



## Science-Switzerland, August – September 2010

*News on Swiss science, technology, education and innovation*

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### Fields Medal For Swiss University

Prof. Stanislas Smirnov from the Department of Mathematics was awarded the Fields Medal at the International Congress of Mathematics held in Hyderabad, India. This prize, awarded every four years to outstanding mathematicians under the age of 40, is considered the equivalent of the Nobel prize. Smirnov, who was born and studied in St Petersburg, was recognised for his “ingenious and astonishing work” in the field of statistical physics, lattice models and percolation.

<http://tinyurl.com/00-100819>

(UNIGE, August 19, 2010)



### Deepening Brazilian-Swiss Scientific Cooperation

A scientific delegation led by Federal Council Didier Burkhalter traveled to Brazil for the purpose of consolidating relations between the two countries. In various visits that took place in Brasilia, Sao Paulo and Rio de Janeiro, the delegation focused on deepening research cooperation and holding discussions in the field of health. Switzerland considers Brazil to be one of the non-EU priority countries for research cooperation. In 2008, Switzerland and Brazil signed a Memorandum of Understanding establishing a strategic partnership and one of the items was a bilateral agreement on S&T cooperation, which was signed in 2009, to encourage greater exchanges between scientists and to set aside grant funding for joint research projects in health, neurosciences, energy and environment. The EPFL is responsible for the bilateral research cooperation program on the Swiss side.

<http://tinyurl.com/00-100824>

(admin.ch & EPFL, August 24, 2010)

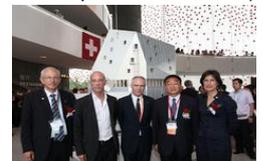


### Swiss-Chinese Relations At The Swiss Pavilion Of Shanghai Expo

The Swiss Minister of the Environment, Federal Councillor Moritz Leuenberger, and the Chinese Minister of Water Resources Chen Lei visited the Swiss Pavilion at the world exhibition in Shanghai and opened an exhibition on the new Monte Rosa Hut and the “Future Cities” conference. The events are part of the celebrations to mark the 60<sup>th</sup> anniversary of diplomatic relations between Switzerland and China. They should strengthen the good relations between Switzerland and China, especially in the field of research.

<http://tinyurl.com/01-100913>

(ETH Zurich, September 13, 2010)



### 1<sup>st</sup> Rank In Competitiveness

Switzerland retains its 1<sup>st</sup> place in WEF’s Global Competitiveness Report for 2010-11, characterized by an excellent capacity for innovation (# 2) for the second year in a row. Switzerland’s scientific research institutions are among the world’s best, and the strong collaboration between the academic and business sectors, combined with high company spending on R&D, ensures that much of this research is translated into marketable products and

(WEF, September 09, 2010)



processes, reinforced by strong intellectual property protection and government support of innovation through its procurement processes. Public institutions in Switzerland are among the most effective and transparent in the world (# 5). Competitiveness is also buttressed by excellent infrastructure (# 6), a labor market that is among the most efficient (# 2) and a macroeconomic environment that is among the most stable (# 5) at a time when many countries are struggling in this area. Sweden, Singapore and the U.S. follow in the ranking.

<http://tinyurl.com/00-100909>

## 1. Policy

### Online Database Of Swiss Voting History

(SNSF, August 18, 2010)

For the first time, a political sciences' team from the University of Bern has established a complete documentation with dates and descriptions of federal voting since 1848. The online database SwissVotes and its related handbook are a unique source to analyze direct democracy institutions as well as Switzerland's major political themes and conflicts. The Swiss National Science Foundation supports the project.

<http://tinyurl.com/01-100818>

### Eurostars R&D Program With Swiss Participation

(admin.ch, August 18, 2010)

The Federal Council has agreed on Switzerland taking part in the Eurostars R&D program, which aims at enhancing the competitiveness of the European economy. Switzerland's participation will benefit to Swiss SMEs that are active in international R&D activities and that wish to gain new market shares. EUR 400 millions constitute the budget of the program for the 2008-2013 period.

<http://tinyurl.com/01-100818b>

### Ten European Research Council Grants For Zurich

(ETH Zurich & UNIZH, August 27, 2010)

Ten young scientists from Zurich have been awarded grants worth a total of EUR 15 million by the European Research Council (ERC). The ERC Starting Grant is the most important European program for innovative research. The funds will go towards interdisciplinary projects launched by researchers at ETH Zurich and the University of Zurich. They will all receive EUR 1.5 million over the next five years for their projects in the fields of chemistry, physics, biology, physiology and food sciences.



