfaces that produce renewable energy. Having already measured and validated its first working prototype at the University of Applied Sciences and Arts of Southern Switzerland, the Ticino-based startup recently won CHF 150,000 from Venture Kick in order to finalize a minimum viable product. The device is maintenance-free and ensures total protection against dirt, dust, or weather conditions.
/web/2020/09-200929-fe

10. Economy, Social Sciences & Humanities

Syphilis May Have Spread through Europe before Columbus

(University of Zurich, August 13, 2020)

Although syphilis, a disease caused by a subspecies of the Treponema pallidum bacteria, devastated Europe from the late 15th to the 18th century, its origins remain unclear. Until now, the most popular hypothesis contended that Christopher Columbus and his sailors brought the disease to Europe from the New World, but the findings of a recent University of Zurich study indicate that syphilis may have already existed in Europe prior to the 15th century. Moreover, based on data indicating that yaws were widespread in Europe, as well the discovery of a previously unknown pathogen belonging to a new basal treponemal lineage, last author Verena Schünemann concluded that “the strains of treponematoses may have co-evolved and interchanged genetic material before and during the intercontinental contacts,” which would disprove current theories about the origins of syphilis and other treponemal diseases.
/web/2020/10-200813-29

Childcare Correlates with Environmental Factors

(University of Zurich, August 31, 2020)

Cooperative childcare, which involves help from fathers, grandparents, or unrelated group members, characterizes human societies. It allowed us to evolve larger brains, to learn more from one another, and to be more social. However, it remains unclear why human evolution took this course. In this context, researchers at the University of Zurich recently tested the prominent hypothesis that changing climatic conditions were the trigger, by examining 141 traditional societies worldwide. Following their analysis, the researchers discovered that childcare correlates strongly with environmental factors, like temperature and rainfall – the cooler, drier, and more unpredictable the climate, the more help parents received. It therefore appears as though nature’s challenges increase our interdependence. This relationship between environment and childcare is also found among other mammals and birds.
/web/2020/10-200831-46

Participatory Projects to Prevent and Reduce Poverty

(Bern University of Applied Sciences, September 02, 2020)

Using a participatory approach, the Bern University of Applied Sciences and University of Applied Sciences and Arts Western Switzerland (HES-SO/FR and HES-SO/GE), on behalf of the Federal Social Insurance Office, recently conducted a study to investigate the ways in which individuals affected by poverty can be involved in the development and implementation of measures to prevent and reduce poverty. Following their analysis, a wide range of opportunities for participation were identified in six areas of activity and policy, based on six models. Although the implantation of participatory projects might vary depending on the context, the study underlined the importance of careful planning, setting concrete and achievable goals, having clearly defined roles, and “meeting at eye level” – professionals must be willing to admit mistakes and learn from them.
/web/2020/10-200902-c4

Investigating Color-Emotion Associations

(University of Lausanne, September 18, 2020)

In order to investigate the extent to which color-emotion associations are fundamental to our shared cognitive architecture, or cultural creations learned through our languages and traditions, two researchers from the University of Lausanne recently tested emotional associations of colors in 4,598 participants from 30 nations, speaking 22 native languages. The results suggest that there is a universal basis for color-emotion associations – similar to the shared understanding of emotions perceived in music – which is further modulated by language, geography, and culture. For example, although dark colors (black, gray) are generally associated with negative feelings and light and warm colors (yellow, orange) with positive feelings, white is much more strongly associated with mourning in China than in other countries. According to Domicele Jonauskaite however, it is still difficult to know the causes of the global similarities and differences.
/web/2020/10-200918-86

Financial Stability Policy Lowers Interest Rates

(University of St.Gallen, September 22, 2020)

