



Science-Switzerland, February - March 2016

News on Swiss science, technology, education and innovation

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1. Policy

Strengthening Academic Cooperation with Iran

(University of Zurich, March 02, 2016)

On a visit by a Swiss delegation to Iran, Michael Hengartner, president of University of Zurich and the umbrella organization swissuniversities, and Mahmoud Nili Ahmadabadi, president of the University of Tehran, signed a memorandum of understanding. The aim is to work on joint research activities, promote exchange among students and PhD candidates, and facilitate mutual visits. Michael Hengartner said that the speed at which science and academy is presently developing in Iran and the quality of teaching and research at the University of Tehran are impressive. Swiss Federal President Schneider-Ammann also traveled to Iran and agreed on a road map for deepening bilateral relations with Hassan Rohani. The plan is to have regular political exchange between the two countries.



<http://swissinnovation.org/news/web/2016/01-160302-3c>

Swiss is New Director of ESA's Launchers

(NZZ, March 18, 2016)

The Council of the European Space Agency (ESA) has appointed Daniel Neuenschwander, head of the Swiss Space Office at SERI, as new Director of Launchers. After completing his studies in physical geography at the University of Freiburg, Neuenschwander has been trained as an airline pilot. He will be the first Swiss program director at ESA since its foundation in 1975. However, Switzerland has held the co-presidency of the ESA Council together with Luxembourg since 2012. ESA is currently working on Europe's newest carrier rocket, Ariane-6, one of the major projects in ESA's history and budgeted with 3.4 billion Euros. The rocket is planned to launch in 2020.



<http://swissinnovation.org/news/web/2016/01-160318-8b>

National Cancer Register for Switzerland

(news.ch, March 02, 2016)

After the Swiss Federal Council suggested the implementation of a national cancer database, now both Chambers have approved the new register. The database, aiming at improving the prevention, screening and treatment of cancer, will contain anonymized data about the patient, the diagnosis, the treatment, as well as the progression of the disease. A Swiss cancer register already exists, but the entries are made on an optional basis. In the future,



cancer patients shall be registered consistently and the data will be stored for 80 years. In Switzerland, 38'000 people come down with cancer every year and 16'000 die of the disease. The Swiss Confederation spends a yearly CHF 1.4 million on cancer registration already; with the new law an additional CHF 1.5 million will be budgeted.

<http://swissinnovation.org/news/web/2016/01-160302-c9>

New Portal for Open Government Data

(news.admin.ch, February 02, 2016)

The new Swiss portal for open government data (OGD) opendata.swiss is online. On the new portal, Swiss public authorities – the Confederation, cantons, and communes – are publishing their data freely available and under uniform terms of use. The aim is to make it easier for interested parties to exploit the data. The portal, which is operated by the Federal Archives, is part of the Open Government Data Strategy for Switzerland 2014-18. To date, 17 organizations are offering more than 500 datasets on the portal, covering topics as diverse as population, health, politics, transport and the environment.

<http://swissinnovation.org/news/web/2016/01-160202-c5>

Special Measures for Innovation Approved

(The portal of the Swiss government, February 17, 2016)

The Federal Council has approved the Commission for Technology and Innovation's (CTI) additional special measures for the encouragement of innovation for CHF 61 million. This support is intended primarily for export-oriented small and medium enterprises (SMEs), hard hit by the strong Swiss franc. Special measures are limited in time until the end of 2016 and complement the measures taken in 2015. CTI's Phase 2 special measures cover three main areas: reducing the cash contribution of economic partners for innovation projects; relaxing the present rule that private partners responsible for implementing CTI innovation projects must contribute 50% of the project costs (henceforth 30% minimum is required); increasing the use of CTI innovation advisors to support target SMEs involved in innovation projects.

<http://swissinnovation.org/news/web/2016/01-160217-e8>

2. Education

Ranking: ETH Zurich Tops International Ranking

(20 Minuten, March 21, 2016)

ETH Zurich's degree program Earth & Marine Sciences again ranks number 1 in its category, and the school is among the Top 10 in ten other categories, according to Quacquarelli Symond World University Rankings. The international ranking lists 42 different programs and is one of the biggest of its kind. It is based on expert opinions of over 76'000 academics and 44'000 employers, as well as the evaluation of 28.5 million studies and over 113 million quotes from the Scopus/Elsevier database. The twelve Swiss universities present in the ranking offer 25 out of the 42 rated programs, and they hold 42 places in the Top 50. Only five nations have universities which top at least one of the categories. The US holds a strong position with Harvard University and the MIT, both ranking first in 24 programs each.



<http://swissinnovation.org/news/web/2016/02-160321-0f>

Increasing Number of Domestically Trained Medical Doctors

(NZZ, February 03, 2016)

In a push to increase the number of domestically trained medical doctors the Federal Council has announced financial incentives for the cantons of 100 million Swiss francs. Currently 40% of all medical doctors employed by hospitals and 50% of all self-employed doctors have been awarded their diploma at a foreign university. The goal of raising the number of graduates from 863 in 2014 to 1300 per year after 2025 is meant to lower these percentages and make it possible for professionals trained at Swiss universities to be able to replace the current total of 32'000 doctors, foreign and domestic, practicing in the country. The announced financial incentives have also opened the door for new ideas regarding the structure of the university programs including a model where the preclinical studies are proposed to be taught in undergraduate courses followed by clinical studies in a medical school type master's degree.



<http://swissinnovation.org/news/web/2016/02-160203-db>



3. Life Science / Health Care

Blue Brain and the Allen Institute Created Virtual Neurons

(EPFL, March 03, 2016)

The US-based Allen Institute for Brain Science has released 40 new, highly realistic computer models of neurons from the mouse visual cortex. The models were developed using tools and expertise from the EPFL's Blue Brain Project. This project is the simulation core of the Human Brain Project, a huge pan-European initiative. The scientific journal Cell recently published a paper demonstrating the effectiveness of the Blue Brain Project's modeling tools, focusing on the high accuracy and predictive power of the models and the discoveries they have already led to, including insight into the unexpected role of calcium. The team has made these resources freely available on a web-based platform and is keen to collaborate with other researchers worldwide to better understand how neurons and neural networks function.



<http://swissinnovation.org/news/web/2016/03-160303-b9>

Nestlé Invests \$42 Million in Amino Acid Pioneer

(Pronutria Biosciences, February 23, 2016)

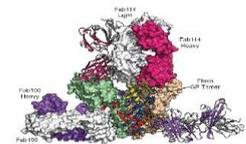
Pronutria Biosciences Inc., founded within VentureLabs and based in Cambridge MA, has completed a \$42.5 million investment by Nestlé Health Science. The proceeds from this financing will help to fund the ongoing rapid transformation of the biotechnology company from a unique and revolutionary platform to late stage clinical candidates in several disease indications. Pronutria Bioscience, pioneering first-in-class medicines for more than 2'000 serious conditions linked to amino acid imbalances, has reimagined the discovery process by combining a proprietary platform of over one billion potential candidates with the tools and expertise to select and advance multiple lead candidates into human studies with high speed. Pronutria is also developing the first oral biologics that deliver disease-specific amino acid compositions to restore balance in disease pathways and regenerate cell function.

<http://swissinnovation.org/news/web/2016/03-160223-2a>

Antibodies Against Ebola Discovered

(Università della Svizzera italiana, February 25, 2016)

The Università della Svizzera italiana's (USI) Institute for Research in Biomedicine (IRB) together with Humabs BioMed SA, a Swiss antibody therapeutics company, have isolated two Ebola virus-neutralizing monoclonal antibodies from the blood of a survivor of an Ebola infection. As published in Science, one of the fully human antibodies protects against lethal Ebola infection – even when given as single treatment and as late as five days after infection. Through international collaboration with leading research institutes, the researchers identified vulnerable sites on the Ebola virus coating and the targets addressed by human antibodies to neutralize the virus. This could help improve vaccine design. The lead antibody is now being manufactured and developed for clinical testing with the support of the US Defense Advanced Research Projects Agency (DARPA).



<http://swissinnovation.org/news/web/2016/03-160225-25>

Implant to Prevent Alzheimer's

(EPFL, March 17, 2016)

A promising way to fight Alzheimer's disease is to combat the plaques in the brain which build due to over-accumulation of amyloid beta protein. A novel capsule, developed by scientists at EPFL, can turn a patient's immune system against the plaques, by tagging the amyloid beta proteins with antibodies that signal the immune system to attack them. The tiny capsule, made of two permeable membranes, is implanted under the skin and releases a steady flow of antibodies into the bloodstream and from there into the brain. The capsule's membranes shield the cells from being attacked by the immune system, which makes it possible to use cells from a single donor for multiple patients. The device was successfully tested on mice; the flow of antibodies produced over a course of 39 weeks prevented the formation of amyloid beta plaques in the animal's brains. Watch an illustrative video here: <https://goo.gl/2h38Jg>.

<http://swissinnovation.org/news/web/2016/03-160317-f0>

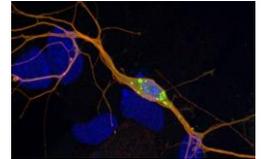


Better Model for Parkinson's

Researchers at EPFL have greatly improved their models for Parkinson's disease by overcoming the challenge to reproduce so-called Lewy bodies, clumps within neurons which are associated with Parkinson's. Lewy bodies consist mainly of a protein called alpha-synuclein. Abundant in the brain, alpha-synuclein is normally involved in the transmission of neuronal signals. But in Parkinson's disease, alpha-synuclein clumps up, aggregates and tangles into stringy knots called fibrils; the Lewy bodies. Accurate animal models require Lewy bodies built from human alpha-synuclein, but interference from similar proteins native to mice prevented the formation of Lewy bodies in these animals. Hilal Lashuel and his team at EPFL genetically engineered mouse neurons to produce human alpha-synuclein instead, thus enabling formation of Lewy bodies. This advance will help understanding how human alpha-synuclein forms fibrils, and its connection to Parkinson's disease.

