



Science-Switzerland, October - November 2012

News on Swiss science, technology, education and innovation

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New Members in Swiss Knowledge Network

In the 55 years history of the Swiss Knowledge Network, 2012 brought the most personnel changes ever: 11 new faces in 19 locations all over the world with 8 newcomers among them. All of them present outstanding profiles. In alphabetic order by location for swissnex Directors: Dr. Margrit Leuthold in Bangalore (India), Dr. Felix Moesner in Boston (USA), and Pascal Marmier in Shanghai (China) and for Science & Technology Counsellors: Nektarios Palaskas in Beijing (China), Thomas Stähli in Berlin (Germany), Nina Wirth in Canberra (Australia), Dr. Indraneel Ghose in New Delhi (India), Roman Busch in Paris (France), Christian Schneider in Seoul (South Korea), Dr. Matthias Frey in Tokyo (Japan), and Jacques Ducrest in Vienna (Austria). This new network is ready to promote and connect Switzerland's skills in Education, Research and Innovation worldwide.

<http://swissinnovation.org/news/web/2012/00-121001-1a.html>

(SER, October 01, 2012)



The Top 100 Startups of Switzerland

(IFJ, October 29, 2012)

For the second time, the 100 best Swiss startups have been chosen by a panel of 100 startup experts out of 100'000 new companies founded since 2007. This time, HouseTrip from Lausanne, a web platform for vacation homes, made it to the top of the ranking this year. They are followed by two startups based in Zürich: InSphero, an internationally leading supplier of micro-tissues, and GetYourGuide, the world's biggest tour and activities platform. All of the remaining featured startups are also geared towards global markets and the majority of them are representatives of the high-growth IT, life-sciences and clean-tech industries.

<http://swissinnovation.org/news/web/2012/11-121029-fc.html>

Top Rank for Brand 'Switzerland'

(FutureBrand, October 24, 2012)

Switzerland moved to the first rank by overtaking Canada in the 8th Country Brand Index published by FutureBrand. In the report, countries are ranked according to their perception by international travelers. The countries are rated across five key association dimensions: Value System, Quality of Life, Good for Business, Heritage and Culture, and Tourism. This score is then combined with the performance in six other areas of brand strength (Awareness, Familiarity, Preference, Consideration, Decision/Visitation and Advocacy) to find the top 25 country brands. Since the brand perception informs decisions such as where to invest, visit, work, study or consume the country's goods, the top countries on the list have a competitive advantage. Those include Japan, Sweden, New Zealand, Australia, Germany, the United States, Finland and Norway among the top ten spots.

<http://swissinnovation.org/news/web/2012/00-121024-4c.html>





Switzerland Best Country to Be Born in 2013

(Yahoo, November 29, 2012)

Switzerland will be the best place to be born in 2013, according to the quality-of-life index published by the Economist Intelligence Unit (EIU). The index is based on population surveys covering 11 factors such as wealth, crime, family life, trust in the government and the stability of the economy. Australia and Norway are on the second and third place, respectively. They are followed by Sweden and Denmark.

<http://swissinnovation.org/news/web/2012/00-121129-73.html>



European Regional Innovation Scoreboard 2012

(SER, November 30, 2012)

The Regional Innovation Scoreboard provides a comparative assessment of how European regions perform with regard to innovation. The report covers 190 regions across the European Union, Croatia, Norway and Switzerland. The Regional Innovation Scoreboard 2012 classifies European regions into four innovation performance groups: there are 41 regions in the group of "innovation leaders", 58 regions belong to the group of "innovation followers", 39 regions are "moderate innovators" and 52 regions are in the group of "modest innovators". Twelve countries are reported as having at least one very innovative region. Swiss performance has been particularly remarkable since of its 7 regions 6 are classified as innovation leaders. Germany also has numerous regions considered to be innovation leaders (12), as does Sweden (5), the Netherlands (4) and Finland (3).

<http://swissinnovation.org/news/web/2012/00-121130-46.html>



1. Policy

Increased Subsidies for Renewable Energy R&D

(Swiss Confederation, October 17, 2012)

The Swiss Federal Council has announced the investment of CHF 202 million for the support of energy R&D during the period of 2013 to 2016. CHF 142 million are newly granted and the remaining 60 million are going to come from the funding of the Swiss Institutes of Technology. The funds are going to support the creation of 30 new research groups with professorships in seven new competence centers until 2020 in order to create the necessary knowledge for the new energy policy which calls for the abandonment of nuclear energy.

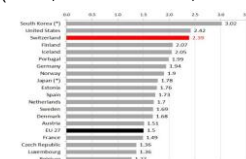
<http://swissinnovation.org/news/web/2012/01-121017-0a.html>

2.39% of Total Government Budget Allocated to R&D

(SER, November 12, 2012)

Traditionally, the Swiss federal government and the cantons promote R&D independently of economic trends and constantly increase the amounts allocated to research. Government budget appropriations or outlays for R&D rose to CHF 4.639 billion in 2010 from CHF 2.770 billion in 2000 (compound annual growth rate: +5,3%). These funds amount to 2.39% of the total government budget, placing Switzerland in 3rd place in international comparison. Only South Korea and the United States allocate a larger share, with 3.02% and 2.42%, respectively, of total government budgets.

<http://swissinnovation.org/news/web/2012/01-121112-e3.html>



Continued Cooperation with Euratom

(SER, November 30, 2012)

The Federal Council has approved a continued research cooperation between Switzerland and the European Atomic Energy Community for the years of 2012 and 2013. This marks a continuous cooperation for more than 50 years. The complete budget of Euratom for those two years amounts to EUR 2.5 billion. Switzerland will contribute approximately CHF 100 million. The research focus lies in the construction of the International Thermonuclear Experimental Reactor (ITER) in France.

<http://swissinnovation.org/news/web/2012/01-121130-c3.html>

Federal Council Approves New CO₂ Ordinance

(Federal Council, November 30, 2012)

The new CO₂ Ordinance will enter into force on January 1, 2013, establishing the legal framework for Switzerland's climate policy from 2013 to 2020. The reduction target of 20 per cent compared with 1990 levels by 2020 is shared



between the buildings, transport and industrial sectors, according to the emissions that the sector is responsible for. If the CO₂ emissions target for fossil fuels is not met in 2012, the CO₂ tax on fossil fuels will be increased from the current 36 francs to 60 francs per ton of CO₂ from January 1, 2014.

<http://swissinnovation.org/news/web/2012/01-121130-67.html>

2. Education

Swiss Higher in Global University Rankings

(ETH Zurich, October 03, 2012)

The British Times Higher Education rankings were recently released, and seven Swiss universities ranked in the top 200 with two of those in the top fifty. ETH Zurich moved up from fifteenth place to twelfth and EPFL moved from 46th to 40th place. The other top Swiss universities lost some positions, but the country still did very well overall. Many of the top spots went to US and UK with Asia also making a strong showing. The rankings weight a range of factors, including teaching and research.



<http://swissinnovation.org/news/web/2012/02-121003-af.html>

CHF 100 Million Society in Science Fellowship

(ETH Zurich, October 25, 2012)

Society in Science - The Branco Weiss Fellowship is a fellowship that supports young researchers, for up to five years, upon the completion of their doctorate. It gives maximum academic freedom to the researchers to study a project at the interface of society and science and to explore beyond their own scientific area. The fellowship, managed by ETH Zurich, was founded in 2002 by Branco Weiss, an involved member of the ETH Zurich community. In 2010, shortly before his death, Branco Weiss transferred the entire fellowship to ETH Zurich. The estimated 100 million Swiss Francs he has donated will continue to support the program.



<http://swissinnovation.org/news/web/2012/02-121025-0f.html>

Circulation of Students

(SER, November 03, 2012)

According to recent figures published by UNESCO, nearly 3.6 million students worldwide were studying in a foreign country in 2010, compared to 2 million back in the year 2000 (+78%). With regards to Switzerland, 11,152 students studied abroad in 2010. The destination countries most frequently chosen by Swiss students were the United Kingdom (20.3%), Germany (19.1%), France (15.9%), the United States (11.4%) and Austria (7.8%). In contrast, Swiss higher education institutions hosted 38,195 students from other countries. Most of these students came from Germany (28.3%), France (15.7%), Italy (7.9%), Austria (2.5%) and China (2.1%).



<http://swissinnovation.org/news/web/2012/02-121103-f6.html>

13 New Open-Access Journals

(EPFL, November 09, 2012)

The EPFL startup "Frontiers in" announced today that it is launching 13 new open-access journals in fields including Physics, Bioengineering, and Public Health. These new titles will more than double Frontiers' current repertoire of twelve online journals whose peer-reviewed, scientific articles are immediately accessible, free of charge, to anyone. EPFL researcher Kamila Markram launched the company in 2007 with the support of a small group of scientists. Frontiers can expand by taking advantage of the possibilities of the Internet for scientific communication and publication, the platform allows for publishing and sharing open-access content online and participation in real-time peer-review of manuscripts. Most importantly, the platform automates much of the distribution of editorial tasks, allowing Frontiers to easily scale up production without raising prices.



<http://swissinnovation.org/news/web/2012/02-121109-88.html>

Science Career Development in Switzerland

(E. Geiser, November 19, 2012)

Career development refers to a conscious effort to develop and structure one's career. Swiss universities have turned their attention to the issue of career development. The Rectors' Conference of the Swiss Universities sees



career development in academia as a necessity to maximize both university-level education as well as scientific output and technological innovation in Switzerland. Realistically, career development in Swiss science will be implemented step-wise. As a first step, offering services such as individual career evaluation could motivate academics to stay in university research. Comparable services are offered by highly sought-after industrial employers and high profile foreign universities. In the long run, structural changes and reallocation of resources will be necessary. The already implemented Bologna Process, together with increasing numbers of students, will inevitably catalyze such changes.