<http://tinyurl.com/01-100827>

### Scientific Cooperation Between Eastern Europe And Switzerland

(SNSF, August 31, 2010)

The phase 2005-2008 of the Scientific cooperation between Eastern Europe and Switzerland (SCOPE) program, which supported about 150 research partnerships between research teams in Eastern Europe and Switzerland through the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC), was completed. Research results were produced and published, young scientists supported and trained as well as networks created and extended. Positive feedback from many beneficiaries demonstrates that the research partnerships are attractive and beneficial for scientists in both Eastern European and Switzerland.

<http://tinyurl.com/01-100831>

### Scientific Collaboration With New EU Member States

(crus.ch, September 08, 2010)

The Scientific Exchange Program between Switzerland and the New EU Member States (Sciex-NMSch) aims at promoting young talented researchers from these countries and simultaneously at enhancing the Swiss scientific network. As a result of a second call opened to the 5 countries Estonia, Hungary, Lithuania, Poland and Slovenia, 105 eligible proposals were submitted, confirming the interest in the Sciex-NMSch Program. 46 young researchers, who will develop part of their research at a Swiss institution, were selected on the basis of their scientific excellence.

<http://tinyurl.com/01-100908>

### Positive Research Cooperation With Non-European Priority Countries

(admin.ch, September 15, 2010)

Bilateral research cooperation agreements have already been signed with all 8 of the non-European countries mentioned as priority countries in the Federal Council's Dispatch on Education, Research and Innovation for 2008-



2011 (Brazil, Chile, China, India, Russia, South Africa, Japan and South Korea). The higher education institutions responsible for managing bilateral projects on the Swiss side have submitted their interim reports and results have so far been very positive. Among the 8 bilateral research cooperation programs launched by the Federal Council, over 100 joint research projects are currently underway. These projects were selected on the basis of criteria such as scientific excellence and the potential for sustainable partnerships.

<http://tinyurl.com/01-100915>

### Active Participation In 7<sup>th</sup> European Framework Program

(admin.ch, September 16, 2010)

Since the 5<sup>th</sup> European Framework Program began in 1999, Switzerland has been actively taking part with more than 3'500 participants to various projects in domains such as IT, genomics and biotechnology, nanotechnologies and health, among others. 945 participants from Switzerland are enrolled to the 7<sup>th</sup> European Framework Program (2007-13). The country accounts for 3.1% of all the projects. When comparing internationally, Swiss scientists are proportionally more numerous in projects related to IT, health and nanotechnologies.



<http://tinyurl.com/01-100916>

### EU's Lifelong Learning And Youth In Action Program Participation

(admin.ch, September 28, 2010)

Following the signature of the Swiss-EU bilateral agreement by Federal Councilor Burkhalter in February, a new milestone has been reached on the road to direct Swiss participation in EU general education, vocational education and training and youth programs ("Lifelong Learning" and "Youth in Action"). These programs focus on enabling young people to study abroad, do traineeships abroad, or merely to live abroad for the sake of gaining intercultural experience. The national agency responsible for implementing these programs, the [ch foundation], will begin providing information and advisory services from October 2010.

<http://tinyurl.com/01-100928>

## 2. Education

### Top Swiss Universities In Shanghai Ranking 2010

(ETH Zurich, August 18, 2010)

In the latest Academic Ranking of World Universities from the Shanghai Jiao Tong University, ETH Zurich is the best Swiss university, ranking at 23<sup>rd</sup> place. Its Department of Chemistry even makes it in the top five. ETH Zurich is the best continental university in Europe. The University of Zurich tops 53<sup>rd</sup> position, University of Basel occupies 86<sup>th</sup> position and EPFL ranks 1<sup>st</sup> in continental Europe among universities in engineering/technology and computer sciences. The evaluation criteria that is used include how often a researcher is cited. Also relevant is the size of a particular university, which is used to show its academic performance in relative terms.



<http://tinyurl.com/02-100818>

### Strong Increase In Number Of University Degrees

(admin.ch, August 31, 2010)

In 2009, the number of bachelor diplomas reached 10'177, representing an 18% increase in comparison to 2008. Women obtained 52% of them and foreigners 15%. Roughly one third of the diplomas were delivered in human and social sciences, followed by exact and natural sciences (17%) and economics (16%). A 20% increase from 2008 has been registered in the delivery of master diplomas, which topped 6'524 in 2009. Women obtained 46% of them and foreigners 26%. This time, the majority of diplomas were in exact and natural sciences (25%). 3'424 PhD candidates successfully obtained their title in 2009 (+6.7% compared to 2008). 42% were obtained by women and 45% by foreigners. Exact and natural sciences (32%) and medical & pharmaceutical sciences (27%) were the domains with most candidates.