<http://swissinnovation.org/news/web/2016/03-160202-5e>

(EPFL, February 02, 2016)



Smart Shoe to Reduce Foot Ulcers

EPFL researchers together with the University Hospital in Geneva have developed a shoe sole with valves that electronically control the pressure applied to the arch of the foot, aiming at preventing foot ulcers commonly caused by diabetes. The sole has around 50 small electromagnetic valves filled with magnetorheological material. The viscosity of the material, which is made up of suspended iron microparticles, can be controlled by applying a magnetic field. The particles react immediately and align themselves with the field, causing the material to change from liquid to solid state in a fraction of a second. The system should not only help the wounds heal quickly but also prevent the onset of new ulcers. Every year, 250'000 diabetics have a leg amputated in Europe alone, mainly because of foot ulcers.

<http://swissinnovation.org/news/web/2016/03-160302-45>

(EPFL, March 02, 2016)

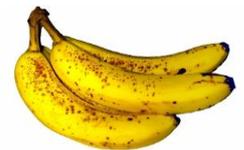


Skin Cancer Detector Made Possible by Ripe Banana Peel

Human skin and banana peels have something in common, EPFL scientists discovered: they both produce an enzyme called tyrosinase which causes black spots to appear. While in bananas this process is caused by oxidization (ripening), harmful UV radiation leads to an abnormally high production of tyrosinase in skin cancer cells, thereby disrupting the production of melanin and leading to an uneven distribution of this pigment. A newly developed imaging method using microelectrodes that sweep across a surface without damaging it can now detect this unusual distribution of tyrosinase within an area as small as a few square millimeters. After having successfully demonstrated this technique on ripened banana peels, skin with melanoma cells can now be scanned. Ideally, the method should detect stage two melanoma, before it gets the chance to metastasize.

<http://swissinnovation.org/news/web/2016/03-160208-a7>

(EPFL, February 08, 2016)

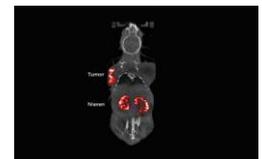


New Drug Against Thyroid Cancer

Researchers at the Paul Scherrer Institute (PSI) have developed a drug to trace and treat a particularly malignant strain of thyroid cancer. They use a radioactively marked gastrin-like molecule that can dock onto the surface of tumor cells. The radiation destroys the tumor, while largely sparing the surrounding tissue because of its short range. One advantage of the new drug is that it can be used to treat a strain of thyroid cancer where the established treatment with radio-iodine is ineffective. Presently, PSI can produce the drug in a standardized way, according to the pharmaceutical regulations. Moreover, they have applied for approval from Swissmedic to use the drug on humans in a clinical trial by the end of the year.

<http://swissinnovation.org/news/web/2016/03-160217-9a>

(Paul Scherrer Institute, February 17, 2016)



Side Effects of Cancer Drugs

Researchers at the University of Fribourg, together with scientists from the Fribourg hospital and the Tumor Center in St. Gallen, have been studying the effects of the cancer drug Avastin. What they found is that breast cancer

(University of Fribourg, February 05, 2016)



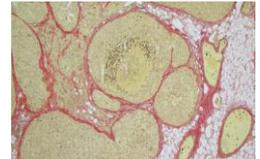
patients have increased levels of monocytes (a type of white blood cell) compared to healthy individuals. Avastin reduces the white blood cell count and inhibits the cell's functioning. This, however, was not the primary purpose of Avastin, which was designed to reduce blood supply to tumors. These research findings demonstrate the importance of this side effect because white blood cells can accelerate tumor growth. These results could open doors to new cancer treatment possibilities and methods.

<http://swissinnovation.org/news/web/2016/03-160205-07>

Improved Animal Model May Help Treat Breast Cancer

(EPFL, March 03, 2016)

Breast cancer is the most common cause of cancer-related deaths worldwide, affecting one in eight women. One type of breast cancer accounts for almost three quarters of all breast tumors. These tumors feature a receptor for estrogen, and very often become resistant to hormone therapy. Despite their high occurrence, these "estrogen receptor-positive" tumors have been difficult to research because the animals used in drug testing are often not relevant to the clinic. Publishing in *Cancer Cell*, EPFL scientists have now developed the most biologically faithful animal model for estrogen receptor-positive breast cancer. Their model has also been tested on human breast tissue in a pre-clinical context. This breakthrough may facilitate the study of breast cancer disease, progression and metastasis, enabling the development of new breast cancer therapies.



<http://swissinnovation.org/news/web/2016/03-160303-7d>

Detecting Tumors with Ultrasound

(ETH Zurich, March 23, 2016)

Out of 98 inventions made by ETH researchers that have been registered for patent approval in 2015, ETH Zurich awarded its annual Spark Award to Orçun Göksel and Sergio Sanabria for a radiation-free and painless ultrasound method to detect breast cancer. Instead of the standard practice of measuring the backscattering of sound, the new method measures the time taken by an ultrasound wave. The stiffer the tissue, which is the case with tumors, the faster the sound wave passes through the tissue. To do this, the researchers developed their own probe head together with an image processing program. Patient trials are currently being carried out in collaboration with University Hospital Zurich.



<http://swissinnovation.org/news/web/2016/03-160323-a5>

Stem Cells Cure and Cause Diseases

(Le Courrier, February 01, 2016)

Scientists participating in the Swiss National Research Program "Stem Cells and Regenerative Medicine" have concluded that stem cells can cause illness as well as heal. Stem cells are undifferentiated cells able to form different cell types in the body. They can be grown in labs to replace organs or tissues, but uncontrolled they can cause cancer. Between 2010 and 2015, 12 research groups from Lausanne, Geneva, Bern, Basel and Zurich studied how stem cells contribute to the onset of diseases like diabetes, strokes, brain tumors and Parkinson's disease. The goal was to determine how stem cells trigger these diseases and their potential to heal. It was found that if controlled and used, stem cells can treat certain diseases like diabetes and repair damaged body parts.

<http://swissinnovation.org/news/web/2016/03-160201-6d>

Broccoli Ingredient Improves Drug Efficacy

(ETH Zurich, March 14, 2016)

Certain foods can alter the activity of endogenous enzymes and thus influence the efficacy of drugs. For example, colon cancer cells that are pretreated with an ingredient found in cruciferous vegetables are more likely to be killed by a cancer drug called PR-104A that is currently in development. These findings were made by ETH scientists in collaboration with University of Zurich when they investigated the effects of sulforaphane, an ingredient in a number of cruciferous vegetables such as broccoli, on human intestinal cells. Sulforaphane increases the concentration of a number of so-called AKR1C3 enzymes in the colon cancer cells. This enzyme activates PR-104A inside the cancer cells, and less than a third of the usual dose of the drug was enough to kill the cancer cells. This approach raises hopes to reduce the dose of medication – and side-effects – while maintaining efficacy.



<http://swissinnovation.org/news/web/2016/03-160314-62>



Marijuana Consumption Impacts Verbal Memory

(presstext schweiz, February 02, 2016)

A new study published by researchers at the University of Lausanne has shown that longtime regular consumption of marijuana can lead to a decrease in verbal memory. The results found by Reto Auer and his team confirms previous results that proposed a link between longtime consumption and reductions in cognitive capabilities. The analysis is based on a dataset compiled for a study on artery risk development in young adults, which contains information on marijuana usage over 25 years in 3499 subjects. While the connection between consumption and verbal memory could be established, the facts that the marijuana usage was not recorded regularly, and that the data only contains one timepoint for the cognitive test needs to be considered.

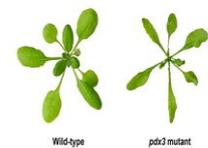


<http://swissinnovation.org/news/web/2016/03-160202-12>

Crucial Role of Vitamin B6 in Plant Metabolism

(University of Geneva, February 05, 2016)

Vitamin B6 fulfills an important role in a plant's metabolism, scientists at the University of Geneva found. Vitamin B6 exists in six forms by plants, bacteria and fungi called vitamers, and plays an important role in a plant's ammonium status, a molecule used for the production of proteins and therefore essential for growth and development. A modified variant of thale cress lacking an enzyme named PDX3 showed impaired growth, since this enzyme is responsible for the conversion of a vitamer named PMP. This accumulation of PMP disturbed the production of ammonium from nitrate, thus having a negative effect on the plant's growth. A similar PMP accumulation was seen when the soil was supplemented with fertilizer containing ammonium. In the future, vitamin B6 could be used to prevent the overuse of nitrogen-containing fertilizers that are currently having detrimental effects on the environment.



<http://swissinnovation.org/news/web/2016/03-160205-f9>

New Life Science Cluster

(Aargauer Zeitung, February 07, 2016)

The largest so far undeveloped industrial area in the canton Aargau is to become the site for a new Life Science Campus. The marketing for the Sisslerfeld sites has been kicked off with the publication of an eight page brochure. While it will likely take some time before the available sites of 300'000 square meters (~3.2 million sq ft) will be sold, the goal of Aargau Services is to create a high quality space for innovation. The site is already home to many leading life science companies such as Novartis, Syngenta and DSM and thus has an already preexisting infrastructure including an energy system, firefighting stations and disposal facilities. The authorities hope these facts will help attract players that complete the picture and are willing to form novel synergies with their new neighbors.

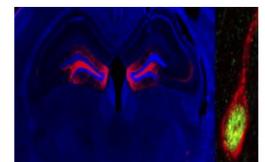


<http://swissinnovation.org/news/web/2016/03-160207-5f>

Mechanisms that Form and Inhibit Memory

(University of Geneva, February 08, 2016)

One of our brain's most fundamental and fascinating abilities is to form memories – or to record, store and recall past experiences. For over forty years, neuroscientists worldwide have been investigating biological mechanisms that govern how information is stored in our brain. A team from the Faculty of Medicine of the University of Geneva (UNIGE) has discovered how the brain regulates the size of groups of interacting neurons, called engrams, involved in preserving memories. By targeting neurons in the hippocampus, scientists have shown how memories can be inhibited or recalled. When recording memories, neurons create a network comprising of a specific number of cells. Beyond a certain size, the memory is lost.