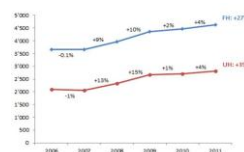
<http://swissinnovation.org/news/web/2012/02-121119-8a.html>

Higher Engineering Enrollment

(SER, November 21, 2012)

A recent report from the Swiss government shows that the number of students enrolling in engineering programs at universities and schools of applied sciences has increased significantly in the past five years. At universities enrollments grew faster than the average rate, while at schools of applied sciences enrollment growth was a few percentage points below the average. A greater proportion of women enrolled in engineering programs in 2011 than in 2006, but they are still underrepresented with less than one quarter of the total enrollment.

<http://swissinnovation.org/news/web/2012/02-121121-9b.html>



University of Bern Establishes Research Center in South Korea

(UNIBE, November 27, 2012)

The Institute for Applied Physics (IAP) of the University of Bern has established a common research center with the Advanced Photonics Research Institute (APRI) of South Korea. The new research center will conduct research in the areas of photonics and lasers and improve the scientific exchange between Switzerland and South Korea.

<http://swissinnovation.org/news/web/2012/02-121127-21.html>



3. Life Science / Health Care

The Lung at High Altitude

(UZH, October 01, 2012)

Life at high altitude causes considerable physiological adaptations of the human organism, be it natives or sojourners. The second international Leh Symposium 2012 focused on the lung at high altitude and covered aspects from cellular acclimatization to clinical disease. The meeting was organized in Leh, Ladakh, India and co-sponsored by the Zurich Center for Integrative Human Physiology (ZIHP), the European Respiration Society (ERS), swissnex India and several other institutions. It brought high altitude experts from basic and clinical science to a common global platform to develop long term future perspectives and to experience acclimatization first-hand. The city is situated at an altitude of about 3500m above sea level within a beautiful valley of the great Himalayas.

<http://swissinnovation.org/news/web/2012/03-121001-ea.html>

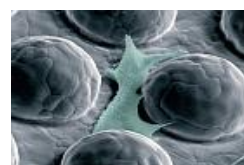


Microtextured Surface of Implants

(Empa, October 04, 2012)

Scientists at Empa have been looking at ways to change the material properties of implants to make them more readily accepted by the body. The surface of the implants is microtextured with small dimples so that bone cells can better attach to the surface, for example in an artificial hip joint. The new manufacturing technique has sub-micrometer texturing accuracy, and only one cast is needed in the process. The new technology is applicable not only to the medical field but to other fields due to its superior mechanical properties.

<http://swissinnovation.org/news/web/2012/03-121004-2a.html>



Research Award on Parasitic Pathogens of Sleeping Sickness

(UNIBE, October 04, 2012)

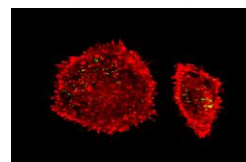
Professor Isabel Roditi, codirector of the Institute of Cell Biology at the University of Bern, has been awarded the Senior International Research Scholar by the Howard Hughes Medical Institute. Roditi is honored for her research

on trypanosomes, the parasitic pathogens of sleeping sickness, and will receive USD 100,000 a year over five years. The sickness afflicts hundreds of thousands in the tropical regions of Africa and ends deadly if left untreated. <http://swissinnovation.org/news/web/2012/03-121004-16.html>

Molecule Binding To Cell Surfaces

(ETH Zurich, October 04, 2012)

Researchers at ETH Zurich have developed a new method for investigating how molecules bind to cell surfaces. The method specifically allows scientists to see which protein a molecule binds to, which is important for studying the effects and side-effects of medicines. A new molecule is used to attach to both the agent molecule and the cell binding site, freezing the interaction in place. A third arm on the molecule can be used to extract the combination, allowing it to be analyzed using mass spectrometry. The new method is very versatile and can be used on living cells.

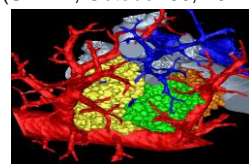


<http://swissinnovation.org/news/web/2012/03-121004-81.html>

High Precision 3D Lung Imaging

(UNIBE, October 05, 2012)

Scientists at the University of Bern and their international colleagues have built a high-resolution model of a mouse lung, including all the finest details of the acini and pulmonary alveoli. The model was built using the latest computer tomography imaging technology. It will help better understand lung diseases and how inhaled gasses enter the bloodstream. Mouse lungs are structurally and functionally similar to human ones, but the scientists still hope to build an exact model of a human lung.



<http://swissinnovation.org/news/web/2012/03-121005-37.html>

Embryonic Mechanism Causes Cancer

(EPFL, October 06, 2012)

Many types of cancer could originate from a mechanism that cells use to silence genes. There are some genes that are only activated in the very first days of an embryo's existence. Once they have accomplished their task, they are shut down forever, unlike most of our genes, which remain active throughout our lives. EPFL scientists have unveiled part of this strange mechanism. The same process, accidentally initiated later in life, could be responsible for many kinds of cancer.

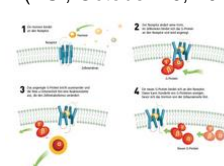


<http://swissinnovation.org/news/web/2012/03-121006-bb.html>

Research on G Protein-Coupled Receptors GPCRs

(PSI, October 10, 2012)

G protein-coupled receptors (GPCRs) are an important family of receptors that are central to many senses, such as seeing and smelling. However, the exact structure of most of these receptors is not well known. Researchers at the Paul Scherrer Institute (PSI) are actively researching GPCRs. Understanding their three-dimensional structure and how they link to proteins is key to understanding and treating a litany of diseases. The PSI has several modern research facilities that will be used to better understand GPCRs.



<http://swissinnovation.org/news/web/2012/03-121010-c5.html>

Genome Sleuth Honored for Virus Research

(swissinfo.ch, October 16, 2012)

Jacques Fellay who heads a life sciences laboratory at the EPFL has been awarded with the National Latsis Prize. Through his research he has found that it is important to consider genetic differences when developing vaccines because people respond differently to the same treatments. Fellay and his team are currently studying mutations that occur in HIV when fought by the immune system, as well as how genetic variations among infected people affect this. He discovered three genes that give some patients better immune control over the disease.



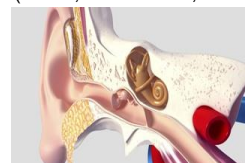
<http://swissinnovation.org/news/web/2012/03-121016-9d.html>

EPFL and Harvard Join Forces to Diagnose Hearing Loss

(EPFL, October 17, 2012)

Researchers at EPFL and Harvard Medical School have joined forces to develop an imaging technique that can provide in situ observations of the internal ear, an area which has until now been inaccessible. This may finally make it possible to understand the mechanisms underlying hearing loss. The team's new optical method is groundbreaking in that it provides extremely clear images of inner ear tissue without any need for fluorescent labeling of the cells with antibiotics, proteins and other fluorescent markers that are usually used to "color" the targeted cells.

<http://swissinnovation.org/news/web/2012/03-121017-f4.html>



Virus Exploits Cell's Waste Disposal Mechanism

(ETH Zurich, October 18, 2012)

Researchers at ETH Zurich and the University of Zurich have discovered a mechanism by which the vaccinia virus can exploit a cell's natural waste disposal mechanism for its own growth. Cells normally dispose of waste by labeling proteins with ubiquitin and then having a proteasome shred them. The virus takes advantage of this mechanism by having its own viral core of proteins labeled and shredded. This, as a result, releases the viral DNA contained inside the core, allowing it to multiply within a cell. An existing, approved cancer medicine has the effect of inhibiting the disposal mechanism and can be used to block a virus' genetic material from being released.

<http://swissinnovation.org/news/web/2012/03-121018-5c.html>



genetic material from

Origin of Teeth

(PSI, October 19, 2012)

The Swiss Light Source (SLS), a high-energy X-ray source at the Paul Scherrer Institute was recently used to study the jawbone of a prehistoric fish, the *Compagopiscis*, to determine if it had teeth. With the SLS, researchers were able to reconstruct a high-resolution three-dimensional image of the jaw and visualize tissues, cells, and growth lines inside the jaw. Using this image, the scientists concluded that teeth evolved at the same time or shortly after jawbones. This study would not have been possible without a non-destructive imaging system like the SLS.

<http://swissinnovation.org/news/web/2012/03-121019-55.html>



Manikin and Skeleton at Medtech Forum

(Empa, October 19, 2012)

Empa - Swiss Federal Laboratories for Materials Science and Technology exhibited at the first World Medtech Forum in Lucerne, Switzerland. A mannequin and skeleton, David and Georg, help show off some of Empa's new technologies, such as more reliable and compatible implants, and new textiles for medical use. Empa is able to support a range of activities, from basic research through commercialization of technologies.

<http://swissinnovation.org/news/web/2012/03-121019-98.html>



Mapped Microstructure of the Human Brain

(UNIGE, October 19, 2012)

The project CONNECT (Consortium of neuroimagers for the non-invasive exploration of brain connectivity and tracts), financed by the European Commission is nearing completion after three years of research. The goal of the project was to create the first atlas of the microstructure of white matter in the human brain. A team from the University of Geneva collaborated with 11 other international research groups in the project. Historically, most research efforts have been invested in the study of gray matter and neurons, while white matter has received relatively little attention. This is largely due to the lack of effective research tools for studying the white matter. For the project, the scientists had to develop new MRI methods in order to investigate the brain's white matter.

<http://swissinnovation.org/news/web/2012/03-121019-da.html>

Measuring Breast Cancer Tumors

(UNIBAS, October 22, 2012)

Diagnosing breast cancer is difficult, especially knowing if it has spread and metastasized. The structure of the cancer cells and surrounding tissues is an important factor in this diagnosis. Researchers at the University of Basel have been exploring the use of atomic force microscopes to characterize biopsy samples and create a "fingerprint"

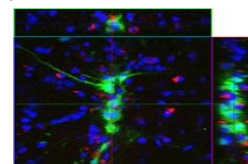


of tumors. The microscope operates on the nanoscale and uses a small needle to trace over the sample, directly measuring its mechanical properties. The tool allows diagnosis times to be reduced from one week to four hours.
<http://swissinnovation.org/news/web/2012/03-121022-ff.html>

Stem Cells Impact Brain Immune System

(UNIBE, October 22, 2012)

Knowing how neural stem cells affect the central nervous system's immune system is important for successful stem cell treatment. A team of researchers that includes two neurosurgeons from the universities and university hospitals of Bern and Basel have discovered that a signal protein, Vascular Endothelial Growth Factor, from stem cells is responsible for the activation of microglia immune cells. This mechanism was verified with experiments on mice. The researchers hope that the new found knowledge will lead to better treatments for Alzheimer, Parkinson, and brain damage.