Interest rates have remained at all-time lows for some time, with a significant portion of the global bond market trading below nominal zero. In this context, a new study by the Swiss Institute for Banking and Finance at the University of St.Gallen recently demonstrated that this is not only due to monetary policy, but also because of the policy of financial stability. Furthermore, the study highlighted that these regulations have also created unintended consequences within the new regulatory framework, such as disincentivising repo intermediation, inducing collateral scarcity and window-dressing at the end of reporting periods. Accordingly, the study illustrated that these policies bring with them important consequences for our society-at-large, policy makers, financial authorities and even central banks.
/web/2020/10-200922-90

Addressing the "Financializiation of Everday Life"

(University of Lugano, September 24, 2020)

While managing one's own finances requires an adequate level of "financial literacy," we have been witnessing a cultural-social change that poses a series of fundamental questions relating to individual responsibility, as well as to the collective responsibility of States. In this context, Università della Svizzera italiana Assistant Professor Léna Pellandini-Simányi addressed the issue of the 'financialization of daily life' in a chapter of the recently published Routledge Handbook of Critical Finance Studies. According to Pellandini-Simányi, this can be a disadvantage for those who cannot 'manage' themselves, which is why "it would be important to go beyond the individual risk calculation and provide access to credit that is based on more universal criteria in order to avoid an increase in inequalities."
/web/2020/10-200924-a1

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

Sevensense and Bloom Biorenewables Win European Startup Challenges

(startupticker.ch, August 07, 2020)

Demonstrating the continued relevance of Swiss ingenuity in the advancement of robotics and cleantech solutions, ETH Zurich spin-off Sevensense and startup Bloom Biorenewables recently awed the judges of the Deutsche Bahn Mindbox and CEE Startup Challenge, respectively, and took home several prizes, including collaboration contracts and investment deals. By leveraging AI, computer vision, and sensors, Sevensense has developed a technology that allows autonomous mobile robots, including forklifts and cleaning machines, to move independently and safely in dynamic indoor and outdoor spaces full of people. Bloom Biorenewables on the other hand transforms plants into renewable materials and energy to substitute detrimental petroleum-derived products, by using a groundbreaking chemical process that is able to convert up to 80% of biomass into a select number of petroleum-like chemicals.
/web/2020/11-200807-ae

Technology Transfer through Spin-Off Creation

(Bern University of Applied Sciences, August 14, 2020)

With the field of bio-based products strongly dominated by international companies, which respond to the market's need for commercialized innovation using their own R&D, entrepreneurship remains largely underdeveloped in this sector. However, recognizing that public research organizations are generating many creative and disruptive ideas that could help our economy and society achieve global environmental objectives, the BFH Institute for Materials and Wood Technology recently decided to invest in this area. Success stories of this new commercialized innovation strategy include the spin-off Cocoboards, which develops technology to upcycle local agricultural waste into affordable, sustainable products for the furniture and construction industry, as well as WoDens technology, which modifies sustainable domestic wood to obtain a similar appearance and properties as tropical wood.
/web/2020/11-200814-ff

Unique Plastics Watermark

(startupticker.ch, August 18, 2020)

Matriq AG recently raised CHF 1.75 million in an oversubscribed Series A funding round, led by a number of private investors and supplemented by the Startfeld foundation. Matriq, an NTB spin-off, was founded by four engineers from the University of Applied Sciences Buchs NTB in October 2019. The startup, which currently comprises seven team members and is based at Startfeld, St.Gallen's innovation center, provides innovative marking and security solutions built on its DynamicMold (DM) technology. Specifically, it developed a unique watermark for plastics to improve traceability and brand protection. Each plastic part is individually marked during its forming process, without delaying cycle time, with a 2D-code watermark, as unique device identity. Matriq's first product, due to launch later this year, is the DM-date – the world's first digital date stamp for injection molding.
/web/2020/11-200818-f0

ETH Board President Encourages Faster, More Courageous Innovation Culture

(NZZ, August 19, 2020)