<http://swissinnovation.org/news/web/2016/03-160208-51>

Male Orangutans Hired by Fighting Females

(University of Zurich, February 09, 2016)

Researchers from University of Zurich report the first observed case of female-female lethal aggression in orangutans. The attacking young female recruited the help of a male, who caused the injuries that eventually killed the old, resident female. The old female that was attacked subsequently received protection from a male. The males were thus in effect acting as hired guns. The effective recruitment of males into conflicts between females is novel and





unique among apes. It shows an unsuspected degree of leverage of sexually attractive females over unrelated males and can coax males into providing services, such as coalitionary support, in a species otherwise better known for their sexual coercion by males.

<http://swissinnovation.org/news/web/2016/03-160209-ef>

Birds Chirp with Syntax

(University of Zurich, March 08, 2016)

By combining various calls using specific rules, Japanese great tits – small songbirds known for their large vocal repertoire – have evolved syntax which enables them to communicate specific messages. A group of biologists from Tokyo, Uppsala and the University of Zurich have discovered in these birds what until now was thought to be unique to human language. For potentially dangerous situations, the great tits use a combination of sounds meaning “watch out!” By contrast, after discovering a new source of food, the birds have a sound which means “come over here.” Tits frequently combine these two calls when they encounter predators and join forces to deter them. When hearing a recording of these calls in a natural order the birds are alarmed and flock together. If, however, the call ordering is artificially reversed the birds do not respond.



<http://swissinnovation.org/news/web/2016/03-160308-17>

Aggressive Cichlids: Attack Is the Best Form of Defense

(University of Bern, February 16, 2016)

“Princess of Lake Tanganyika” cichlids studied by researchers from Bern, England and Australia have been shown to change their defensive strategy when only identifying predators from close distance. The fish were observed to notice computer-animated predators in their basin only very late while engaged in territorial conflict with other individuals from the same species. In natural situations, this would of course increase the risk of being eaten. Whereas the cichlids normally respond by swimming away and finding shelter, the response in case of imminent threat at close distance was to attack the predator. It is thought that aggressive resistance can increase the survival chances of the fish – attack as the final form of defense, as it were, but this hypothesis needs further study in a natural setting.



<http://swissinnovation.org/news/web/2016/03-160216-62>

Revolutionary Treatment for Natural Fertilization

(Le Temps, February 04, 2016)

Serial entrepreneur and business angel Martin Velasco has a flair for spotting promising startups. Since his early investments in the field of technology (Terra Networks and Atlantech Technologies), he has developed a passion for healthcare. President of AC Immune since its founding – a company that develops treatments for Alzheimer’s – and early investor in the Basel biotech company Actelion, he also sits on the board of Aleva, a startup developing implants for deep brain stimulation. For 12 years, he has run the startup Anecova which markets its AneVivo capsules for infertile couples. Thanks to this revolutionary treatment, which allows more natural fertilization and embryo development in the maternal environment, 28 babies have been conceived, with 10 more on the way.



<http://swissinnovation.org/news/web/2016/03-160204-c3>

Risk Reduction of Premature Birth

(Tagesanzeiger, February 10, 2016)

The startup Pregnolia from Zurich wants to cut the risk of premature birth. The company has developed a device for the early detection of pre-term births and helps to identify women at risk of giving birth to premature babies. This early risk assessment is essential to provide pregnant women with the treatment and care they need in order to prevent pre-term births. The device is reliable, easy and safe - it's new technology is more accurate than conventional ultrasound techniques. In order to make a diagnosis, the probe of the tool is put vaginally on the uterine cervix and is measuring the stiffness of the tissue in only a few seconds. If a uterine cervix is soft, the gynaecologists adopt pregnancy conservatory measures. A typical measure is a hormone therapy with gestagen, which stiffens the tissue, or a so called cerclage, where a sustaining strap is slung around the uterine cervix.



<http://swissinnovation.org/news/web/2016/03-160210-4a>



New Test for Ocular Myasthenia Gravis

(University Hospital Zurich, February 16, 2016)

Researchers from the University Hospital of Zurich have proposed a new way to diagnose myasthenia, an autoimmune disease that leads to muscle paralysis. Diagnosed early enough, the disease can be treated, however, the diagnosis is difficult and not very reliable. The new method proposed by the medical doctors from the University Hospital of Zurich is simple and has a high hit rate. More than half of patients with myasthenia harbor the form of the condition known as ocular MG, characterized by double vision, ptosis, or both. When ptosis is present, the doctors suggest a diagnosis via the Cogan lid twitch, fatigability of the eyelid with sustained upgaze, and recovery with the icepack test or rest.



<http://swissinnovation.org/news/web/2016/03-160216-a3>

Cardiac Syndrome After Great Happiness

(STAT, March 02, 2016)

An international research group with collaborators of the University Hospital in Zurich has identified 20 individuals whose heart muscles seized up and temporarily stopped working after they have experienced a moment of incredible joy. Scientists assume that the heart responds to a flood of stress hormones. A part of the heart muscle froze up, blood flowed irregularly, and eventually the muscle started working again. This cardiac syndrome – called takotsubo cardiomyopathy – had been thought to occur only after negative events. The findings are based on a database consisting of 1'750 patients across nine countries and the authors note a statistically significant difference in the location of the paralysis in depressed versus elated patients. Still, it's unclear how that finding should be interpreted as the sample size is very small and not random.



<http://swissinnovation.org/news/web/2016/03-160302-30>

Breaking the Vicious Circle of Heart Failure

(University of Zurich, February 19, 2016)

In patients with heart failure, the pumping power of the heart decreases in a fatal downward spiral. Pharmacologists at the University of Zurich and the ETH Zurich have now succeeded in breaking this vicious circle in the mouse model. By inhibiting the enzyme GRK2, they managed to increase the pumping power of the diseased heart, while at the same time slowing down the disease's progression. In the mouse model, the inhibition was carried out by genetic modification or a surgical procedure, as the inhibitor peptide would have been broken down in the digestive system. Nevertheless, the approach could one day also benefit humans.

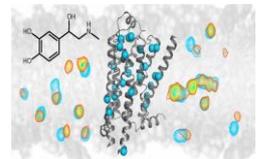


<http://swissinnovation.org/news/web/2016/03-160219-70>

Probing What Sets the Heart Racing

(Paul Scherrer Institute, February 03, 2016)

Using nuclear magnetic resonance (NMR) imaging, researchers at the Paul Scherrer Institute (PSI) and the University of Basel are looking into compounds that activate heart cells. The outer walls of heart muscle contain a protein named the beta-1 adrenergic receptor. This protein is a target for the hormone noradrenaline, that triggers a signaling cascade which ultimately results in increased heart rate and blood pressure. The NMR technique allows scientists to track molecular activity inside the cell after noradrenaline binds to the beta-1 adrenergic receptor. This receptor belongs to the family of G-protein coupled receptors, and therefore findings from this study can be translated to many more biochemical processes. Moreover, G-protein coupled receptors are a target for no less than 30% of all newly approved drugs, so understanding their mechanisms is highly valuable for future pharmaceuticals.



<http://swissinnovation.org/news/web/2016/03-160203-ca>

Protective Cover for Implants

(ETH Zurich, February 20, 2016)

Researchers at the ETH spin-off Hylomorph have developed a membrane that protects medical implants from unwanted encapsulation by connective tissue. The company has now been awarded funding by the startup competition Venture Kick. Hylomorph is a partner in the HeartOne project at the Wyss Translational Center Zurich, a development center of ETH Zurich and University of Zurich. The project aims to improve artificial heart pumps. The scientists are working intensely to further develop the membrane for use as a cover for an





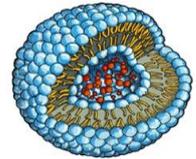
artificial heart pump. In the future, the technology could be used for any implant in which connective tissue build-up is a problem, for example breast implants or surgical meshes, which are used in hernia operations.

<http://swissinnovation.org/news/web/2016/03-160220-bb>

Liposomes for Treating Stenosed Blood Vessels

(University of Basel, March 11, 2016)

Liposomes, soap-bubble-like nanocontainers made of a double phospholipid membrane that shields off an inner aqueous compartment, are promising candidates for drug delivery to constricted coronary arteries. The blood flows through the stenosed artery segments with high velocity and is subjected to enhanced shear pressures, under which the liposomes release their content. However, the activation of the immune system may lead to a pseudo-allergy. Now, scientists from the universities of Basel and Fribourg have shown that special artificial phospholipid vesicles do not elicit any immune reaction in blood serum of humans nor living pigs. There were no noticeable reactions on the heart rate, the electrocardiogram and the blood pressures in the tested pigs. These results are very promising, given the fact that coronary artery diseases are responsible for 30 percent of deaths worldwide, according to the WHO.



<http://swissinnovation.org/news/web/2016/03-160311-46>

Nestlé to Reduce Sugar Content in Foods

(20 Minuten, February 21, 2016)

Nestlé has developed a new technology to massively reduce the sugar content of their products, according to the company's Chief Technology Officer, Stefan Catsicas. As an application of technology, the company plans to bring chocolate with 50 to 60 percent less sugar to the market as early as the first half of 2018. In addition to the sugar content in food, Nestlé also plans to reduce the salt and fat content in their products. These changes are core to the growth strategy of the company which is celebrating 150 years of existence this year.



<http://swissinnovation.org/news/web/2016/03-160221-cb>

Egg Allergen-Free Food

(20 Minuten, February 28, 2016)

One in 50 children cannot eat eggs due to an allergy. Common reactions are skin rashes, sickness, shortness of breath, or anaphylactic shock which could lead to death. Researchers from Nestlé have now developed a procedure to process eggs in a way allergy sufferers can eat them. The proteins of the egg are thereby heavily decomposed by heat and special enzymes, leaving only a powder. In most of the cases, the immune system doesn't recognize the allergens and thus does not react. The scientists, together with doctors from the University Hospital in Zurich, have tested the powder in 23 children, and only two out of this group have shown an allergic reaction. Scientists have already produced chocolates and pasta with this processed egg powder. The chocolate did not come up to the known standard of Swiss chocolate, but the pasta is very good, researchers say.