<http://swissinnovation.org/news/web/2012/03-121022-cf.html>

Mechanism of Cell Membrane Fission

(UNIGE, October 24, 2012)

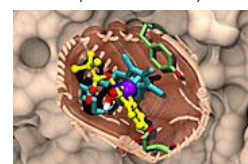
Researchers at the University of Geneva (UNIGE), in collaboration with the Institute Curie (Paris, France), shed light on the mechanism of fission of cell membranes. They analyzed the function of dynamin, a protein involved in endocytosis. The waterproofness and the self-healing ability of a membrane protect the cell from its environment. Although this membrane resistance is fundamental to the survival of the cell, it also needs to let vital particles pass through the membrane. The mechanism by which a small region of the cytoplasmic membrane lets molecules and other particles move into the cell is known as endocytosis. The team of Aurélien Roux, professor of biochemistry and member of the NCCR Chemical Biology, focused on dynamin to understand the process.

<http://swissinnovation.org/news/web/2012/03-121024-11.html>

Artificial Metallic Enzyme

(UNIBAS, October 26, 2012)

Enzymes are nature's catalysts, helping to accelerate many different kinds of reactions. However, artificially constructing them is a difficult task that researchers at the University of Basel have been undertaking. They successfully created the first metallic enzyme by combining a streptavidin-biotin protein with a rhodium fragment, and exchanging two amino acids in the protein. Not only does this enzyme accelerate a reaction better than any naturally occurring catalyst, it is also more selective, leading to greater efficiency.



<http://swissinnovation.org/news/web/2012/03-121026-ea.html>

Partnership on Zero-Power Brain-Biosensors

(EPFL, October 29, 2012)

One Mind for Research and Guardian Angels For Smarter Life (GA) announced an alliance to design a new tool for the treatment of major brain diseases: micro devices that use nanotechnology to monitor and transmit biological signals. Swiss-based GA is developing the Zero Power Biosensor, using low power nanoelectronics and nano/microsystems that harvest power rather than requiring batteries or power sources. Potential uses include monitoring of health status, monitoring ambient conditions for environmental danger, and, ultimately to perceive emotional conditions and provide functional activity. One Mind for Research, an independent non-profit organization dedicated to curing the diseases of the brain, and GA have announced an alliance to design research projects in North America.

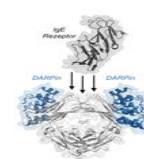


<http://swissinnovation.org/news/web/2012/03-121029-dd.html>

Potential Treatment for Acute Allergies

(UNIBE, October 29, 2012)

A discovery by researchers from the University of Bern and the Stanford University School of Medicine may pave the way for new treatments to stop potentially fatal allergic reactions. According to the study the researchers engineered a new molecule capable of stripping antibodies from receptor molecules on the surface of cells. Those receptor molecules are responsible for immune reactions triggered by outside allergens. The scientists said their discovery could lead to the development of highly potent, fast-acting therapies for acute allergic reactions, which are often caused by exposure to ragweed pollen, bee venom or peanuts, for example.



<http://swissinnovation.org/news/web/2012/03-121029-31.html>



Bacteria for Biocontrol

(ETH Zurich, October 29, 2012)

Biocontrol is a method to control damaging organisms in crops using other organisms. One such organism is the *Pseudomonas* bacteria, which is used to guard against fungus on the roots of plants. The bacteria has been widely researched and is available commercially. However, scientists at ETH Zurich recently saw that this bacteria contains genetic code to produce poisons specifically targeted at damaging insects. Initial laboratory tests showed that the bacteria are deadly to several kinds of relevant insects. Further research will be needed to determine the exact applicability and side effects of the bacteria when used to combat insects.

<http://swissinnovation.org/news/web/2012/03-121029-5c.html>



New Biotechnology Facility by Swiss Company in Singapore

(Novartis, October 31, 2012)

Novartis announced today the construction of a new state-of-the-art biotechnology production site in Singapore with an investment valued at over USD 500 million. The new facility will focus on drug substance manufacturing based on cell culture technology. It will be co-located with the pharmaceutical production site based in Tuas, Singapore. In the future, Singapore is expected to be a technological competence center for both biotechnology and pharmaceutical manufacturing at Novartis. The investment decision underlines the long-term strategy of Novartis to establish a worldwide manufacturing network of technology centers of excellence.

<http://swissinnovation.org/news/web/2012/03-121031-fc.html>

Nursing Home Personnel

(UNIBAS, October 31, 2012)

As the population of Switzerland ages and the prevalence of chronic diseases increases, more personnel are needed to staff nursing homes. A study by the University of Basel is currently underway to examine the relationship between nursing home personnel, patients, quality of care, and organizational factors pertaining to these people. This study will obtain data from a cross-section of Switzerland through written surveys and then analyze it using statistical methods. The results will help better understand how organizational factors and personnel qualifications affect quality of care. They could also be used to improve planning of personnel at a national level.

<http://swissinnovation.org/news/web/2012/12-121031-ad.html>

Encyclopedia of Human Genetic Variation

(UNIGE, October 31, 2012)

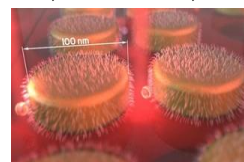
The "1000 Genomes" is the first large-scale project which has enabled the sequencing of 1092 human genomes in patients worldwide. After several years of work, researchers have finally developed a genetic database reference that will enable the scientific community to study rare genetic variants responsible for diseases such as cancer, cardiovascular diseases, the diabetes or multiple sclerosis. The project brought together nearly a hundred institutions, including the University of Geneva (UNIGE), who worked together to sequence human genomes. The database that results will allow researchers to interpret genetic mutations in patients with diseases, by country. This is the largest study ever conducted on individuals from 14 populations in Europe, America, East Asia and Africa.

<http://swissinnovation.org/news/web/2012/03-121031-cb.html>

Early Cancer Detection

(EPFL, November 02, 2012)

It may soon be possible to test a person for cancer with just a drop of their blood and a small machine. As part of a European research project, scientists have developed a device for detecting the HSP70 protein, which is over-expressed in patients with many types of cancer. The objective: to make a diagnosis extremely early in the disease process, thereby improving outcomes for patients. As part of the "Spedoc" European Research Project, an EPFL team is developing an extremely sensitive, easy-to-use HSP70 detection platform. The device, which will be no bigger than a small suitcase, is expected to be on the market in 2014.



Improved Plant Disease Resistance

(UZH, November 02, 2012)

Diseases on food crops threaten our food supply and especially affect small farmers in developing countries who can't afford pesticides. Researchers at the University of Zurich have obtained a grant from the Bill and Melinda Gates Foundation to increase disease resistance in rice and millet by reproducing the resistance found in wheat plants. A specific gene in wheat has mutated to give the species resistance to fungal diseases. Rice and millet



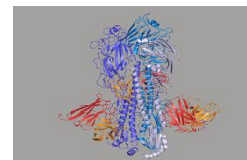
have the same gene, albeit without the beneficial mutation. The goal of the project will be to bring the improved gene from wheat to rice and millet and then deliver the improvements to farmers.

<http://swissinnovation.org/news/web/2012/03-121102-22.html>

Super Antibody for Universal Influenza Treatment

(swissinfo.ch, November 02, 2012)

Antibodies that attack the influenza virus attack one of its proteins called haemagglutinin, which is a trimer, or a three molecule group with a stem. Specifically, most antibodies attack the head of the protein, which mutates as protection for the virus from antibodies. Recently, a small research group in Bellinzona, Switzerland, the Institute of Research in Biomedicine, has discovered a super antibody that attacks the stem instead, making it universal against all strains of influenza A. The technology to produce this antibody has been licensed to a local company, which is developing it for a preclinical trial and then for sale to a large pharmaceutical company. A final product is five to ten years away.



<http://swissinnovation.org/news/web/2012/03-121102-97.html>

DNA Sequencing To Fight Cheese Counterfeiters

(Aljazeera, November 05, 2012)

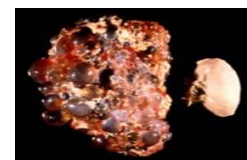
Not only Rolex watches, but also Swiss cheese is a popular target for counterfeiters. In order to protect their brand, producers of Emmenthal cheese have started to use DNA Sequencing to identify fake cheese. This works by adding certain bacteria with a known DNA to the cheese. A counterfeit cheese can be determined by sequencing the DNA of the bacteria within. If the DNA of the bacteria contained in the cheese do not correlate to one of the bacteria indexed by the cheese-makers, it can be identified as a fake.

<http://swissinnovation.org/news/web/2012/03-121105-a0.html>

Reduced Growth of Polycystic Kidney Disease

(UZH, November 05, 2012)

Globally, several million humans suffer from hereditary polycystic kidney diseases. Scientists from the University of Zurich, together with others, managed to reduce the growth of the disease. Until now, it was only possible to treat the symptoms of the illness. With about 1 out of 1000 humans affected, it is one of the most common hereditary diseases and leads to a kidney failure in about 10% of the patients. By the age of 50, most patients need to be treated with a dialysis or a kidney transplant. The new treatment is the first to reduce the growth of the kidney and is consequently able to reduce the decline of the kidney.



<http://swissinnovation.org/news/web/2012/03-121105-4d.html>

Kidney Tumor Drug

(Novartis, November 05, 2012)

Novartis recently received European approval for Votubia, a drug for the treatment of non-cancerous kidney tumors. Although certain kidney tumors are non-cancerous, they can cause severe complications, such as internal bleeding and kidney failure. The drug can be used for tumors that are at risk of causing complications, but that don't require immediate surgery, and it is the first drug of its kind.