In a recent interview with the newspaper NZZ am Sonntag, ETH board president Michael Hengartner discussed his ambitions to create a faster, more courageous Swiss innovation culture. Although Switzerland invests a lot in education and basic research, and excels at experiments and pilot projects, Hengartner contends that it "often lacks the courage to think big," and as a result, misses opportunities. Therefore, Hengartner believes that a kind of Marshall Plan is needed to bring solutions to market quicker and to

scale them, particularly in areas such as climate and digitization. Finally, Hengartner underlined the importance of strengthening collaborations with other academic institutions in order to address pressing global challenges.
/web/2020/11-200819-94

7 Swiss Startups Selected for F10 Incubation Program

(startupticker.ch, August 20, 2020)

After an intense selection process, 15 promising FinTech, RegTech and InsurTech startups recently made it into the renowned six-month F10 Incubation Program, which supports selected companies in developing their prototype into a product, together with the extended global F10 ecosystem. Among the selected startups, seven are from Switzerland, and include: Aisot, which aims to advance data to real-time signals; Avoodoo, which provides a platform for index calculation, index development and index management; Forto, which is a digital Swiss business bank account for higher risk SMEs; Lyyna, which is an innovative B2B2C distribution platform for single item insurance; Meloncast, which provides data-driven insights into what content a target audience craves; Riskwolf, which is a platform that insures the digital economy; and Stableton, which is a next-generation marketplace for alternative investments.
/web/2020/11-200820-a1

Funding for Drone-Based Automated Inspection Solution

(venturelab, August 25, 2020)

Tinamu Labs, a Zurich based ETH Spin-off that invented a drone-based, fully automated, end-to-end inspection solution, recently secured seed funding of CHF1.1 million, led by Alpana Ventures and co-invested by Spicehaus Partners, DAA Capital Partners and four highly relevant and well connected private investors. In addition, as part of the financing round, Alex Fries, Silicon Valley entrepreneur and founder of Playspan and Svox, joined the board of directors to support Tinamu entering the US market. Based on patented technology, Tinamu's novel system is able to work independently from GPS in challenging environments to automatically collect data, analyze it on a cloud and send the relevant information directly to the customer.
/web/2020/11-200825-8a

ANYbotics, bestsmile and reCIRCLE Win Swiss Economic Awards

(Greater Zurich Area, September 03, 2020)

Following a competitive multi-stage judging process that comprised over 180 applicants, ANYbotics, bestsmile and reCIRCLE were recently crowned as the winners of the coveted Swiss Economic Awards at the 2020 Swiss Economic Forum, in the categories of high-tech/biotech, services, and production/trade & industry, respectively. The winners each received CHF 25k in prize money, as well as simplified access to the SEF4KMU growth initiative. To briefly introduce the winning startups, ANYbotics develops autonomous robots that can independently inspect and monitor industrial plants, bestsmile produces transparent braces for adults and young people aged 16 and over using a state-of-the-art 3D printing process, and reCIRCLE created the world's first industry solution for returnable packaging.
/web/2020/11-200903-79

20 Startups Selected for Boldrain Startup Challenge

(startupticker.ch, September 07, 2020)

The Boldbrain Startup Challenge is the accelerator program in Ticino for early-stage innovative startups, organized by the Agire Foundation, with the support of the CP Start-up USI. The challenge offers 20 startups a three-month coaching program that helps them develop their entrepreneurial skills and enhance their business ideas. From a total of 148 applications, the Boldbrain Startup Challenge 2020 recently selected the 20 projects that will take part in this year's program. The evaluation committee comprised experts hailing from the business world, academia, and the entrepreneurial context. Projects were selected according to various criteria, including the value of the ideas and their scalability, the possible economic

impact in the region, the level of innovation, the business model and the quality of the team. Innovative ideas for consumer and lifestyle products stood out in particular.
/web/2020/11-200907-5e

First Fembizswiss Award Winners

(startupticker.ch, September 07, 2020)