<http://swissinnovation.org/news/web/2016/03-160228-bc>

Collective Memory in Bacteria

(ETH Zurich, March 08, 2016)

Individual bacterial cells have short memories, but groups of bacteria can develop a collective memory that increases their tolerance to stress. This has been demonstrated experimentally for the first time in a study by Eawag and ETH Zurich scientists, published in PNAS. Bacteria exposed to a moderate concentration of salt survive subsequent exposure to a higher concentration better than if there is no warning event. From a human perspective, bacteria can be beneficial – e.g. if they break down pollutants or convert nutrients into energy – or harmful, especially if they cause diseases. Understanding this collective memory effect may be useful for controlling bacterial populations and managing bio- and geochemical processes, like wastewater treatment, in which bacteria play a crucial role.

<http://swissinnovation.org/news/web/2016/03-160308-55>



Alarming Antibiotic Resistance

(swissinfo, March 02, 2016)

Scientists from the University of Fribourg have found the most resistant bacterial strain that has ever been discovered. It resists the two families of antibiotics – Colistine und Carbapeneme – that are used as reserve antibiotics and are generally seen as last remedy drugs against enterobacteriaceae. These widespread bacteria are responsible for blood poisoning, pneumonia, and hospital infections. Colistine is commonly used in animal treatment, and in China it is frequently added to animal feed for speeding up growth. Therefore, scientists believe that the resistance has been transmitted from animals to humans, but the exact origin is still unknown. They strongly suggest to drastically reduce the use of these antibiotics in veterinary medicine. Even though healthy people are at low risk, if this resistance spreads further it could be fatal for many seriously ill patients.



<http://swissinnovation.org/news/web/2016/03-160302-10>

New Way of Fighting Bacteria

(University of Geneva, February 17, 2016)

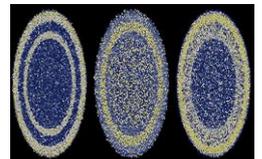
In bacteria, toxin-antitoxin systems consist of a set of two closely linked genes. Situated on the same chromosome, they encode both a protein ‘poison’ and a counteracting ‘antidote’. Under normal conditions, the antitoxin protein binds the toxin protein and prevents it from acting. But in response to environmental stress, the antitoxin proteins are broken down, which allows the toxins to poison the cells. Microbiologists at the University of Geneva studied the toxin-antitoxin system HigBA, and found a novel regulatory mechanism. When acting on the toxin, this mechanism works like a “suicide button” that kills the cell. This discovery could open the door to potential new treatments of bacterial infections. The results can be read in Nature Microbiology.

<http://swissinnovation.org/news/web/2016/03-160217-82>

Better Understanding of Newborn Neurons

(University of Geneva, March 03, 2016)

The brain is home to different types of neurons, which are derived from specialized stem cells, called progenitor cells, that can divide to give rise to neurons. Now, neuroscientists from the University of Geneva have developed a novel open access technology called FlashTag, which tags progenitors with a fluorescent marker at the very moment they divide. This enables researchers to isolate and visualize newborn neurons, and study the evolution in gene expression, unfolding like a movie. Scientists have found that several original genes are involved in neurodevelopmental and neurodegenerative diseases. Therefore, a predisposition may be present from the first moments in the existence of neurons. With this tool, researchers will hopefully better understand the mechanisms underlying diseases such as autism and schizophrenia.



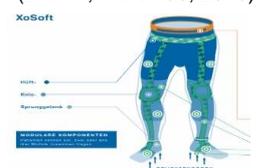
<http://swissinnovation.org/news/web/2016/03-160303-68>

4. Nano / Micro Technology / Material Science

Smart, Supportive Leggings

Today, people who have suffered from a stroke or who are gait impaired by birth can often walk again thanks to supportive tools. However, these tools are often heavy and bulky and cannot follow the entire course of the human motions. Together with a European team, engineers and physiotherapists from Zurich University of Applied Sciences (ZHAW) have developed a supportive tissue that softens or hardens depending on the movements of the patient. The tissue is fitted with small sensors that monitor the motions and teaches the integrated electronics when to support a limb and when to let it move freely. The project, called XoSoft, aims at building a structure that can be incorporated into clothing like socks and leggings, enabling the patient to wear it underneath normal clothes and to move comfortably.

(ZHAW, March 30, 2016)



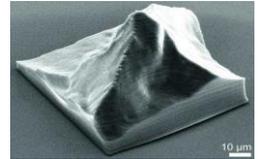
<http://swissinnovation.org/news/web/2016/04-160330-f1>



3D Printing a Matterhorn in Nanoscale

(Paul Scherrer Institute, February 11, 2016)

Researchers at the Paul Scherrer Institute have produced large numbers of detailed models of the Matterhorn, each one less than a tenth of a millimeter in size. With this, they demonstrated how 3D objects so delicate could be mass-produced. Materials whose surface is covered with a pattern of such tiny 3D structures often have special properties. What nature has exploited for so long could be instructive for a number of industrial applications. Many snakes glide over sand aided by 3D structures on their skin that significantly reduce friction. Along the same lines, machine parts could be furnished with a comparable structure, thereby minimizing wear and tear.



<http://swissinnovation.org/news/web/2016/04-160211-11>

Analog Devices Buys the Swiss Startup Snap Sensor

(Alp ICT, March 21, 2016)

The startup Snap Sensor, coming out of the Swiss Center for Electronics and Microtechnology CSEM, has been acquired by the Massachusetts-based company Analog Devices, which wants to enforce its mobile application sector. Founded in 2011 in Neuchâtel, it is specialized in innovative vision sensing technologies, and the company will contribute to Analog Devices' leadership position in sensing and signal processing and build upon platform-level Internet of Things. Snap Sensor's staff will stay in Neuchâtel, where the company will build a new center for research and development, keeping its close ties to CSEM.

<http://swissinnovation.org/news/web/2016/04-160321-67>

New, Simple and Versatile Coating

(ETH Zurich, February 01, 2016)

Coating materials is an important process for many technical applications as it allows the usage of materials that have desired properties but unsuitable surfaces. Researchers at the ETH spin-off Susos have developed a new technique to bind coating molecules to surfaces via covalent bonds allowing for the creation of easy to use, versatile coatings. Led by Nicholas Spencer, Professor at the Laboratory for Surface Science and Technology at the ETH Zurich, the group has created a 'Swiss army knife'-polymeric molecule that has non-fouling properties due to its hydrophilic side chains. Additionally, it allows the binding of silicon and glass or transition metals to protect a material from other various environmental factors. The simple dip and rinse coating process could find application in many fields including medical technology or the food industry.

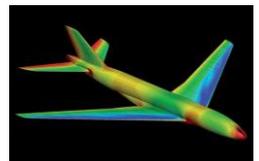


<http://swissinnovation.org/news/web/2016/04-160201-c6>

Pressure-Sensitive Paint

(CSEM, February 12, 2016)

The Swiss applied research center CSEM and its partner ONERA, a leading player in French aeronautics and space research, have been awarded the Innovation Trophy by the French-Swiss Chamber of Commerce and Industry. This prize was awarded in recognition of their development of a pressure-sensitive paint (PSP) for aerodynamic analyses in transonic wind tunnels to improve aircraft safety and flight performance. The key factors for this collaboration's success were the excellence of the researchers, the highly complementary scientific and technical nature of the two organizations, and the successful union of aeronautical and space technologies with nanotechnologies. The fields in which PSP technology can potentially be applied extend beyond aeronautics and space to a broader range of domains.



<http://swissinnovation.org/news/web/2016/04-160212-dc>

Particulate Measurement of Aircraft Engine Emissions

(Federal Administration, February 26, 2016)

Switzerland is setting an international benchmark by developing a method for measuring emissions of fine particulate matter from aircraft engines, thanks to collaboration between Empa, SR Technics and the Federal Office of Civil Aviation. In the past 30 years, large aircraft engines have been required to meet emission limits that have been gradually tightened over time. Air traffic, therefore, contributes relatively little to Switzerland's pollution level. However, ultra-fine particles – of less than a hundred-thousandth of a millimeter in diameter – are still extremely difficult to measure. They can penetrate deep into the lungs and thus affect health.





The new standard was approved by the International Civil Aviation Organization's Committee on Aviation Environmental Protection, and all engine types for passenger aircraft that are in production as of 2020 must be certified in accordance.

<http://swissinnovation.org/news/web/2016/04-160226-bb>

5. Information & Communications Technology

Connected Skis Improve Backcountry Skiing Performance

(EPFL, February 03, 2016)

Thanks to a small screen on their skis, backcountry skiers can see data recorded by sensors as they ski. The length and number of turns, their cadence and the symmetry of their steps appear on the Pomocup device. It was developed by an EPFL spin-off that teamed up with Pomoca, a Swiss ski equipment manufacturer. The device includes an accelerometer, a gyroscope and a barometer. The professional version is meant for mountain guides, who can quickly obtain useful information – like air and snow temperature or slope incline – to assess avalanche risk. Recorded data can be viewed on a smartphone, tablet or computer, using apps like those for running. Off the slopes, skiers can analyze the stats and share them via social media.



<http://swissinnovation.org/news/web/2016/05-160203-ed>

Augmented Creativity Apps for Children

(ETH Zurich, February 29, 2016)

Augmented creativity, a fusion of animated, virtual elements with a real-life environment, can encourage children towards a new sense of creativity, cooperation and interaction with their environment. ETH Zurich's Game Technology Center presented its latest apps in the field at the CeBIT, the world's largest computer expo, in Hanover. For example, the coloring book of the future could look like this; Children use crayons to color in line art printed in a book. When the camera of a smartphone with an augmented creativity app is pointed at the drawing, a moving avatar of the figure appears on the screen, transforming the drawing into a cartoon. For now, the apps are just prototypes and not yet available in app stores, as the team is still testing the potential applications.