<http://swissinnovation.org/news/web/2012/03-121105-8c.html>

Diagnosis of Glaucoma with Telemetric Sensor

(EPFL, November 06, 2012)

Specializing in the diagnosis of glaucoma, the EPFL spin-off Sensimed has just completed a major round of financing and obtained CHF 17 million. The company developed a non-invasive device based on a telemetric sensor embedded in a soft contact lens, the Triggerfish® that enables a new treatment for glaucoma. This disease affecting around 3% of the population results in the deterioration of the field of vision and, if untreated, leads to blindness. The system provides individualized profiles in fluctuations of the interocular pressure (IOP) over 24 hours, to model and analyze. These profiles are centralized in a database with other information on the patient's health and previous treatments. Modeling algorithms then process these elements to identify disease patterns and differentiate the types of glaucoma to further customize treatment.



<http://swissinnovation.org/news/web/2012/12-121106-58.html>

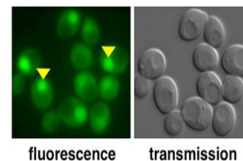


Ribosomal Transport Proteins

(UNIFR, November 06, 2012)

Researchers at the University of Fribourg have been studying a newly discovered protein, named Symportin-1, which helps maintain the order of proteins in ribosomal assembly. Ribosomes help translate genetic code to specific proteins. However, the ordering of proteins is important for their efficient assembly. Symportin-1 attaches to two proteins and carries them together into a cell's nucleus, where they are then assembled. The researchers showed in yeast cells that without this transport protein the growth of cells is strongly reduced. In humans, certain types of anemia can occur due to the same problem.

<http://swissinnovation.org/news/web/2012/03-121106-42.html>



Burning Fat by Activating Brown Adipose Tissue

(ETH Zurich, November 12, 2012)

A team of ETH-Zurich researchers headed by Markus Stoffel has discovered a signaling molecule that activates brown adipocytes and increases their formation. This knowledge could help overweight people to burn their excess white fat. Markus Stoffel's research group, has found that Micro RNA-133, a short piece of ribonucleic acid, is a key regulator for the formation and activation of brown adipocytes during cold exposure. By stimulating the brown adipocytes, the body consumes more energy and burns fat unceremoniously. Theoretically, at least, this could be an approach to treat overweight people.

<http://swissinnovation.org/news/web/2012/03-121112-1c.html>



Histone Function

(UZH, November 13, 2012)

Histones are proteins that are important for DNA-related functions like transcription and duplication. However, researchers at the University of Zurich have found that one histone, H3.3, which was previously thought to be a key protein in DNA transcription, is not needed at all for cell division. Flies modified to have no H3.3 histones continued to live and reproduce. A second experiment looked at the role of a specific amino acid on histones, and found that lack of a certain histone modification also did not hinder cell division, but did slow it down. One conclusion to be drawn is that the cell division process is very robust to disturbances.

<http://swissinnovation.org/news/web/2012/03-121113-d3.html>

Understanding Multiple Sclerosis

(UNIGE, November 16, 2012)

A team of researchers at the University of Geneva has discovered that the molecule TRPM4 plays a key role in the development of multiple sclerosis, specifically in the permanent degeneration of neurons. TRPM4 forms a channel that allows sodium ions to traverse across a cell membrane. The chronic inflammation of neurons and resulting neurological deterioration causes TRPM4 to always be active. This causes too many ions to pass into a cell, causing it to excessively absorb water and grow too large before dying. This new knowledge suggests that blocking TRPM4 may be part of a therapeutic approach for treating multiple sclerosis.

<http://swissinnovation.org/news/web/2012/03-121116-49.html>

Colorectal Cancer Treatment

(Roche, November 16, 2012)

Swiss pharmaceutical company Roche has received European approval for a new indication for its drug Avastin. The drug can now be used together with chemotherapy for colorectal cancer that has advanced beyond the first progression. A recent study showed that the combination of Avastin with chemotherapy resulted in longer patient lives than chemotherapy alone. Avastin is also approved worldwide for treatment of several other types of cancer.

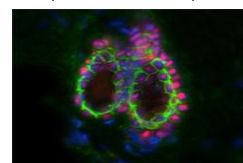
<http://swissinnovation.org/news/web/2012/03-121116-b0.html>

Stem Cell Research Organization

(UNIBE, November 20, 2012)

The University of Bern created a new organization, "stemcellsbern" to unify stem cell research at the university. Over 32 groups have been researching some aspect of stem cells, so the aim of the new organization is to take advantage of cross-disciplinary research. The organization will include researchers in the field of physiology, physics, and nanotechnology, among others, and it is being supported by Walter Inäbnit and his company Haag-Streit. One particular example of cross-disciplinary research in this field is on light-activated molecules.

<http://swissinnovation.org/news/web/2012/03-121120-d0.html>



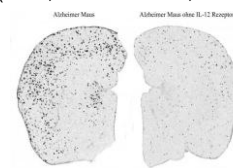


Novel Alzheimer Therapy Approach

(UZH, November 25, 2012)

Alzheimer disease is a major cause of dementia, and, at a biological level, is linked to the deposit of certain proteins, such as amyloid beta, in the brain. A recently published study by researchers at the Universities of Zurich and Berlin showed that blocking cytokines, a type of cell signaling protein, reduced the deposit of amyloid beta. The biggest effect was seen when targeting the immune system molecule p40. Although this study was performed on mice, the researchers find relevance to humans. Other studies have shown that the level of p40 is abnormally high in Alzheimer patients. Nevertheless, further studies are needed to fully explore the relationship between the disease and this molecule.

<http://swissinnovation.org/news/web/2012/03-121125-00.html>

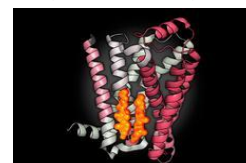


Cholesterol Affects Adrenaline Receptor

(ETH Zurich, November 27, 2012)

ETH researchers at the Department of Biosystems Science and Engineering (D-BSSE) measured how cholesterol affects the stability of adrenaline receptors in an elaborate process. Brian Kobilka, this year's Nobel Prize for Chemistry, was also involved in the project. The team used a robot and Single Molecule Force Spectroscopy to quantify the interactions and found that cholesterol greatly influences the behavior of the adrenaline receptor.

<http://swissinnovation.org/news/web/2012/03-121127-2c.html>

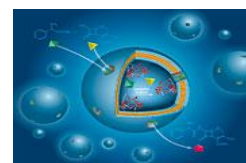


Targeted Release of Antibiotics with Polymer Nanoreactors

(ETH Zurich, November 29, 2012)

Researchers from the University of Basel have developed nano baubles with the ability to produce and release the frequently used antibiotic cephalexin. With the inclusion of such nanoreactors in medical implants, it could be possible to fight bacterial infections locally, without distributing the active substance in the whole body. To achieve that, the scientists encapsulated the enzyme penicillin acylase in an amphiphilic triblock copolymer orb. The penicillin acylase acts as a catalyst for the synthesis of two inactive substances to the antibiotic cephalexin. The researchers could prove in an experiment that those two substances were able to enter the orb, fuse, and be emitted as the antibiotics.

<http://swissinnovation.org/news/web/2012/03-121129-35.html>



Two SCRIP Awards for Innovation and R&D Excellence Awarded to Swiss Company

(Novartis, November 29, 2012)

Novartis has been awarded two of the prestigious SCRIP Awards for excellence in innovation and research and development (R&D). The annual awards event celebrates industry achievements in a number of categories and are considered the premier awards for the global biopharmaceuticals industry. Novartis won the Clinical Advance of the Year for the Company's EXIST-2 study of everolimus for the treatment of tuberous sclerosis. This award exemplifies the value of the Novartis investment in R&D and its ongoing commitment to addressing unmet medical needs. Recognized as having achieved the Licensing Deal of the Year, Novartis received the award for its agreement with ThromboGenics and Alcon (a Novartis company) for the commercialization of ocriplasmin for vitreomacular adhesion outside the United States.

<http://swissinnovation.org/news/web/2012/03-121129-58.html>



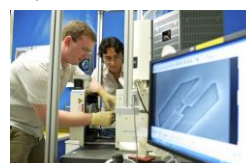
4. Nano / Micro Technology / Material Science

High-Strain Silicon Components

(PSI, October 02, 2012)

Scientists at the Paul Scherrer Institute have taken advantage of the fact that silicon under high strain has improved electronic properties, to demonstrate a method that will improve the speed of transistors. Starting from a pre-stressed layer of silicon they were able to create a thirty nanometer wide bridge by etching away surrounding material in the silicon and the underlying substrate. This tiny wire has high strain acting along the wire and is near the mechanical limits of silicon. The next step would be to build an actual transistor, which would require doping the material appropriately.

<http://swissinnovation.org/news/web/2012/04-121002-a3.html>



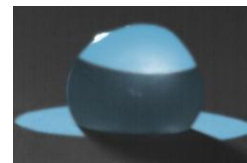


Towards Smart Ice-Phobic Surfaces

(Swissworld.org, October 16, 2012)

Stefan Jung, a researcher in the Laboratory of Thermodynamics, is the scientist behind the latest groundbreaking discovery from the ETH Zurich. It is generally accepted that water droplets freeze in two distinct stages. To start with, an explosion occurs within the droplet, creating a sort of ice scaffold. During the second stage which is 1000 times slower than the first, the droplet freezes from the surface inwards. Stefan Jung and his colleagues discovered what scientists had hitherto failed to spot: during both these stages a halo of frost forms around the frozen droplets. The researchers behind the discovery have now set their sights on using the knowledge they have acquired to develop smart "ice-phobic" surfaces.

<http://swissinnovation.org/news/web/2012/04-121016-64.html>



Chemistry Meeting in Switzerland

(Empa, October 23, 2012)

The construction materials chemistry group of the Association of German Chemists met in Switzerland for the first time, at Empa - Swiss Federal Laboratories for Materials Science and Technology. The group discussed sustainability in the cement and concrete industries, and the latest research results in construction materials. Several scientists were also recognized for their academic achievements in the preceding year. Lastly, the group conducted visits of the Empa laboratories and a local Swiss production site.