Recognizing the fact that digitalization and innovation do not work without the active participation and leadership of women, the Fembizswiss Award aims to honor female founders and designers from medium-sized companies or large corporations who are helping to shape the future of the digital economy. In this context, the first Fembizswiss award ceremony recently took place in Zurich, during which Nadia Fischer and Valérie Vuillerat, founders of Witty Works, were announced as the winners of the innovation category, Bettina Hirsig, CEO of Powercoders.org, won the leadership category, and Lea Hungerbühler, President and founder of AsyLex, won the communication category.
/web/2020/11-200907-32

10th Anniversary of TOP 100 Swiss Startups

(venturelab, September 09, 2020)

Widely recognized as a benchmark in Switzerland's startup ecosystem, the 10th-anniversary edition of the TOP 100 Swiss Startup Award recently unveiled the 100 most innovative and promising Swiss startups, as picked by a jury of 100 leading investors and startup experts. Cutiss (1st), Wingtra (2nd), and Piavita (3rd) were the top picks of the expert jury, while Authena (formerly Acatena) won the TOP 100 Public Voting. In addition, the TOP 100 Swiss Startup Award also featured the TOP 25 scale-ups for the second consecutive year. Venturelab has been organizing the annual TOP 100 Swiss Startup Award since 2011, which aims to connect the most promising Swiss startup CEOs with Swiss and international investors, executives, and journalists.
/web/2020/11-200909-17

Swiss National Fintech Team 2020

(venturelab, September 16, 2020)

Venturelab recently presented the new team of ambitious Swiss fintech startups that will participate in the fourth edition of the Venture Leaders Fintech roadshow, which aims to support promising startups on their internationalization journey. The program, which is co-organized by Venturelab and swissnex China, includes introductions to leading investors and potential customers, support for personal business development activities, and the startups will also participate in the virtual Hong Kong Fintech Week, Asia's global fintech conference. The 2020 Swiss national fintech team will include Rey Fernando Verboonen (CurioInvest), Nicola Staub (cybera. global), Marc Schillinger (eCollect), Anton Golub (flovtec), Daniel Haudenschild (SIBEX), Cyrus Fazel (SwissBorg), Patrick Stäuble (Teylor AG), Raphael Heraief (Vima), Mathieu Saint-Cyr (Wecan Tokenize) and Tillmann Lang (Yova Impact Investing).
/web/2020/11-200916-2f

SUN Bioscience Wins Prix Strategis

(startupticker.ch, September 17, 2020)

Praised by the whole Jury for its innovative and promising approach to develop a new tissue culture technology, SUN bioscience was recently crowned as the winner of the "Prix Strategis," which has been recognizing the best Swiss startups since 1993 with a CHF 50,000 cash reward and media coverage all over Switzerland. SUN Bioscience was followed by Pristem in second place, which offers an "all-in-one" X-ray machine at an affordable acquisition and operating cost, and by PXL Vision in third place, which offers a digital identity verification solution. Microcaps AG, which produces microcapsules to precisely release and control

the delivery of pharmaceutical drugs, was awarded the Prix du Public. The Strategis Award is organized by HEC Espace Entreprise – a students' committee from HEC Lausanne.
/web/2020/11-200917-cb

Voliro Closes CHF 2.0 Million Seed Round

(startupticker.ch, September 22, 2020)

In order to ensure the safety and integrity of critical infrastructure, as well as minimize human exposure to hazardous environments, ETH Zürich spin-off Voliro developed a flying robot capable of performing in-depth structural integrity assessments, using advanced inspection technologies. In particular, this robot features a unique and patent-pending capability to approach structures at any orientation, which can significantly reduce inspection costs and time. Having already demonstrated strong traction across various industries, the startup recently closed a CHF 2.0 million seed round, which, according to Timo Müller, Product Lead and Co-founder of Voliro AG, will allow them to "speed up the development process and to package the amazing technology into an industrial grade product."
/web/2020/11-200922-38