<http://swissinnovation.org/news/web/2016/05-160229-71>

New Center for Scala Programming Language

(EPFL, March 15, 2016)

Twelve years after it was designed at EPFL, the Scala programming language is used by more than half a million developers as well as by Twitter, Netflix, the Swiss stock exchange, and the New York Times. Scala can work alongside existing systems, which makes it appealing for companies. Now, EPFL has set up a center for further developing this open-source language. The newly launched center, based at EPFL and supported by IBM, Goldman Sachs, Nitro, Lightbend and Verizon, will be devoted to improving the language. EPFL also just launched a series of four courses on the Scala language, including functional programming principles and program design in Scala, parallel programming and Big Data analysis with Scala and Spark.



<http://swissinnovation.org/news/web/2016/05-160315-9a>

Swiss Digital Safe

(Bilan, February 09, 2016)

The idea that Switzerland offers unique advantages to store huge amounts of data generated by the digital economy is not new. It was already presented in 1998 at a United Nations conference. Since then, data centers have multiplied in Switzerland, their surface increasing by 63% from 2011 to 2015. Swiss legislation on the protection of personal data resembles European legislation, greatly facilitating the storage of European data in Switzerland. In addition, unlike in the US, Switzerland refuses to cede any administrative control over stored data. The major industry players have created a new association called Vigiswiss, a charter has been drafted, and certification will be issued to compliant data centers, leading to a label that will give substance to Switzerland's digital safe strategy.



<http://swissinnovation.org/news/web/2016/05-160209-a2>



Victorinox and Acer Present Smart Tool for Wrist Watches

(NZZ, February 23, 2016)

Victorinox, the traditional Swiss army knife producer, has presented a new tool at the Mobile World Congress in Barcelona. In collaboration with Acer, Victorinox has developed the so-called "Cybertool," an easy to mount, shock- and waterproof smart tool for the wrist watch. The tool surrounds the watch, giving free sight at the clock face in the center, and displaying all smart applications – calendar invitations, fitness apps, incoming calls or messages – around. This is one way of combining Swiss quality watches and their classical and timeless designs with smart technologies. Other companies like Montblanc und IWC integrate the smart functions into the wristband, leaving the mechanical chronometer of the watch untouched.

<http://swissinnovation.org/news/web/2016/05-160223-04>

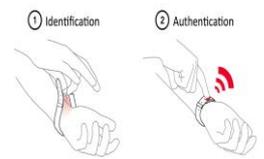


Biometric Identification Through a Watch-Sized Wristband

(csem, February 02, 2016)

A young and promising Swiss startup, BLOWATCH, has been able to garner the support of both CSEM and the Idiap Research Institute for the development and marketing of their flagship product: a biometric identification system integrated into the buckle of a watchband that enables the secure authentication of a person by detecting the unique pattern of veins on the wrist. Numerous applications are possible, from bank card payments to opening a vehicle to replacing the passwords used everyday on a computer.

<http://swissinnovation.org/news/web/2016/05-160202-98>



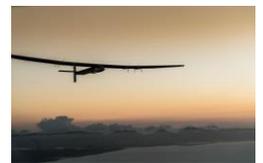
6. Energy / Environment

Solar Impulse Completed Successful Maintenance Flight

(Solar Impulse, March 05, 2016)

The second maintenance flight of Solar Impulse has been successfully completed thanks to favorable weather. The primary purpose of this flight was to ensure the aircraft's systems, including the oxygen system, work under high altitude conditions. The aircraft reached up to 28'000 feet (or 8'500 meter), which mimics the conditions of a regular long-duration flight during the Round-the-World tour. The plane must climb during long-duration flights while the batteries charge to 100% so that during the night, the aircraft can cruise downwards without switching on the solar generators. Moreover, the efficiency of the new ventilation system has proven positive - the batteries did not overheat and the pilot was able to regulate the temperature of the batteries accurately. Soon, Solar Impulse will start the second leg of its Round-the-World tour, starting by flying over the US.

<http://swissinnovation.org/news/web/2016/07-160305-4c>



Singapore's Most Energy-Efficient Office by ETH Zurich

(ETH Zurich, February 04, 2016)

A demonstration project by ETH Zurich aims to develop Singapore's most energy-efficient office by 2018. Late 2015, early performance data showed that across three weeks of operation in December, the energy consumption of the "3for2@UWCSEA" office space was already amongst the lowest 10% of large office buildings in the country. A number of key performance objectives will only be realized towards the end of the project in two years' time. Based on these initial performance indicators, the energy footprint may be lowered by a further 40% upon fine tuning the installed systems and installing some new ones by 2018. The concept proposes that new lean and energy-efficient technologies for air-conditioning and related services can be successfully integrated into building structures, thereby saving not only energy, but also considerable space and materials.

<http://swissinnovation.org/news/web/2016/06-160204-76>



2'000-Watt Society: When the Future Becomes Reality

(Swissinfo, February 15, 2016)

2'000 watt was the level of continuous power consumption by the average Swiss in 1960, and while it has risen by 2.5 times since then, it remains the target figure for the "2'000 watt society", coined by ETH Zurich in 1998.



Stöckacker Süd, a new housing complex near Bern, is among the first to allow its inhabitants to achieve this impressive goal when the building will be completed in 2017. Occupants of the 147 apartments will have to be satisfied with a living area of 60 m² per person and very limited parking space, but on the upside are energy generation from solar panels and heat exchange pumps, perfect insulation and optimal natural lighting. “The idea is not that everybody needs to become vegan, give up everything, and be totally compatible with the 2’000-watt society. But it is important to raise the residents’ awareness of opportunities to reduce energy consumption” explains Renato Bomio, head of housing projects in Bern.



<http://swissinnovation.org/news/web/2016/06-160215-2e>

Tiny Electric Car Modelled on BMW’s Isetta

BMW’s classic post-war microcar, the Isetta, is experiencing a second life as a fully electric car called Microlino. Switzerland’s Micro Mobility Systems started working on the redesign in early 2015. Together with students at Zurich University of Applied Sciences and the design firm Designwerk, they developed a car that closely resembles the Isetta. The new Microlino, weighing just 400 kg, can go up to 100 km/h and lasts for 95 to 120 km on one charge. However, it is classified as a quadricycle, so isn’t subject to the strict safety standards that apply to cars. Micro showed a prototype of the Microlino at the Geneva Motor Show, and aims to start production in 2018 with a sales price between \$9’000 and \$13’500.

(Wired, March 28, 2016)



<http://swissinnovation.org/news/web/2016/06-160328-79>

Swiss Students at the Solar Decathlon 2017

A team of Swiss students from EPFL, HES-SO, and the universities of Fribourg and Geneva was selected by the US Department of Energy to compete in the international Solar Decathlon 2017 to build a solar-powered housing unit. This competition, which is held in the United States, has existed since 2002 and includes ten different contests in architecture, comfort, energy balance and communication, among others. The 100-square meter (approx. 1100-square foot) prototype will be developed and built over the next 18 months on the site of the blueFACTORY, an innovation park located in Fribourg. After being exhibited at the Solar Decathlon, the housing unit will be transported back to Switzerland. There, it should blend into an existing neighborhood, addressing the problem of densification of existing built-up areas.

(EPFL, February 23, 2016)



<http://swissinnovation.org/news/web/2016/06-160223-ce>

Micro-Hydropower Production in Urban Water Supply Networks

Using microturbines in the urban water network has potential to generate a substantial amount of electricity to offset the power consumed to run the system. By mapping and modeling the entire water grid below the hilly city of Lausanne, researchers at EPFL and in Lisbon identified spots where water pressure exceeded requirements and were therefore candidates for installing microturbines to harvest energy from the excess flow rate. Through a multi-year iterative modeling process introducing random flow changes at potential turbine sites, three optimal locations in the 17 kilometer long network of Lausanne were identified that could save 5% of the grid’s energy use. The next step is to determine the actual economic impact of micro-hydropower production in urban water supply networks.

(EPFL, February 09, 2016)



<http://swissinnovation.org/news/web/2016/06-160209-5e>

Big Fuel Cell Conference

At a Fuel Cell Conference hosted by Empa, PSI, ETH Zurich and inspire AG in January, 300 experts and interested individuals came together to address the question of how sustainable and economically viable hydrogen-powered vehicles are, and can become. Now that safety of fuel cell motor vehicles has been established, the most appropriate source of energy to produce hydrogen needs to be identified. The expansion of solar plants across Switzerland presents opportunities for an increased production of renewable energies, but solutions to retain this energy for later use are needed. Solar-generated electricity can for example be redeployed using a “power to gas”

(Empa, February 01, 2016)



concept as presented by Empa, which converts electricity to hydrogen. Subsequently, the conversion of hydrogen and carbon dioxide to methane which can be redistributed through the national grid implies another use of hydrogen as energy source of the future.

<http://swissinnovation.org/news/web/2016/06-160201-c2>

Power to Gas Technology

The Hochschule für Technik Rapperswil (HSR) coordinates the efforts of several Swiss universities in the EU's project "Store&Go". The project aims to further develop power to gas technology and ultimately turn the European natural gas network into something akin to a battery for renewable energy. While there are many aspects to the project, including the economic and legal matters, the main focus lies on the optimization of the production of renewable gases via methanation and their storage on an industrial scale. Achieving an efficient power to gas system would not only allow for a climate neutral gas production but also make a more flexible usage of the energy possible. The EU project is split across three projects in Germany, Switzerland and Italy.

<http://swissinnovation.org/news/web/2016/06-160201-a7>

(HSR, February 01, 2016)



Solar Technology Developed for Harsh Conditions in Deserts

In Morocco, the Swiss company Airlight Energy is testing a pilot for a new type of a solar power plant developed specifically for desert conditions. Because the sun is always shining in deserts, they would be an ideal location for creating solar power. Unfortunately, the harsh climate and the desert sand is detrimental to highly sensitive solar technology. Airlight Energy has developed a much simpler and more resistant solar power plant. The prototype has already been tested for the last two years near Ait Baha, in Morocco.