<http://swissinnovation.org/news/web/2012/04-121023-71.html>

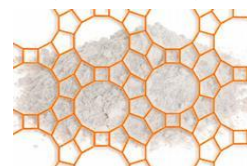


New Catalyst Synthesis Method

(ETH Zurich, November 06, 2012)

Researchers at ETH Zurich developed a new synthesis procedure for a catalyst. This procedure may be used for the production of, for instance, plastics from renewable resources in an environmentally friendly and efficient manner. To date, the synthesis of the catalyst occurs in a very complex and error-prone procedure. The ETH researchers discovered a far more convenient two-step procedure, which is more suitable for large-scale production.

<http://swissinnovation.org/news/web/2012/04-121106-44.html>

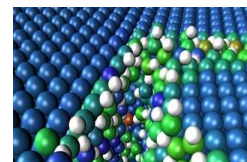


Hydrogen Embrittlement in Steel

(EPFL, November 22, 2012)

Hydrogen embrittlement happens when steel exposed to hydrogen becomes brittle and fractures. Researchers at EPFL studied the material at the atomic level to develop a mathematical model of the failure mechanism. They found that when the beginnings of a crack exist, hydrogen accumulates at the tip and prevents the steel from relieving stress through local dislocation defects. Thus, the crack continues to grow under the high stress, eventually fracturing the material. Hydrogen can be introduced in several ways, such as welding in damp conditions or from hydrocarbon gases.

<http://swissinnovation.org/news/web/2012/04-121122-25.html>



5. Information & Communications Technology

Augmented Glasses Project

(EPFL, October 01, 2012)

EPFL scientists are developing a prototype of a pair of "augmented" glasses. EPFL scientists in the Laboratory of Photonic Devices are currently working on a prototype that's similar to the project announced this spring by Google. The team will have to overcome a number of technological challenges, such as finding a way to allow the user to simultaneously see the information displayed on the lenses as well as see his or her surroundings. The researchers solved this problem by developing a specially designed contact lens with a micro-lens in its center that allows the eye to focus on the images.

<http://swissinnovation.org/news/web/2012/05-121001-8a.html>

Augmented Reality Surgery

(UNIBE, October 09, 2012)

Researchers at the University of Bern and a spin-off company, CAScination AG, have developed augmented reality tools to aid doctors with minimally-invasive surgery of the liver. Minimally-invasive surgery is preferred nowadays because it results in less scarring and fewer complications, but navigating surgical tools inside the body is more difficult. The new tools overlay CT and MRI images on top of endoscopic images from a tiny camera inside the body. The combined image allows doctors to see inside the liver on which they are operating. The tools were successfully used by surgeons from the Harvard Medical School and the Institute Mutualiste Montsouris.

<http://swissinnovation.org/news/web/2012/05-121009-0f.html>

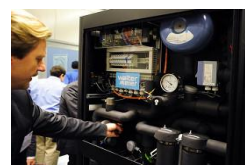


Energy-Efficient Water Cooled Supercomputer

(swissinfo.ch, October 16, 2012)

Europe's fastest supercomputer stays cool with water instead of air – resulting in energy savings of 40%. This innovation is based on a research project involving the ETH Zurich and IBM. Energy accounts for half of the expense in the construction and operation of a supercomputer, or a high-performance data center and air conditioning alone accounts for half of total electricity consumption. The ETH Zurich developed a cooling system, which uses water rather than air for Aquasar, an experimental mainframe computer built by IBM. The cold water flows through the system; afterwards, the system is cool and the water is used to supply the campus' heating and hot water system. This way, the energy consumption can be reduced by 40%.

<http://swissinnovation.org/news/web/2012/05-121016-14.html>



European Big Data Research Project for Small and Medium Enterprises

(UNINE, October 23, 2012)

Since early October, the Institute of Informatics of the University of Neuchâtel coordinates a new European research project on the management of big data for small and medium enterprises. The project is headed by Etienne Rivière, lecturer in the team of Professor Pascal Felber and consists of three companies and four universities from five countries. The budget amounts to EUR 4.25M over a period of three years. The project will investigate a collaborative approach to the analysis of user-generated content for small enterprises. It focuses on guaranteeing confidentiality by implementing new encryption algorithms.

<http://swissinnovation.org/news/web/2012/05-121023-df.html>

routeRank Wins Award

(AlpiCT, October 23, 2012)

Following routeRANK's participation in its first ACTE Executive Forum in London last month, the Association of Corporate Travel Executives granted the ACTE '3 Under 33' award to routeRANK's founder and Chairman Jochen Mundinger. The non-profit organization serves and advances the global business travel industry in over 100 countries. Its '3 Under 33' program is 'designed to identify and recognize the newest and brightest thinkers in the business travel industry'. It rewards innovation, leadership and contributions to the business travel industry. routeRANK is proud to have gained such distinguished recognition as a winner both for its region (Europe, Middle East & Africa) and globally.

<http://swissinnovation.org/news/web/2012/05-121023-57.html>



An App to Re-Empower Farmers

(EPFL, October 31, 2012)

A cell phone application enables Indian farmers to better negotiate the sale of their harvests. FarmBook is designed for use by this population segment, where illiteracy is very common. Farmers trust their experience in the field as well as that of their fellow farmers. FarmBook works with Android based smart phone models that are accessible in terms of price. The application is intended to facilitate the real-time transmission of their advice and tips. To accomplish this, the application relies on a system of invitations, text-to-speech and a series of pictograms that enable illiterate people to locate and share information.

<http://swissinnovation.org/news/web/2012/05-121031-05.html>





Software Reproduces Facial Expressions on Avatar

(EPFL, November 19, 2012)

A virtual character produces the same facial expressions as its user. It makes a video game, chat, or an animated film both fun and fast. Faceshift, an EPFL spin-off, has launched its software solution recently. The software that could save time for the designers of animation or video games requires one tool: a camera that has motion and depth sensors in the style of Microsoft Kinect or Asus Xtion. During its first use, the software is configured in ten minutes through the reproduction of several basic expressions, such as smile, raise eyebrows, etc. "The more movement is incorporated into the program's 50 positions, the more realistic are the results," explains Thibaut Weise, creator of the start-up currently based at the Technopark in Zurich.

<http://swissinnovation.org/news/web/2012/05-121119-43.html>



Cyber-Physical Security of Power Systems

(ETH Zurich, November 28, 2012)

Scientists of the ETH Zurich have developed a novel methodology to strengthen the cyber-physical security in large-scale power networks. The idea is based on a model-based diagnosis filter design which is tractable for large-scale complex systems. The main objective of the invention is to design a diagnosis filter for complex and high dimensional systems. The current state of the art in the field is either confined to linear system or only applicable to low dimensional nonlinear dynamics with more specific structures. In contrast, the new system enables a scalable optimization-based approach by using a robust residual generator to detect faults and malfunctions, which is tractable for high dimensional nonlinear system dynamics.

<http://swissinnovation.org/news/web/2012/05-121128-ff.html>

6. Energy / Environment

Thermal Inverter

(UNIGE, October 02, 2012)

The University of Geneva and its team took first place in the Solar Decathlon Europe 2012 solar house competition. The goal of the competition, which takes place in ten stages, is to build a solar-powered house that consumes the least amount of energy and creates the least amount of waste. The university's contribution was a thermal inverter that delays daily temperature variations by twelve hours while using very little electricity. The device has many finely spaced disks filled with water channels that help store heat. Air can blow through the device to store or release energy.

<http://swissinnovation.org/news/web/2012/06-121002-96.html>



Thin, Flexible Thermoelectric Generator

(GreenTEG, October 03, 2012)

GreenTEG has won the European Venture Competition of Climate KIC and convinced the jury of its potential to become Europe's leading firm in providing commercial solutions to climate change. GreenTEG provides efficient and cost effective energy conversion technology in the form of thin and mechanical flexible thermoelectric generators (TEGs). Using the Seebeck-Effect, TEGs convert temperature differences directly into electricity and thus increase energy efficiency.

<http://swissinnovation.org/news/web/2012/06-121003-83.html>



Nuclear Reactor Safety Stress Test

(ENSI, October 04, 2012)

Switzerland voluntarily performed a safety review of its nuclear reactors and compared itself against the newest European Union regulations. All Swiss reactors performed very well in the safety reviews with only a handful of corrections to be made. The safety review studied aspects like the availability of emergency backup electricity and robustness to rare but extreme external environmental effects. EU and Swiss regulations are the strictest in the world.

<http://swissinnovation.org/news/web/2012/06-121004-d8.html>





Humans Influencing Climate since Over 2000 Years

Humans have been producing substantial amounts of greenhouse gases since long before the industrial revolution. By studying the tiny amounts of gases trapped in air bubbles in Greenland's glaciers, researchers have been able to add details to an emerging picture of historical human induced environmental change that reaches as far back as the Roman Empire and the Han Dynasty. "Past societies burnt enormous amounts of wood and charcoal to clear fields, to heat homes and churches, and to smelt metals such as iron, gold, copper or silver," says Jed Kaplan, group leader at the Atmosphere Regolith Vegetation group at EPFL.

<http://swissinnovation.org/news/web/2012/06-121008-bc.html>

(EPFL, October 08, 2012)



Hydrogen-Driven Street Sweeper

Since spring 2012, the hydrogen-driven street sweeper was being successfully tested by the road inspection agency in St. Gallen. Building upon the achievements in St. Gallen and Basel, the reliability of the vehicle is now going to be tested in the difficult conditions of Berne, whose streets consist of cobblestones. The team hopes to demonstrate the advantages of hydrogen drives which are more silent and sustainable in comparison to conventional drives, because they emit Water instead of CO₂. These are big advantages for street sweepers, because they have a 10 times bigger energy consumption than ordinary vehicles, as they are heavier and drive for longer hours.