<http://tinyurl.com/02-100831>

### Promotion For Natural Sciences And Engineering

(swissinfo.ch, September 01, 2010)

According to a government report, it seems that there are not enough Swiss professionals who specialise in mathematics, information technology, natural sciences and engineering. Between 2004 and 2009, the employers reacted to the problem by raising salaries and recruiting more specialist workers from abroad. Within Switzerland, the num-



ber of recent graduates in these fields has been modest, and the number of women pursuing science and technology degrees is low. The cabinet recommends that primary and secondary schools foster a better understanding of these subjects to encourage both boys and girls to consider careers in these fields. In the report the cabinet said it would support measures to boost education, research and innovation between 2013 and 2016.

<http://tinyurl.com/02-100901>

### Top Swiss Universities In QS World University Ranking 2010

(topuniversities.com, September 08, 2010)

The ETH Zurich is ranked at the 18<sup>th</sup> position in the Quacquarelli Symonds World University Ranking, two places higher than in 2009. This makes ETH Zurich the best continental university in Europe and the first non-English or American university on the list. It also tops # 8 in the Technology & Engineering ranking and # 10 in Natural Sciences. Other Swiss Universities are EPFL (# 32), Geneva (# 71), Zurich (# 101), Basel (# 137), Lausanne (# 152) and Bern (# 162).



<http://tinyurl.com/02-100908>

### European Label For First Swiss Master Degrees

(EPFL, September 14, 2010)

EPFL has been awarded the EUR-ACE label for 13 of its engineering master degrees and thus became the first Swiss university to receive this recognition. This European accreditation is designed to improve the match between training and industry needs, as well as encouraging the free movement of graduates on the continent. One of the medium-long-term goals of the label is to encourage the free movement of graduates on the continent by facilitating the mutual recognition of diplomas.



<http://tinyurl.com/02-100914>

### Top Swiss Universities In Times Higher Education Ranking 2010

(THE, September 16, 2010)

With new, more objective criteria (teaching, research and technology transfer), the new edition of the Times Higher Education ranking sees ETH Zurich reaching the 15<sup>th</sup> position, making it the first one in continental Europe and the only non-English or American in the top 20. The Swiss Federal Institute of Technology in Zurich gets excellent grades in three research indicators, namely volume, impact and reputation. 5 other Swiss universities are ranked among world's 200 best universities: EPFL (# 48), University of Zurich (# 90), University of Basel (# 95), University of Geneva (# 118) and University of Lausanne (# 136). According to the authors, Switzerland has the capacity to attract brilliant international students.



<http://tinyurl.com/02-100916>

### Master Course Programs In Database

(UNIGE, UNIL, UNINE, September 23, 2010)

“Triangle Azur” is a cooperation network between the Universities of Geneva, Lausanne and Neuchâtel. It has launched a new database on its website that lists all masters in all three higher education institutions. Students can sort out programs by domain and results are shown on a comparative table.

<http://tinyurl.com/02-100923>



## 3. Life Science / Health Care

### Atomic Analysis Of Deep Sea Biomolecules

(myScience.ch, August 02, 2010)

In a pioneering research project, for the first time, scientists at IBM's research center in Zurich and the University of Aberdeen have collaborated to “see” the structure of a marine compound from the deepest place on the Earth, the Mariana Trench, using an atomic force microscope. The results of the project open up new possibilities in biological research which could lead to the faster development of new medicines in the future.

<http://tinyurl.com/03-100802>

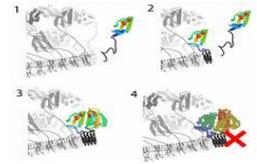


## Role Of Prions Discovered

(ETH Zurich, August 03, 2010)

Prions are pathogenic proteins that, after a change in their structure, aggregate into what are known as amyloids, causing them to mutate into aggressive pathogens. They can form in fungi, but there is also a prion antagonist that regulates the system. Prof. Roland Riek from ETH Zurich reveals that prions are part of a rudimentary immune system in fungi and are involved in a cellular self-recognition process. Cells of different fungal strains use prions to prevent individual fungi from exchanging genetic viral information with one another. Observation of the fungus and its proteins present a possible approach to combating the diseases associated with amyloid formation, including Alzheimer's, Parkinson's and Type II diabetes.