<http://swissinnovation.org/news/web/2016/06-160219-7e>

(Aargauer Zeitung, February 19, 2016)

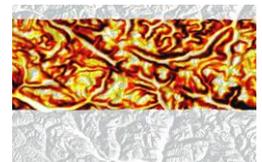


Species Diversity in Mountainous Regions

Which factors influence a region's biodiversity is a long-standing question in ecology. Researchers from the Department of Evolutionary Biology and Environmental Studies at the University of Zurich and the Ecohydrology Lab at the EPFL have now modeled the influence of topography on biodiversity. The fact that biodiversity tends to peak at mid-altitudes in mountainous regions has long been explained using temperature as a main variable. The new model developed by the researchers however suggests that topography itself, independent of temperature, influences species richness at various elevations. Midlevel altitude sites allow a more pronounced connection of habitats, thus boosting biodiversity compared to the more isolated valleys and peaks. In light of the global temperature change, these findings could help predict what impact migrations into higher altitudes might have on species distribution.

<http://swissinnovation.org/news/web/2016/06-160201-e2>

(University of Zurich, February 01, 2016)



Deep Ocean Carbon Storage During Ice Age

Researchers showed that sediment samples from the seafloor more than three kilometers beneath the ocean surface near Antarctica, support a long-standing hypothesis that more carbon dioxide was dissolved in the deep Southern Ocean at times when levels in the atmosphere were low. During the ice age, photosynthetic algae were taking up large amounts of carbon dioxide near the surface. As dead algae sank to the depths, they were consumed by other microbes, which used up the oxygen there in the process. The scientists found chemical fingerprints of the oxygen level by measuring trace metals in the sediments. The evidence shows that there was increased deep ocean carbon storage when the atmospheric CO₂ was lower.

<http://swissinnovation.org/news/web/2016/06-160204-9f>

(University of Bern, February 04, 2016)



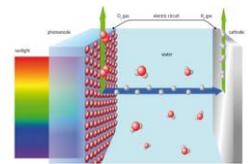


Towards Artificial Photosynthesis

Researchers at Empa and the University of Basel have advanced in clean energy production from sunlight. Photosynthesis, an energy-generating process in plants in which a water molecule is oxidized first to produce oxygen (O₂) and then reduced to release hydrogen (H₂), modeled for their setup. Artificial photosynthesis was achieved using a film of water oxidation catalysts on the inside of the negatively charged wall of the cell, which is irradiated by sunlight on the outside. The newly developed film, incorporating ruthenium atoms, a rare metal that acts as a catalyst, has the unique property to self-assemble on the substrate. Thereby, it becomes optimally arranged for the oxidization conversion and allows the researchers to test the position and efficiency of the individual components.

<http://swissinnovation.org/news/web/2016/06-160208-8c>

(Empa, February 08, 2016)



Making Photovoltaic Cells More Efficient and Cheaper

Three Swiss organizations and their nine international partners have launched CHEOPS, a European research project to develop novel types of photovoltaic cell. The cells will use so-called perovskite photovoltaic technology, which has the potential to be both low-cost and extremely efficient. The term perovskite photovoltaics refers to a novel class of materials with a special crystal structure that simplifies the manufacture of solar cells. Until now this technology has only been used to produce small devices in labs, and those devices still have limited long-term reliability. CHEOPS is coordinated by the Swiss applied research center CSEM and co-funded by the European research and innovation program Horizon 2020. It aims to advance the technology and bring it to market.

<http://swissinnovation.org/news/web/2016/06-160225-ec>

(csem, February 25, 2016)



New Technology for Cheaper Lighting and Flexible Solar Cells

European scientists have developed future lighting technology that is now ready to market. They developed flexible lighting foils that can be produced roll-to-roll – like newspapers are printed. These devices pave the way for cheaper solar cells and LED lighting panels. The project, named TREASURES (Transparent Electrodes for Large Area Large Scale Production of Organic Optoelectronic Devices), was led by Empa scientist Frank Nüesch. It combined know-how from nine companies and six research institutes in five European countries. Funded by the European Commission and the project partners, TREASURES has produced seven patent applications, a dozen peer-reviewed publications and provided inputs to international standards organizations. It has also developed and scaled up production processes for transparent electrode and barrier materials for use in the next generation of flexible optoelectronics.

<http://swissinnovation.org/news/web/2016/06-160304-af>

(Empa, March 04, 2016)



7. Engineering / Robotics / Space

Amputee Feels Texture with a Bionic Fingertip

Amputee Dennis Aabo Sørensen is the first person in the world to recognize texture using a bionic fingertip. He was able to feel smoothness and roughness in real-time with an artificial fingertip that was surgically connected to nerves in his upper arm. The technology to deliver this sophisticated tactile information was developed at the EPFL. The same experiment testing coarseness was performed on non-amputees, whose nerves can also be stimulated using fine needles to feel roughness, without the need of surgery. This means that prosthetic touch for amputees can now be developed and safely tested on intact individuals. The results, published in eLife, open the way to new and accelerated avenues for developing bionic prostheses, enhanced with sensory feedback.

<http://swissinnovation.org/news/web/2016/07-160308-b4>

(EPFL, March 08, 2016)



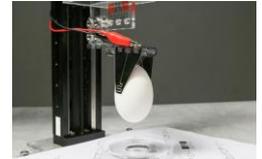


New Electrostatic Robotic Gripper for all Shapes

(EPFL, February 01, 2016)

EPFL scientists have invented a new soft gripper that uses electroadhesion: flexible electrode flaps that act like a thumb-index gripper. It can pick up fragile objects of arbitrary shape and stiffness, like an egg, a water balloon or paper. When the voltage is turned on, the electrodes bend towards the object to be picked up, imitating muscle function. The tips of the electrodes act like fingertips that gently conform to the shape of the object, gripping onto it with electrostatic forces. It can carry 80 times its own weight and no prior knowledge about the object's shape is necessary. Applications may soon be handling food for the food industry, capturing debris in outer space or incorporated into prosthetic hands.

<http://swissinnovation.org/news/web/2016/07-160201-40>



Smart Walking Aid

(ETH Zurich, February 26, 2016)

Computer scientists and roboticists at ETH Zurich have developed a robotic walker that makes senior citizens more mobile. Now SmartWalker is waiting for an industrial partner to come along and help get the technology ready for mass production. SmartWalker was tested on voluntary participants from a few retirement homes in Zurich and scored slightly higher in comparison with a regular walker. Amongst the few criticisms were the size and weight of the new device. Moreover, as the SmartWalker's basket houses electronics and a battery, there is not much space left for shopping. However, the researchers mention another potential target user group apart from senior citizens. The device is perfectly suited for use on the golf course, for example.

<http://swissinnovation.org/news/web/2016/07-160226-21>



Flying Machines of the Future

(ETH Zurich, March 10, 2016)

ETH Zurich is at the forefront of research into new flying machines, control algorithms, and using these in artistic ways. Professor Raffaello D'Andrea and his team demonstrated several of their innovative concepts at the most recent TED conference. The demonstration included a monospinner, which has only one control, and a swarm of over thirty quadcopters moving in synchronicity. The same team also teamed up with Cirque du Soleil to create an award-winning film called "SPARKED", which features flying lamp shades. The short film was screened at the New York City Drone Film Festival. See video: <https://goo.gl/wAvhmR>.

<http://swissinnovation.org/news/web/2016/07-160310-33>



Drone Algorithms for Trail Search and Rescue

(University of Zurich, February 10, 2016)

A group of Swiss researchers has created a neural network algorithm to guide a drone along forest and mountain trails in order to aid in search and rescue operations. The algorithm uses a deep neural network that learns from examples, in this case tens of thousands of images of trails. The algorithm can correctly identify the trail 85% of the time. The idea is to use this algorithm to guide a drone along a trail looking for injured or lost hikers. Multiple drones can be deployed together to quickly search a large number of trails.

<http://swissinnovation.org/news/web/2016/07-160210-bc>



ExoMars Mission on Its Way to Mars

(Federal Administration, March 10, 2016)

On March 14th, the European ExoMars successfully launched on its way to Mars. The spacecraft consists of a Trace Gas Orbiter, which will analyze Mars' atmosphere, and a lander named 'Schiaparelli'. Switzerland contributed to the mission in a number of ways, including the CaSSIS instrument, a high-resolution stereo camera to take pictures of the planet's surface from orbit. The University of Bern led the development of the instrument. In addition, a number of Swiss companies created several components of the spacecraft.

<http://swissinnovation.org/news/web/2016/07-160310-3c>

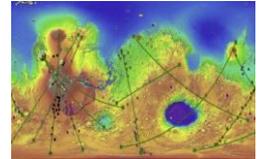




New Theory About Volcanism on Mars

(ETH Zurich, February 08, 2016)

An ETH Zurich researcher, Giovanni Leone, is putting forward a new theory that volcanoes on Mars are not distributed randomly, but lie along lines caused by mantle plumes, or subsurface flows of lava. These lines meet at the south pole, where it is theorized a large body impacted Mars. Leone takes this data further and explains gravel on Mars as being caused by volcanism, rather than by water, as was suggested by other scientists. In fact, he states that the Gale Crater was filled with lava, not with water, and water was not as prevalent on Mars as others suspect.



<http://swissinnovation.org/news/web/2016/07-160208-26>

Comet Density Estimate Improved

(NZZ, February 03, 2016)

The density of comets has been difficult to estimate, but new data from the Rosetta probe that visited the comet 67P/Churyumov-Gerasimenko gives us a better idea of its density. Models updated with this new data calculate a density of approximately 500 kilograms per cubic meter, which is close to the density of cork. This means that a comet could hypothetically float in water on Earth. Comet cores are highly porous and made up primarily of dust with some ice as well.