<http://swissinnovation.org/news/web/2012/06-121011-c2.html>

(Empa, October 11, 2012)



First Swiss Ozonation Facility for Water Treatment Research

On October 2, 2012 the foundation stone for the first ozonation facility was laid in the Neugut water treatment plant. On the basis of the findings of the Micropoll project of the Federal Office for the Environment (FOEN), a change to the water protection law was submitted. This provides for around 100 of the 700 water treatment plants in Switzerland to be fitted with special purification technology for micropollution. Through the ozonation facility at the Neugut, Eawag will be able to analyze the new process directly at the water treatment plant through various research projects, and thereby gain important insights for the practical application of the technology.

<http://swissinnovation.org/news/web/2012/06-121012-82.html>

(Empa, October 12, 2012)



SolarPlanet to Measure Gulf Stream

The Swiss solar-powered catamaran SolarPlanet, which recently completed its around-the-world journey solely on solar power, will now be used for scientific research of the Gulf Stream, led by the University of Geneva. The ship will sail for Florida and then from there head northeast along the Gulf Stream. Laser-based instruments will be used to measure changes in chemical and biological elements in the current, which will give a better understanding of its role in climate change.

<http://swissinnovation.org/news/web/2012/06-121012-b5.html>

(20min.ch, October 12, 2012)

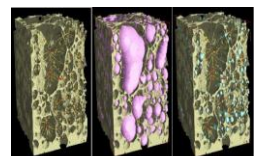


Volcanic Eruption Formation

The early stages of a volcanic eruption can often determine whether the eruption will be explosive or gradual. One factor is how gas bubbles in the molten rock form and escape. If bubbles form quickly and don't have an easy escape path, then the eruption can be explosive, but if the rock can degas slowly, then a small eruption occurs. Scientists at the Paul Scherrer Institute, together with colleagues from Canada, used the Swiss Light Source X-ray imager to obtain high-resolution images of gas bubble formation in basalt at one second intervals.

<http://swissinnovation.org/news/web/2012/06-121016-65.html>

(PSI, October 16, 2012)





Smart Plugs to Monitor Home Energy

(EPFL, October 22, 2012)

An EPFL spin-off company, eSMART, has developed a smart plug system that can monitor a home's electricity, water, and heat usage. The plugs communicate with each other, and a simple interface can be used to monitor the entire home's energy usage. The premise is that if people are more aware of their energy usage, then they will use it more efficiently. An initial installation of the system is being made in a new apartment complex in Gland, Switzerland, with a consumer product coming to market soon. The system will also be able to control outlets in the home.

<http://swissinnovation.org/news/web/2012/06-121022-19.html>

Long-term Atmospheric Pollutant Measuring

(Empa, October 22, 2012)

A scientific observatory has existed on the Jungfrauoch mountain pass since the 1930s, and Empa - Swiss Federal Laboratories for Materials Science and Technology has been measuring atmospheric gasses since 1972. The observatory is an important link in a global network of atmospheric measurement stations. Using the measurements and weather models, and because of its unique high-altitude location, the worldwide source of atmospheric pollutants can be determined independently from self-reported values. These measurements can form the basis for international protocols on pollution control, such as the Kyoto Protocol.

<http://swissinnovation.org/news/web/2012/06-121022-e8.html>



Trans-Disciplinary Research on Climate Change

(swissinfo.ch, October 24, 2012)

Tanzanian farmers use cell phones to document climate change, keeping track of how new pests and weather patterns affect their crops. Their work is the product of a unique climate change research method pioneered by Swiss-based scientists. 'Trans-disciplinary research' is a general term for this method of researching a real-world issue like climate change by surveying the situation on the ground and working with locals and experts in other fields before identifying the precise research goals. Swiss institutions were at the forefront of developing and encouraging this research method now being adopted around the world, according to Professor Hans Hurni, president of the Centre for Development and Environment at Bern University.

<http://swissinnovation.org/news/web/2012/06-121024-bf.html>



Swiss Lake Tsunami Risks

(swissinfo.ch, October 28, 2012)

Swiss lake tsunamis are disasters in waiting, warns Geneva University researcher Guy Simpson, co-author of a study into a giant tsunami on Lake Geneva in 563 AD triggered by a rock fall and underwater landslide. According to new research published in the Nature Geoscience journal, a massive rock fall - probably from the Le Grammont mountain close to where the Rhone flows into lake at its eastern end - caused part of the river delta to collapse and slide into the lake. Using computer modelling to recreate the tsunami, the researchers believe the waves would have been up to 13 meters high in Lausanne and between three and eight meters in Geneva, 70km from the starting point, where it arrived 70 minutes after the rock fall.

<http://swissinnovation.org/news/web/2012/06-121028-27.html>

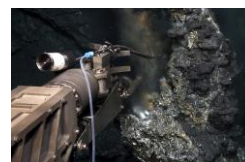


Deep Sea Archaea

(ETH Zurich, November 01, 2012)

Researchers at ETH Zurich have been working with an international team to study archaea living around deep sea hydrothermal vents called 'black smokers'. These archaea live in conditions of extreme pressures, temperatures, and acidity. Unlike many other organisms, they use substances like sulfur and methane to sustain life. Using samples from the black smokers, the scientists were able to isolate the archaea, and identify their lipids and DNA. Archaea around hydrothermal vents were only recently discovered and have not been studied much, but these organisms are examples of some of the earliest life on Earth before much oxygen was present.

<http://swissinnovation.org/news/web/2012/06-121101-77.html>



Printed Plastic Solar Cells

(CSEM, November 09, 2012)

Printed-plastic solar technology is transforming how and where we harvest power. It represents the newest generation of technologies in solar power generation which will result in flexible, low weight, and low cost panels. Europe



has recently launched a four-year, EUR 14.2M effort to develop advanced flexible plastic solar panels designed to be integrated into new consumer mobile applications and buildings. The project named "SUNFLOWER" is led by the Swiss Center for Electronics and Microtechnology (CSEM) and includes industrial partners such as Agfa, BASF, and DuPont Teijin Films as well as the photovoltaic pioneer Konarka and key European research institutes and universities.

<http://swissinnovation.org/news/web/2012/06-121109-8e.html>

World's First High Voltage DC Breaker

(ABB, November 07, 2012)

ABB Ltd. has successfully designed and developed the world's first circuit breaker for high voltage direct current (HVDC). It combines very fast mechanics with power electronics, and will be capable of 'interrupting' power flows equivalent to the output of a large power station within 5 milliseconds, thirty times faster than the blink of a human eye. The breakthrough removes a 100-year-old barrier to the development of DC transmission grids, which will enable the efficient integration and exchange of renewable energy. DC grids will also improve grid reliability and enhance the capability of existing AC (alternating current) networks.

<http://swissinnovation.org/news/web/2012/06-121107-aa.html>



Mayan Era Climate Reconstructed

(ETH Zurich, November 09, 2012)

For a long time researchers have been discussing studies linking climate with the development, and especially the collapse of the Maya between 700 and 1000 AD. One of the criticisms of these studies is that climatologists and archaeologists hardly ever collaborate. However, researchers from the various disciplines have now joined forces and correlated climate data with the historical context. The international research team compared archaeological and anthropological data with detailed geochemical studies carried out by paleoclimatologists from ETH Zurich. The new findings support the theory that climate fluctuations had a decisive influence on Mayan social structures.

<http://swissinnovation.org/news/web/2012/06-121109-f4.html>



Inexpensive Solution for Storing Solar Energy as Hydrogen

(EPFL, November 11, 2012)

How can solar energy be stored so that it can be available any time, day or night, when the sun shining or not? EPFL scientists are developing a technology that can transform light energy into a clean fuel that has a neutral carbon footprint: hydrogen. The basic ingredients of the recipe are water and metal oxides, such as iron oxide, better known as rust. The team purposefully limited itself to inexpensive materials and easily scalable production processes in order to enable an economically viable method for solar hydrogen production. They hope to attain efficiencies of 10% in a few years, for less than \$80 per square meter, a price competitive with traditional methods of hydrogen production.

<http://swissinnovation.org/news/web/2012/06-121111-ce.html>

Comparing Anorganic and Dye-Sensitized Solar Cells

(Empa, November 14, 2012)

Solar modules made from silicon are too inflexible and too expensive for many applications. The solution to those concerns is found in solar cells on flexible films. The Empa currently investigates two approaches: anorganic solar cells (CIGS-Cells) and dye-sensitized solar cells (DSSC), as well as other interesting topics such as the new natural gas hybrid car "CLEVER".

<http://swissinnovation.org/news/web/2012/06-121114-7a.html>

Used EV Batteries Power Homes

(ABB, November 15, 2012)

General Motors and ABB showed the next stage in battery reuse, the repackaging of five used Chevrolet Volt batteries into a modular unit capable of providing two hours of electricity needed by three to five average American homes. The uninterruptable power supply and grid power balancing system was demonstrated during GM's Electrification Experience. The prototype unit provided 25 kW of power and 50 kWh of energy to power all the support lighting and audiovisual equipment in an "off-grid" structure used for the event.

<http://swissinnovation.org/news/web/2012/06-121115-3f.html>



Ore Deposit Formation

(ETH Zurich, November 20, 2012)

Copper ore and gold deposits have typically been found through field observations and geochemical analyses. Now, researchers at ETH Zurich have developed a model of the process that results in ore deposits. Ore deposits form above magma chambers from fluids pushed into overlying rock by the heat and pressure of the magma. How exactly the process unfolds is dependent on the temperatures and pressures of the magma and fluid, and the structure of the overlying rock. Geothermal activity follows a similar process, so this model can also be used to explore for geothermal energy sources.

<http://swissinnovation.org/news/web/2012/06-121120-b6.html>



Carbon Neutral Heating System by Storing Summer Heat

(swissinfo.ch, November 21, 2012)

The ETH Zurich expects to be able to reduce CO₂ emissions and save CHF 1 million by storing excess summer heat deep in the earth, and retrieving it in the cold of winter. By 2025, ETH Zurich expects their sprawling Campus Science City complex to be practically CO₂ emission free. In summer excess heat is stored 200 meters under the earth's surface via a circulating water system, instead of being air-conditioned and released into the surrounding air. In winter the heat is pumped up again through the same water circulation system. Since the excess heat is stored in cool ground, electrically-driven heat pumps are used to help raise the temperature high enough to heat the campus buildings.