<http://tinyurl.com/03-100803>

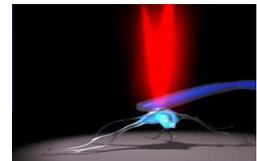


## Micro-Suction Cup To Manipulate Single Cells

(ETH Zurich, August 05, 2010)

Researchers from the Institute of Biomedical Techniques have developed a new method to pick up individual cells with a micro tip and relocate them undamaged. This will also allow future laboratory testing of how robust synthetically grown tissues structures on implant surfaces are. Two PhD students of Prof. Tomaso Zambelli's group developed a new application from the Fluidic Force Microscope which is based on atomic force microscopy. The micro needle is being patented and will be distributed by the ETH spin-off Cytosurge.

<http://tinyurl.com/03-100805a>

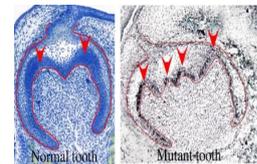


## Gene In Tooth Formation Process Discovered

(myScience.ch - UZH, August 05, 2010)

Researchers from the University of Zurich found out that if the Jagged2 gene is deactivated during the process of tooth formation, leading to a disruption of the so-called Notch signalling way, abnormalities of teeth crowns can occur and dental enamel might not well cover every tooth. Since this signalling way is involved in the growing of every tissue and organ, the knowledge of scientists could be used in a wide range of medial domains. Working also on stem cells, Prof. Mitsiadis is also looking towards the possibility of using such cells to grow new teeth.

<http://tinyurl.com/03-100805b>

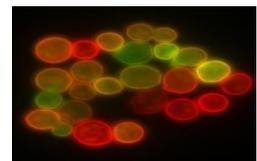


## Protein Sensor Triggers Cell Splitting

(ETH Zurich, August 06, 2010)

Researchers from the Institute of Biochemistry from ETH Zurich have discovered that cells measure their energy reserves using a sensor, which then "determines" whether they will grow and divide. This could be a general mechanism used by cells to react to excess nutrition. The regulation of the inner pH level by cells was studied by biochemists and they found that a high pH level gives the cells a stimulus to grow. A sensor protein registers this fluctuation and triggers cell division.

<http://tinyurl.com/03-100806>

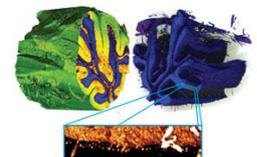


## New Technique To Observe The Brain

(SNSF – UNIBAS, August 09, 2010)

Researchers from the University of Basel can observe the human brain thanks to a new radiographic process. They are able to make individual cells visible without using a contrast substance as it is normally done. Such a technique could be a very useful tool for developing treatments against cancer. Instead of basing itself on the radiation emitted by tissues like traditional radiography, the team of Prof. Bert Müller has measured the force with which a specific tissue deviates incident rays.

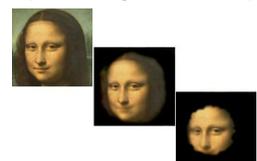
<http://tinyurl.com/03-100809F>



## Retinitis Pigmentosa Causing Gene

(UNIL, August 12, 2010)

Researchers from the University of Lausanne have discovered an unknown gene that is responsible for a hereditary disease, which induces a narrowing of the visual field and a progressive blindness. Retinitis pigmentosa is caused by faulty functioning or absent genes that have not been exhaustively identified. The team of Prof. Carlo Rivolta used a novel method





of high-speed DNA sequencing, the UHT technology, to analyze about 200 genes located in a region where it is supposed that a mutation responsible for the disease is happening.

<http://tinyurl.com/03-100812F>

### Narcolepsies Causing Gene

Researchers from the University of Lausanne and the University Hospital Center in Vaud has brought to light a gene that protects us from narcolepsies, a disease that provokes handicapping drowsiness and a loss of muscular tonus. This major discovery will help scientists better understand sleeping disorders. Prof. Mehdi Tafti and his team, in collaboration with the University of Geneva and other European peers, had already proved the auto-immune character of narcolepsies.

<http://tinyurl.com/03-100816a>

(UNIL, August 16, 2010)



### Solution For Implant Coatings Detachment

Extra-hard coatings made from diamond-like carbon (DLC) extend the operating lifetime of tools and components. In artificial joints, however, these coatings often fail because they detach. Empa researchers found out why and developed methods to both make the interface between the DLC layer and the metal underneath corrosion-resistant and to predict the lifetime of the implants.