<http://swissinnovation.org/news/web/2016/07-160203-d4>

8. Physics / Chemistry / Math

Math Reveals Unseen Worlds of Star Wars

(EPFL, February 10, 2016)

Using a new computer program, EPFL researchers from the Signal Processing Laboratory 2 got unusual insight into the universe of Star Wars. Drawing on the principles of graph theory and network analysis, which harness computing power and mathematical calculations, they analyzed hundreds of web pages and looked at all connections that one character has with all the others. In addition to extracting data, the algorithms can also create links among data points, sort them, interpret them and find missing information. The results are then presented in interactive charts that are easy to read and understand. The researchers found that the Star Wars universe includes more than 20'000 characters – thereof 1'367 Jedi and 724 Sith – and spreads among 640 communities on 294 planets, over a period of 36'000 years. The study could prove interesting for other fields when it comes to extracting and analyzing data.

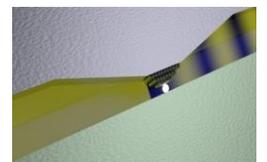


<http://swissinnovation.org/news/web/2016/08-160210-37>

Nanomodulators for Optical Communication

(ETH Zurich, February 01, 2016)

Optical communication networks use modulators to turn electrical signals into light signals. However, current modulators take up a large amount of space when many are used together in a system. Researchers at ETH Zurich have invented a nanomodulator that controls light at sizes smaller than even the wavelength of the light being controlled. It does this using a device with a silver and a platinum plate that create a gap. Light that hits this device converts to a 'surface plasmon' and transits the gap, after which it is turned back into light. By applying an electrical potential to the device, a few silver atoms are moved to close and short-circuit the gap, thereby shutting off the light transmission.

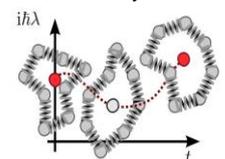


<http://swissinnovation.org/news/web/2016/08-160201-5f>

Accelerated Path Integrals Through Multiple Time Stepping

(EPFL, February 06, 2016)

Simulating the quantum nature of light nuclei, such as hydrogen or lithium, without compromising on the description of the electronic structure of materials and molecules, can now be achieved by combining multiple time stepping techniques in real and imaginary time. The recently published article presents accurate modelling of the quantum nature of light





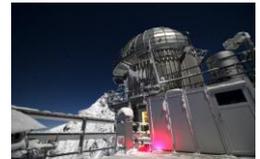
nuclei, while using high levels of quantum theory in the description of the electrons. The accurate part can be computed only once in a while, filling the gaps in the real-time trajectory as well as in the imaginary time path integrals with a less expensive densityfunctional calculation. The method is fully compatible with other strategies to reduce the expense of modelling quantum nuclei.

<http://swissinnovation.org/news/web/2016/08-160206-18>

Novel Sensor to Warn from Volcanic Ash Clouds

(Fachhochschule Nordwestschweiz, February 24, 2016)

In order to increase the security of the travel by aviation, researchers from the University of Applied Sciences Northwestern Switzerland have developed a new method to identify clouds containing volcanic ash. These clouds are particularly hard to distinguish from rain clouds, which are not harmful to aviation. The scientists analyzed the scattered light of individual aerosol particles simultaneously at two different wavelengths in order to retrieve information on the particle type. They show that dust-like particles, such as volcanic ash, can be unambiguously discriminated from water droplets on a single-particle level. They propose a future application of this method in the detection of volcanic ash particles in a humid atmosphere in the presence of cloud droplets.



<http://swissinnovation.org/news/web/2016/08-160224-ca>

Chlorine-Free Drinking Water

(EPFL, February 26, 2016)

Chlorine is a common additive to water to reduce the risk posed by waterborne pathogens. However, this makes the water taste bad and creates potential health hazards from the disinfection byproducts, some of which could be carcinogens. Research from EPFL and the Swiss Federal Institute of Aquatic Science and Technology (Eawag) shows that chlorine is not needed if the water source, treatment, and distribution are carefully controlled and maintained. This is the case in a number of northern European countries, including Switzerland, where the outbreak of waterborne disease has been very low.



<http://swissinnovation.org/news/web/2016/08-160226-a3>

9. Architecture / Design

New Educational Aquarium for Basel

(swiss-architects, February 15, 2016)

Basel Zoo plans on building a big “Ozeanium” opening in 2020, which can be realized thanks to an anonymous donation of CHF 30 million. The aquarium’s purpose is not commercial, but mainly educational and scientific, aiming at sensitizing visitors – mainly inhabitants of interior lands – to sustainability and nature conservation of the often unknown seas. Coral reefs, penguins, sharks, sea otters, and a giant octopus are planned to be among the attractions. 30 different stations will theme 30 different topics, laid out as a mental journey from Basel to the sea. In one pool there will be tides, synchronized with the ebb and flow in the English Channel. Sustainability will be an important factor, which also becomes manifest in the building itself. Solar panels as well as waste heat from pumps and visitors shall be used to help covering the aquarium’s energy use.



<http://swissinnovation.org/news/web/2016/09-160215-5f>

Graphical Filters for Optical Measurement

(EPFL, March 01, 2016)

The health of infrastructure such as bridges and pipelines is often monitored using long fiber optic cables. How the light transmits along the fiber can be measured to determine information about temperature, pressure, and intensity of magnetic fields. However, current systems are reaching a limit on how much information can be extracted through the inherent noise in the signal. However, researchers at EPFL have discovered a way to use filters commonly used in graphics to sharpen the signal and extract higher resolution information, up to 100 times more precise than current methods. This means that a measurement can be made every centimeter over a fiber optic cable that is ten kilometers long.



<http://swissinnovation.org/news/web/2016/09-160301-e0>



10. Economy, Social Sciences & Humanities

The Swiss Way of Investing

(University of Zurich, March 04, 2016)

A study conducted by the Institute for Banking and Finance of the University of Zurich suggests that there is something like "Swissness" in banking behavior. The research team analyzed data from surveys of 1'000 people within Switzerland and 1'000 participants from neighboring countries. The people were asked a set of questions regarding investment experience, education, income, age, and sex. The study's authors could find relevant differences in investment behavior. Swiss investors of all different regions were less emotional than investors of the neighboring countries. Investors of the German and French speaking parts of Switzerland also show a better financial literacy and make fewer mistakes when placing funds. While a person's income, age and occupational responsibility has an influence on investment decisions, higher education doesn't, according to the authors.

<http://swissinnovation.org/news/web/2016/10-160304-93>

Switzerland Has Fewer Women in Science than Europe

(Swiss Statistics, March 14, 2016)

In Switzerland, women are outnumbered by men in the field of science and research, especially in academic careers. Furthermore, their participation in public and private research is often below the European average. These are the findings of the Swiss Statistical Office presented in the report "She Figures 2015". Even if the annual average growth rate between 2002 and 2012 in new PhDs was 5% for women, and in 2012, 43% of new PhD holders were female, the presence of women diminishes the higher one climbs the academic ladder. In 2013, the percentage of female junior research associates in Switzerland was 38%, compared to a European average of 45%. For senior researchers, this figure was 19% (versus 21% in the EU). In governing or academic boards, where women make up 23% in Switzerland, the difference is even bigger, looking at 41% female board members in the EU.

<http://swissinnovation.org/news/web/2016/10-160314-c5>

Tracking Prejudices in the Brain

(University of Bern, February 22, 2016)

We do not always say what we think: we like to hide certain prejudices, sometimes even from ourselves. But unconscious prejudices become visible with tests, because we need a longer time if we must associate unpleasant things with positive terms. Researchers from the University of Bern have used the Implicit Association Test on 83 individuals and recorded the brain activity by means of an electroencephalogram. Subsequently, they analyzed the data with a so-called microstate analysis. The researchers came to the conclusion that hiding prejudices does not require additional processes in the brain, the process of hiding sometimes simply takes longer.



<http://swissinnovation.org/news/web/2016/10-160222-4c>

Digital Natives will Transform Banking

(Bilan, February 18, 2016)

Numerous studies have shown that the expectations of 18-40 year-olds in relation to financial services are radically different from the usual bureaucratic, secret and unilateral experience. A recent study by the Bank of America Merrill Lynch reveals that banks no longer appear relevant to those who will represent 75% of the workforce in less than ten years' time. Moreover, although Generation Y comprises a significant part of bank customers, "digital natives" born in the early 2000s will join them by 2025. To attract these ultraconnected customers, young entrepreneurs from Swiss FinTech are examining the preferences of those who will force banking to reinvent itself. In this digital era, they seek financial services that are simple, intuitive and available anytime – above all low-cost or even free.



<http://swissinnovation.org/news/web/2016/10-160218-5c>



11. Technology Transfer / IPR / Patents

Ranking: Switzerland Leads Patent Submissions

(wirtschaft.ch, March 03, 2016)

In 2015, 7'088 patents were submitted to the European Patent Authority by Swiss entities. In absolute numbers, this was the 6th highest of any country worldwide, but per capita Switzerland is by far the leader. Switzerland submitted 873 patents per million residents, versus 307 in Germany, the next closest per capita. Regional information shows that Zurich, Basel City, and Vaud were the three leading cantons. This correlates with the locations of ETH Zurich and EPFL as well as major pharmaceutical company Roche in Basel and Nestlé in Vaud.

<http://swissinnovation.org/news/web/2016/11-160303-ee>

Startup MindMaze Raises \$100 Million at a \$1 Billion Valuation

(Forbes, February 17, 2016)

The Swiss virtual reality startup MindMaze, founded in 2012 as an EPFL spin-off, announced that it has raised a \$100 million round of funding at a valuation of \$1 billion. The lead investor is multinational conglomerate Hinduja Group, but the funding round is still open. To date, MindMaze's technology — VR, AR, electroencephalographic (EEG) scans and motion capture — has been used for stroke victim therapy, by retraining the patient's brain to regain motor function. Now, MindMaze makes a headset called MindLeap that mixes both VR and AR. Embedded in that headset is a depth sensor for capturing motion like hand gestures, and an EEG scanner, which measures the electrical activity in the brain. The company, with 50 employees in Switzerland, France, and San Francisco, previously raised an \$8.5 million angel round in 2015 from unnamed investors and the Swiss government.