<http://swissinnovation.org/news/web/2012/06-121121-cb.html>



7. Engineering / Robotics / Space

Autonomous Ultralight Unmanned Aerial Vehicle

(AlpICT, October 10, 2012)

The EPFL spin-off senseFly has announced the eBee at the Intergeo 2012 in Hannover. The eBee is an unmanned aerial vehicle intended for the surveying and mining industries. It weighs only 630g and it is able to fly its missions in strong breezes of up to 12m/s (45 km/h). The eBee fits into a single case that conforms to carry-on luggage standards. It includes a 16MP camera and the software Terra 3D to create a precise geo-referenced orthomosaic and digital elevation model (DEM) automatically.

<http://swissinnovation.org/news/web/2012/07-121010-67.html>



Earth Similar Planet Discovered Nearby

(20min.ch, October 17, 2012)

Astronomers at Geneva University have found a planet similar to Earth circling one of the stars closest to the earth: Alpha Centauri B. In terms of mass, the planet is roughly the same size as Earth. But unlike Earth, it only needs three days to circle its star. In other words, it is much closer to Alpha Centauri B than Mercury is to our Sun, and its temperature is estimated to be a roasting 1,200°C. Nevertheless, the yet-to-be-named planet has sparked the hopes of researchers. "There's a very good prospect of detecting a planet in the habitable zone that is very close to us," said Geneva Observatory's Stéphane Udry, head of a European planet hunters' team.

<http://swissinnovation.org/news/web/2012/07-121017-06.html>

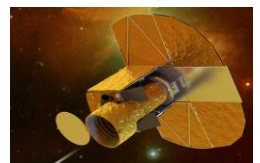


Swiss Space Project Wins European Grant

(ETH Zurich, October 19, 2012)

In 2017, a satellite named CHEOPS will be placed into orbit with the task of observing planets orbiting in other solar systems. The device is part of a Swiss space research project selected for the first S-class mission of the European Space Agency (ESA) was able to excel over 25 other project proposals. The research consortium is led by the University of Bern and counts the University of Geneva, EPFL and ETH Zurich amongst its members. CHEOPS will be equipped with a special telescope of a meter and will be placed into orbit at an altitude of 800 km. From there, over the course of three years it will observe some 500 particularly bright stars and gather as much information as possible about their planets.

<http://swissinnovation.org/news/web/2012/07-121019-6e.html>





Student Car Racing Team

(ETH Zurich, October 26, 2012)

The ETH Zurich "Formula Student" car racing competition team performed very well this past season with their new car "Umbrail". The electric car competed in several events across Europe and performed near the top in traditional disciplines such as acceleration, speed, and autocross. The team also performed well in the design disciplines, placing second in engineering design, third in the cost event, and sixth in the business plan presentation.

<http://swissinnovation.org/news/web/2012/07-121026-6d.html>



Effective Rowing Simulator

(ETH Zurich, October 29, 2012)

The Sensory-Motor Systems Lab has announced the M3-Rowing simulator together with a survey investigating how effective the simulation is. For the survey, eight oarsmen were used. Four were chosen to train on the water, four trained with the simulation. On the beginning and the end of the survey, the performance was evaluated. As both groups performed better, the scientists of the ETH Zurich were able to prove the validity of training with the simulation they created.

<http://swissinnovation.org/news/web/2012/12-121029-5a.html>



Improved Hospital Bed Sheets for Bedridden

(Empa, November 15, 2012)

Bedridden patients that can't move well, such as the elderly and paraplegics, are at increased risk of developing ulcers on their skin from lack of circulation, increased moisture, and friction. Thus, scientists at Empa - Swiss Federal Laboratories for Materials Science and Technology and at Schoeller Medical developed a new type of bed sheet that has a microscopic dot matrix structure. This sheet creates fewer contact points with the skin and absorbs moisture better. An initial test with twenty paraplegic patients showed improved comfort and circulation, and reduced sweating. The product will be commercialized next year.

<http://swissinnovation.org/news/web/2012/07-121115-75.html>



Planets Affect Solar Climate

(Empa, November 28, 2012)

The Sun determines the course of the planets. But the planets may also exert an influence on the Sun. Their configurations appear to be responsible for long-term cycles of increased solar activity. Scientists at Eawag and the ETH Zurich, in collaboration with colleagues from Spain and Australia, have compared cycles of solar magnetic activity over the past 10,000 years – as reconstructed from ice cores – with the action of the planets. The agreement observed is very striking, raising hopes that our ability to forecast periods of intense solar activity may ultimately be improved. This is becoming increasingly important as our society is ever-more dependent on technologies such as satellite communications and navigation systems – as well as power grids – which can be disabled by major solar eruptions.

<http://swissinnovation.org/news/web/2012/07-121128-b0.html>



8. Physics / Chemistry / Math

CERN Open Access Initiative Launched

(Cern, October 01, 2012)

Representatives from the science funding agencies and library communities of 29 countries are meeting at CERN to launch the SCOAP3 Open Access initiative. Open Access revolutionizes the traditional scientific publishing model with scientific papers being made freely available to all, and publishers paid directly for their indispensable peer-review services to the community. The objective of SCOAP3 is to grant unrestricted access to scientific articles appearing in scientific journals in the field of particle physics, which so far have only been available to scientists through certain university libraries, and generally unavailable to a wider public. SCOAP3 now brings Open Access to those papers.

<http://swissinnovation.org/news/web/2012/12-121001-9a.html>

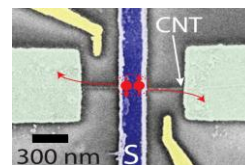


Quantum Entanglement Source

(UNIBAS, October 10, 2012)

Quantum entanglement is the principle that two particles can be in two different locations but still have a quantum interaction. Efficiently creating entangled electron pairs is a challenge that has been solved by researchers at the University of Basel. They use the phenomenon of Cooper pairs, which are entangled electrons created in superconductors. These are separated using a quantum point contact, which is a narrow passage that only allows one electron at a time to pass through. The yield of this process is close to one, which is a vast improvement over previous methods, also developed by the same group. This research may have important consequences for quantum computers.

<http://swissinnovation.org/news/web/2012/08-121010-3a.html>

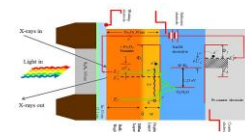


Understanding Solar Hydrogen Production in Photoelectrochemical Cells

(Empa, October 29, 2012)

Hydrogen production by solar water splitting in photoelectrochemical cells (PEC) has long been considered the holy grail of sustainable energy research. Iron oxide is a promising electrode material. An international team of researchers led by Empa, the Swiss Federal Laboratories for Materials Science and Technology, have now gained in-depth insights into the electronic structure of an iron oxide electrode – while it was in operation. Their groundbreaking experiment demonstrated the formation of two different types of electron holes at the semiconductor-liquid interface under the exact conditions, at which the photocurrent arises. Quantitative analysis of their spectral signatures revealed that both types of holes, contrary to earlier speculation and historical perception, contribute to the resulting photocurrent. This opens up new possibilities for an affordable hydrogen production from solar energy.

<http://swissinnovation.org/news/web/2012/08-121029-09.html>

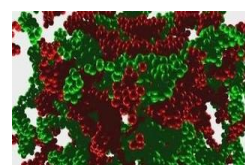


New Type of Gel with Great Potential

(EPFL, November 07, 2012)

Controlling and modifying at will the transparency, electrical properties, and stiffness of a gel – such are the promises of a new discovery by physicists at EPFL and the University of Cambridge. This marks an important step for materials used in healthcare, high-tech, and the cosmetics industry: from contact lenses to ink, from sensors to medical electrodes and even breast implants. The researchers have discovered how to combine two gels in such a way that they can monitor and change the properties of the new material.

<http://swissinnovation.org/news/web/2012/08-121107-61.html>

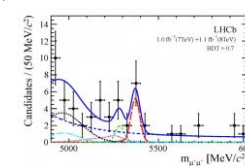


First Evidence for the $B_s^0 \rightarrow \mu\mu$ Decay

(Cern, November 12, 2012)

The LHCb Collaboration has announced the result of the branching ratio measurement of the B_s^0 meson decay into $\mu^+\mu^-$ pair to be $(3.2^{+1.5}_{-1.2}) \times 10^{-9}$. Both experimental and theoretical physicists were impatiently waiting for this result, an important milestone of the LHCb program. The significance of the measurement is 3.5σ and therefore is classified as the first evidence for the $B_s^0 \rightarrow \mu\mu$ decay. The result is in agreement with the Standard Model prediction of $(3.54 \pm 0.30) \times 10^{-9}$. LHCb physicists had previously presented this year the lowest published limit of 4.5×10^{-9} for this decay, which allowed to strongly squeeze the parameters of supersymmetric extensions of the Standard Model (SUSY). The measurement presented today squeezes the parameter space even more.

<http://swissinnovation.org/news/web/2012/08-121112-15.html>



Quantum Communication Milestone

(ETH Zurich, November 19, 2012)

Researchers at ETH Zurich were able to create a semiconductor device that creates a quantum entanglement between a quantum dot and a photon. The quantum dot is stationary, but the photon is mobile, so it can carry information over a distance while remaining entangled with stationary quantum dot. Compared to previous experimental setups that filled rooms, this new device is much smaller and is an important step towards more usable systems. Quantum communication holds the promise of more secure communications and higher computational capacity.

<http://swissinnovation.org/news/web/2012/08-121119-fb.html>





Cold Imitators Made of Light and Atoms

(ETH Zurich, November 28, 2012)

The properties of basic electronic components can be simulated with ultracold atoms that flow through structures made of laser light. This is the result of work in which scientists at ETH Zurich use a new generation of quantum experiments to explore the behavior of electronic currents in a regime where predictions are often difficult to make. The researchers at ETH Zurich put cold lithium atoms in the role of the electrons, and channel them through tiny restrictions formed by laser light. "With our work, we extend the concept of quantum simulation towards transport phenomena", explains Jean-Philippe Brantut, one of the senior staff members involved in the project.