12. General Interest

Matthias Egger Reelected as National Research Council President

(Swiss National Science Foundation, September 07, 2020)

The Executive Committee of the Swiss National Science Foundation (SNSF) Council recently reelected the internationally renowned epidemiologist Matthias Egger as its President for the 2021-2024 term of office. For Matthias Egger, the main focus of his work in the Research Council is evaluation quality, which is complemented by other priority areas, such as gender equality in research, open access to research data and publications, scientific integrity and the COVID-19 pandemic. Since 2002, Matthias Egger has been doing research and teaching at the University of Bern, where he is a professor of epidemiology and public health, and between April and July 2020, he led the scientific task force advising the Swiss government on the COVID-19 pandemic. He was first elected President of the National Research Council of the SNSF in 2017.
/web/2020/12-200907-c9

13. Calls for Grants/Awards

BRIDGE: CHF 105 Million to Support Researchers

(Swiss National Science Foundation, September 21, 2020)

The BRIDGE program supports the transition from basic research to science-based innovation through two funding schemes: "Proof of Concept," for young researchers who wish to develop an application or service based on their research results, and "Discovery," for experienced researchers who want to explore and implement the innovation potential of research results. Both have been met with great interest, and as such, the Swiss Innovation Agency (Innosuisse) and the Swiss National Science Foundation (SNSF) recently announced that they will allocate a total of CHF 105 million for the funding period 2021 to 2024 (+50% compared to the 2017-2020 pilot phase). This will not only make it possible to fund more excellent projects, but also open Discovery to all disciplines, including the humanities and social sciences.
/web/2020/13-200921-d1

UZH and UNIGE Launch Annual Thematic Call for Projects

(University of Geneva, September 30, 2020)

The UZH-UNIGE Joint Research and Teaching Fund recently launched its annual call for proposals on the theme: "shaping resilient and responsive societies and ecosystems in view of global crises." The funding scheme is not limited to a specific academic field and the proposals can either focus on one discipline, or be of interdisciplinary character. Furthermore, proposals may come from individual faculty members or a

group of faculty, but should have Geneva and Zurich faculty members as co-PI's (principal investigator) in all cases. Grants will be awarded in the amounts of min. CHF 25,000 to max. CHF 60,000 per project, for a duration of 18 months. The call for proposals closes on 30 November 2020.
/web/2020/13-200930-39

EPFLglobaLeaders: Towards a Sustainable Future

(EPFL, September 30, 2020)

EPFL recently launched EPFLglobaLeaders – a new PhD fellowship program intended to encourage young scientists and engineers to work towards a more sustainable future. Selected students will receive around CHF 2,000 per month for up to four years and will be given classes on management, technology transfer and risk assessment. The program will also include a three to 12-month internship at a non-academic organization. A total of 48 PhD students will be selected in two application rounds, from 1 October to 15 December 2020 and from 1 February to 15 April 2021. EPFLglobaLeaders is being funded by the EU through a Marie Skłodowska-Curie Actions co-funding program.
/web/2020/13-200930-34

Upcoming Science and Technology Related Events

Swiss Digital Days 2020
November 1-2, 2020
https://is.gd/8uREOk
Collaboration, Innovation, Knowledge Transfer
Online and various locations

Swiss Robotics Industry Day
November 5, 2020
https://is.gd/QdB1Zw
Innovation, SMEs, Research
Lausanne

nexHack edtech
November 6-8, 2020
https://is.gd/wOgftx
Education, Integration, Digital
Online

Swiss Space Days 2020
November 9-10, 2020
https://is.gd/vEFzST
Science, Downstream Services
Online

Swiss Innovation Forum
November 17-19, 2020
https://is.gd/hjq9wY
Creativity, Life Science, Technology
Online

CYBATHLON 2020
November 13-14, 2020
https://is.gd/gSRBu5
Assistive Technology, Inclusion
Online

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