<http://swissinnovation.org/news/web/2016/11-160217-fd>

50 Swiss Startups Successfully Raised Funds

(Bilan, February 02, 2016)

Numerous startups that were featured in the three previous editions of Bilan's special "50 Startups" list have successfully raised funds. The 2016 selection is even more promising. 2015 marked a turning point in the financing of Swiss-based startups. The number of startups raising funds grew from 92 a year earlier to 120. They increased the amount raised by 47.9% to CHF 670 million. Moreover, funding rounds have grown (e.g. CHF 96.2 million for CeQur, CHF 77 million for ADC Therapeutics, CHF 30 million for Asceneuron). Last year, fund raisers included InSphero, Sophia Genetics and Flyability; others like BugBuster, Faceshift, Mila and Lemoptix were acquired – an encouraging validation. Switzerland is now on a par with what can be observed in Boston, Tel Aviv or in Silicon Valley.

<http://swissinnovation.org/news/web/2016/11-160202-e4>

Startups Rely Increasingly on Crowdfunding

(Le Temps, February 10, 2016)

US-based crowdfunding platform Kickstarter has announced that it has supported more than 100'000 projects worldwide since 2009, including 269 in Switzerland. At a time of falling valuations, spending cuts and even bankruptcies, obtaining research funding is becoming more challenging for startups. Crowdfunding therefore seems a valid alternative model. Thirty platforms are now operating in Switzerland, with Wemakeit, Kickstarter and WeCan.Fund considered the three leaders. However, the average amount raised by crowdfunding is CHF 7'000, and it is difficult to raise larger sums. Switzerland is witnessing an exodus of startups seeking between CHF 2 and 10 million. Nevertheless, crowdfunding can help attract bigger investors, since it is increasingly seen as a guarantee that a project is credible, viable and has a base of potential customers.



<http://swissinnovation.org/news/web/2016/11-160210-ac>

Innovation and Technology Transfer at EPFL

(EPFL, February 15, 2016)

EPFL has recently published a guideline for startups associated with the university. In an effort to communicate important principles established over the years, the document published by the Technology Transfer Office (TTO) includes, among other, information on licensing of EPFL technologies, collaboration with the EPFL and the use of the EPFL's name and logo. Innovation and technology transfer is one of the main missions of the EPFL, a principle reflected in the school's history of successful technology transfer activity via





industry collaborations, licensing of EPFL technologies and the generation of startups.

<http://swissinnovation.org/news/web/2016/11-160215-0e>

Active Switzerland Innovation Hub in Biel/Bienne

(switzerland-innovation.com, February 17, 2016)

Switzerland Innovation Park Biel/Bienne supports companies and innovation teams. It provides infrastructure and research services for SMEs and startups and assists these in developing and implementing marketable products. Since its foundation, the number of jobs at the park has already increased to more than 100, around 25 companies have set up here, four 3-D printers have been installed, and three laboratories have been built. Biel/Bienne is an ideal location and, as a bilingual city, creates a link between the different language regions. All important business and research partners can be reached in a short time. Switzerland Innovation Park Biel/Bienne is situated directly at the city's railway station and will soon have its own highway connection.



<http://swissinnovation.org/news/web/2016/11-160217-e8>

12. General Interest

Swiss Scientists Among the Most Influential Minds

(Thomson Reuters, February 17, 2016)

Thomson Reuters has released its annual list of “Highly Cited Researchers”. The list, which also includes many influential scientists working at Swiss universities, surveys citations over an 11-year period in 21 fields of study. The dataset used to generate the list is Thomson Reuters’ own “Essential Science Indicators”, which includes 120’793 highly cited papers in the time period used for the analysis. To not give overt weight to older publications, the citations are weighted with respect to papers of the same year. Additionally, the influence of a scientist’s production of top 1% papers on the ranking allows younger researchers to enter the ranking.



<http://swissinnovation.org/news/web/2016/12-160217-e9>

Technologies for Humanitarian Aid

(EPFL, March 09, 2016)

EPFL and the International Committee of the Red Cross (ICRC) launch the Humanitarian Tech Hub, a research program aimed at developing technological solutions to help people in conflict zones. The agreement between the two institutions sets out a four-year program whose goal is to foster the collaboration between the humanitarian and scientific sector to develop technologies to tackle the humanitarian challenges and crises which affect over 150 million people around the world. The first product to come out of the Humanitarian Tech Hub – an artificial foot that is affordable and suitable for all terrains – will be designed specifically for amputees who need to be particularly mobile. In 2014, ICRC-supported physical rehabilitation services enabled over 300’000 people to regain a certain degree of independence.

<http://swissinnovation.org/news/web/2016/12-160309-17>

13. Calls for Grants/Awards

Call: COLLIDE International Award @CERN

(Arts@CERN, March 11, 2016)

Arts@CERN is binding arts, science and technology to contribute to a fast growing knowledge-based culture. The COLLIDE International Award, a major international residency programme and a new collaboration between CERN and FACT (Foundation for Art and Creative Technology, Liverpool), is a unique opportunity for artists to spend dedicated time in one of the most important laboratories in the world. It aims to encourage curiosity, offering experimental and open-minded artists an extraordinary framework to inspire creativity both within the sciences and the humanities. The proposal should reflect upon encounters





between art and science, and offer challenging methods of collaboration with CERN scientists. COLLIDE International Award grants an artist with CHF 15'000, as well as a fully funded two-month residency at CERN and one-month residency at FACT. Application deadline is May 23, 2016.

<http://swissinnovation.org/news/web/2016/13-160311-c2>

Call: artists-in-labs KAUST-Swiss Residency Exchange

(artists-in-labs, March 31, 2016)

The artists-in-labs KAUST-Swiss Residency Exchange is a collaboration between the Zurich University of the Arts (ZHdK), Institute for Cultural Studies in the Arts (ICS), the King Abdullah University of Science and Technology (KAUST) in Thuwal, the Swiss Federal Institute of Aquatic Science and Technology Eawag and the Swiss Arts Council Pro Helvetia Zurich and Pro Helvetia, Cairo Office. The artists-in-labs KAUST-Swiss Residency Exchange will sponsor four three-month residency awards in 2016, two in Saudi Arabia and two in Switzerland. Applications are open for Swiss and Saudi-Arabian citizens and residents, the deadline is May 2, 2016.

<http://swissinnovation.org/news/web/2016/13-160331-d6>

Call: Swiss Solar Prize 2016

(Solar Agentur Schweiz, February 18, 2016)

For the 26th time, the Swiss Solar Prize honors people and institutions that are extraordinarily active in promoting renewable energy sources – in particular solar, wood and biomass energy. Another category awards energy efficient buildings – new constructions or reconstructions – as well as sustainable power plants like solar thermal collectors, photovoltaic plants, and environmental heat collectors. A qualification for the Swiss Solar Prize includes a nomination for the European Solar Prize. The application deadline is April 15th, 2016.

<http://swissinnovation.org/news/web/2016/13-160218-f7>

Call: The Geneva Challenge 2016

(The Graduate Institute, March 24, 2016)

The Graduate Institute is launching the third edition of the Advancing Development Goals Contest, an international competition for graduate students. Interdisciplinary teams of 3 to 5 enrolled master students from anywhere in the world are invited to give their thoughts on the challenges of urbanization. Contributions should be both theoretically grounded and offer pragmatic solutions to a relevant international development problem. Three finalist teams will be invited to defend their ideas and answer questions from the jury and from the public in Geneva. The winning project will be awarded CH 10'000, the second and third prize will receive CHF 5'000 and CHF 2'500 respectively. Registration deadline is May 25, 2016 and submissions are due by July 31, 2016.



<http://swissinnovation.org/news/web/2016/13-160324-16>

Call: Prix Média and Media Promotion Prizes

(Akademien der Wissenschaften Schweiz, March 30, 2016)

The Swiss Academies of Arts and Sciences encourage the dialogue between science and society, and honor and promote journalistic work with various prizes. The annually awarded Prix Média is endowed with CHF 5'000 and the Prix Média Newcomer honors the work of a young journalist, aged 32 or younger, with CHF 5'000 as well. Additionally, the Media Promotion Prizes are awarded to honor the relevance and originality of planned scientific journalism projects. For this purpose, CHF 30'000 are awarded each year. Eligible for participation are media products that are published between June 2015 and May 2016 by a regularly appearing Swiss medium. The submission deadline is May 15, 2016.



<http://swissinnovation.org/news/web/2016/13-160330-b6>



Upcoming Science and Technology Related Events

Sustainable University Day 2016

April 21, 2016

<http://goo.gl/vHfcdU>

Energy

Lausanne

Startup Champions @EPFL

April 21, 2016

<http://goo.gl/dYGZW7>

Startups

Lausanne

Women's Business Management Contest

April 23, 2016

<http://www.womens-business.net/>

Startups

Zurich

Light for Life

April 26, 2016

<http://www.csem.ch/light-for-life>

Energy, Light Technologies

Neuchâtel

Webinar: University-Industry Collaborations & Research Grants

April 27, 2016

<https://goo.gl/8HHmL3>

Transnational Partnering, Innovation

GZA Webinar series

IDTechEx Wearable Europe

April 27-28, 2016

<http://goo.gl/2LStjR>

Wearable Technologies

Berlin

National Contest: Swiss Youth Research

April 29-30, 2016

<http://goo.gl/tto06K>

Research

Brugg-Windisch

2016 International Tech4Dev Conference

May 2-4, 2016

<http://cooperation.epfl.ch/2016Tech4Dev>

Innovation, Technology, Development

Lausanne

Life Science Career Day @ UNIL

May 21, 2016

<http://wp.unil.ch/lifesciencecareerday/>

Life Sciences

Lausanne

Annual Conference: "IT and Energy"

May 23, 2016

<https://goo.gl/6qBrK9>

IT, Energy

Bern

2. Convention on Energy & Building

May 27, 2016

<http://goo.gl/rQlZnb>

Construction, Energy

St. Gallen

SWISS Pavilion @ BIO International Convention

June 6-9, 2016

<http://goo.gl/U5A7f9>

Biotech

San Francisco

Swiss Economic Forum 2016

June 9-10, 2016

<http://www.swisseeconomic.ch/en/sef-2016>

Economy, Startups

Interlaken

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