<http://swissinnovation.org/news/web/2012/08-121128-ae.html>

9. Architecture / Design

Landscape Architect Awarded

(ETH Zurich, November 08, 2012)

Landscape architect and ETH Zurich professor Günther Vogt was recognized by the Federal Office of Culture with the Meret Oppenheim Award for his visionary projects in several world-class cities. The award is named after the Swiss-German artist Meret Oppenheim, who was considered very influential in art. Vogt has undertaken many projects to improve cities, from creating an expansive roof garden in London to a geologically-inspired Novartis Campus Park in Basel. These projects all combine many aspects of architecture, including construction, vegetation, economy and society. Landscape architecture has recently come to the forefront as a discipline, thus making this award very timely.

<http://swissinnovation.org/news/web/2012/09-121108-60.html>

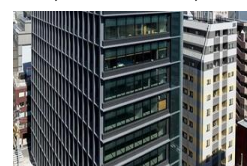


Pushing Natural Light into the Heart of Buildings

(EPFL, November 30, 2012)

Through a research project designed at MIT and continued at EPFL, researchers have designed windows that can bring natural light deep into a building. This technology was recently integrated into six floors of an ultra-modern building in Tokyo. The system, which is positioned on the top of the glass, must be able to collect and redirect light in the entire room. Additionally, it must prevent the sunrays from descending below the horizontal, to avoid creating glare for occupants. Following the principal of a standard window size, adequate illumination up to about 6 meters can be achieved. The new technology makes it generally possible to double that depth.

<http://swissinnovation.org/news/web/2012/09-121130-de.html>



10. Economy, Social Sciences & Humanities

Interactive Database for Antique Carved Gems

(UNIFR, October 08, 2012)

Véronique Dasen, Professor for archeology at the University of Fribourg, is working on implementing a novel approach to the research of antique relics. In collaboration with the Museum of Fine Arts in Budapest, she is going to make a database of carved gemstones available to the public. In a further step, the images of the database are going to be linked to an interactive and expandable e-book on the subject: a digital publication of the book "Studies of Magical Gems" of Campbell Bonner (1950).

<http://swissinnovation.org/news/web/2012/10-121008-8b.html>



Education and Research in Humanitarian Action Offered in English

(UNIGE, October 29, 2012)

The Geneva Centre for Education and Research in Humanitarian Action (CERAH) has reformed its educational system and now offers all courses in English. Most notable are the six new Certificates of Advanced Studies (CAS), which will be held between February and May 2013. These seven-week courses will focus on Strategic Development and Management of Humanitarian Action; Health in Humanitarian Emergencies; Communication and Advocacy for Humanitarian Projects; Legal Environment of Humanitarian Action; Disaster Management; Human Resources Management in Humanitarian Settings.

<http://swissinnovation.org/news/web/2012/13-121029-c0.html>

11. Technology Transfer / IPR / Patents

New Transfemoral Knee Prosthetic

(ETH Zurich, October 02, 2012)

A new powered knee prosthetic design was created by ETH Zurich researchers to enable better and more accurate control of the knee torque. The design exploits the fact that extension forces are typically higher than flexion forces by using springs to assist in extension at the angles where the force required is the highest. Additional springs are used to minimize shock on the actuator, allowing it to more precisely control knee torque. The new design enables a more natural gait and better adaptation to terrain.



Smart Micro Grid System on Wheels

(ETH Zurich, October 12, 2012)

Two students of the ETH Zurich decided to tackle this problem and created a mobile in the framework of their Master's project. After six months of development, they recently showcased the result: the "Smart Micro Grid System" (SMiG) – a compact system that goes on a trailer. What sets SMiG apart from existing systems is the possibility of controlling between eight and twenty household lines centrally by computer. At peak times, when all the lights are on and people are cooking, an automatic warning system prevents the system from being overloaded.



<http://swissinnovation.org/news/web/2012/11-121012-42.html>

Fynomer Protein Scaffold Technology in Demand

(bioworld.com, October 19, 2012)

Covagen AG signed its first drug discovery deal, a pact worth potentially up to US\$146 million with Mitsubishi Tanabe Pharma Corp. that involves its Fynomer protein scaffold technology. Covagen was spun out from the Swiss Federal Institute of Technology Zurich (ETH Zurich) in 2007. Fynomers are low-molecular-weight protein binders that are derived from the Src homology 3 (SH3) domain of Fyn tyrosine kinase. The molecular format is highly flexible and lends itself to the creation of different types of fusion proteins, with differing valencies. The alliance will focus on the development of bispecific antibody-Fynomer fusions, called FynomAbs, which comprise a conventional antibody fused to a pair of Fynomers.

<http://swissinnovation.org/news/web/2012/11-121019-43.html>

SwissLitho and Flatev Awarded Final Venture Kick

(Venture Kick, November 08, 2012)

Two Zürich based start-ups are the new beneficiaries of the final grant by Venture Kick, receiving CHF 130,000. The ETH Zurich spin-off SwissLitho can produce the smallest nanostructures in the world with its "NanoFrazor" product and is in the Guinness World Record book with its innovation. The company has already built the smallest Matterhorn and the smallest 3D world map. The young company Flatev develops a new capsule machine to make fresh tortillas at the push of a button. The tortillas are prepared in 35 seconds, similar to how capsule coffee is made.

<http://swissinnovation.org/news/web/2012/13-121108-5a.html>

Swiss Technology Transfer Association

<http://www.switt.ch/html/home.php>

Swiss Federal Institute of Intellectual Property

<https://www.ige.ch/en.html>

12. General Interest

Buddhist Visit to Foster Science and Promote Gender Equality at CERN

(Cern, November 16, 2012)

His Holiness Gyalwang Drukpa, a high-level Buddhist spiritual leader, visited CERN with twelve kung fu nuns and two Lamas as part of a tour to promote gender equality and foster science. Drukpa started teaching women at his school kung fu to help them improve their spiritual and health balance. He also explained to the CERN scientists that men and women carry different kinds of energy and both are needed in this world. He hopes that better science and education will improve the human condition.



<http://swissinnovation.org/news/web/2012/12-121116-79.html>



13. Calls for Grants/Awards

Master Program Ecology for International BA Students

(UZH, October 23, 2012)

The Master Program Ecology at University of Zurich invites all international Biology Bachelor students to apply now for the new structured route that starts with the fall term 2013. In the program one can learn about the links between organisms, populations, communities, and ecosystems. These links, which include processes such as predation, mutualism, and parasitism, determine how environmental change will impact ecological communities, and the services that humans derive from them.

<http://swissinnovation.org/news/web/2012/13-121023-56.html>



International Exploratory Workshops

(SNSF, November 11, 2012)

The International Exploratory Workshops of the Swiss National Science Foundation (SNSF) enable researchers working in Switzerland to organize workshops with partners from abroad. The workshops can last between two and five days. Up to 30 participants from different institutions can participate. The SNSF will fund a maximum of ten researchers. The seminar is to take place in Switzerland, but exceptions can be granted if justified. The call for this funding instrument is always open, however there are three cut-off dates per year when the evaluation process begins. The next cut-off dates are: 06 March 2013; 05 June 2013; 09 October 2013.

<http://swissinnovation.org/news/web/2012/13-121111-f3.html>

Summer Undergraduate Research in Bioscience

(UNIL, November 20, 2012)

The University of Lausanne's School of Biology will host twenty undergraduate students with backgrounds in biology and medicine for an eight-week research project to give them an initial research experience. Each student will work on an individual research project in various laboratories at the school. This coming year's program will take place in July and August of 2013, but has been run in previous years as well.

<http://swissinnovation.org/news/web/2012/13-121120-a0.html>

St. Gallen Symposium, Call for Essays

(HSG, November 20, 2012)

The St. Gallen Symposium, a leading platform for dialogue on key issues in management, the entrepreneurial environment, and the interfaces between business, politics and civil society, is inviting students to write short essays on the topic of "Rewarding Courage". The top 100 authors will be invited to attend the 43rd St. Gallen Symposium with all expenses paid.

<http://swissinnovation.org/news/web/2012/13-121120-20.html>



Upcoming Science and Technology Related Events

Government Debt Crises: Politics, Economics, and History

Dec 14-15, 2012

<http://tiny.cc/6g72lw>

Policy

Graduate Institute, Geneva

Clinical Trial Supply Europe

Jan 30, 2013

<http://tiny.cc/buy2lw>

Life Sciences

Congress Center Basel, Basel

BIONETICS 2012, 7th International ICST Conference on Bio-Inspired Models of Network, Information, and Computing Systems (BIONETICS 2012)

Dec 12, 2012

<http://bionetics.org/2012/show/home>

Life Sciences

Lugano Congress Center, Lugano

ICT for Sustainability 2013 (ICT4S 2013)

Feb 14-16, 2013

<http://www.ict4s.org>

ICT

ETH Zurich



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

State Secretariat for Education and Research SER
Swiss Knowledge Network

Innovation Promotion Agency CTI

Swiss Federal Office of Energy SFOE

3rd World Tourism Forum Lucerne

April 17-19, 2013

<http://wtflucerne.org/>

Tourism

Lucerne

GOTO Zürich 2013

Apr 10-11, 2013

<http://gotocon.com/zurich-2013>

ICT

Zurich Marriott Hotel

Art Basel 2013

Jun 13-16, 2013

<http://basel.artbasel.com>

Art

Basel

Congress of the International Association for the Psychology of Religion (IAPR)

Aug 27-30, 2013

<http://www3.unil.ch/wpmu/iapr2013>

Medical / Religion

University of Lausanne

CERN Open Day

Sep 28-29, 2013

<http://outreach.web.cern.ch/outreach/visites/index.html>

Particle Physics

CERN, Geneva

XX WFN World Congress on Parkinsons Disease and Related Disorders

Dec 08, 2013

<http://www2.kenes.com/parkinson/Pages/Home.aspx>

Life Sciences

Palexpo Geneva Congress Center, Geneva

Science-Switzerland Back Numbers

<http://www.swissinnovation.org/Science-Switzerland>

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