<http://tinyurl.com/03-100816b>

(Empa, August 16, 2010)

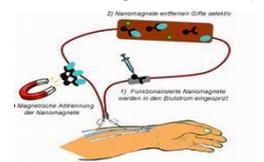


### Nano Magnets To Purify Intoxicated Blood

Scientists from ETH Zurich have managed to purify blood containing toxic agents in a few minutes using specially designed nano magnets. This promising process could, if put into practice, efficiently and rapidly help patients with intoxicated blood. Nano magnets are about 30 nanometers in diameter and weight less than 1 gram. Disease-causing substances in the blood bind with the nanomagnets. The nanomagnets are then removed using a permanent magnet.

<http://tinyurl.com/03-100817E>

(ETH Zurich, August 17, 2010)

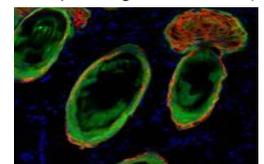


### Skin Tissue Produced From Thymus Cells

A team from the Laboratory of Stem Cells Dynamics, an entity depending from EPFL, the University of Lausanne and the University Hospital Center in Vaud, has succeeded in producing skin tissue from stem cells originating from another organ, namely thymus. Prof. Yann Barrandon's team has introduced epithelial cells from a rat into skin cells using transplant techniques that it developed. This scientific exploit opens the way to diverse applications such as in the transplant domain and organ regeneration.

<http://tinyurl.com/03-100819>

(Le Temps, August 19, 2010)



### Optimization Of High-Yield Mammalian Cell Cultures

Swiss Selexis SA, a leading biotech company designing high-performance and stable mammalian cell lines for the production of protein drugs, and Austrian BIOCRATES Life Sciences AG, a prime developer of metabolite biomarkers, have entered into a co-development agreement with a view to further increasing the drug substance yields from mammalian cell cultures for the pharmaceutical industry. Under the agreement, both parties will combine their knowledge to help lower overall manufacturing costs for pharmacologically active proteins.

<http://tinyurl.com/03-100819b>

(Selexis, August 19, 2010)

### Treatment Of Inflammatory Diseases

The Novartis 2010 Immunology Prizes were awarded to scientists for their outstanding contributions to basic and clinical immunology. The prizes recognize individual achievement and provide financial support (CHF 100'000) for further research by the recipients. The prizes are awarded every three year. Prof. Juerg Tschopp from the University of Lausanne and Prof. Charles Dinarello from the University of Colorado at Denver, US, shared the Clinical Immunology Prize for their contributions to the discovery and regulation of

(myScience.ch, August 23, 2010)





Interleukin-1 beta and its biological properties as well as the use of IL-1 beta antagonists for the successful treatment of certain inflammatory diseases such as periodic inflammatory syndromes and gout.

<http://tinyurl.com/03-100823>

### Antibiotics Resistance Caused By Mutating Genes

(UNIZH, August 26, 2010)

Antibiotics-resistant tuberculosis bacteria are a major problem when fighting against such a disease. Prof. Erick Böttger and his team have shed light on how the resistance of those cells is passed along. Researchers were able to show that a non-negligible part of surviving germs (after a patient has been treated with antibiotics) are capable of mutating to become resistant against a certain type of antibiotics. A careful analysis of the disease agent prior to the antibiotics treatment has thus to be conducted in order to diminish this risk of mutation and further resistance.

<http://tinyurl.com/03-100826>

### Use Of Genetically Modified And Pathogenic Organisms In Biotechnology

(admin.ch, August 30, 2010)

In 2009, 60% of activity in the field of biotechnology in closed systems dealt with genetically modified organisms (GMO) and 40% with pathogenic organisms (PO). Working with such organisms is of central importance to Switzerland. The country has a very strict legislation to protect human health and the environment as well as to take into account the freedom of choice of consumers, to guarantee the preservation of biodiversity but also to meet ethical issues. Comparatively few permits have been issued for the release of GMO and PO, as is also the case for the introduction of such products on the open market.

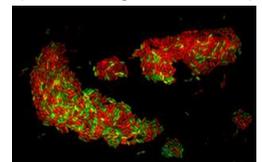
<http://tinyurl.com/03-100830>

### Insights Into Behavior Of Bacteria

(SNSF, August 31, 2010)

A new type of sensor with unprecedented sensitivity has led scientists to new insights into the behavior of bacteria. The concentration of a messenger determines whether bacteria move freely as individual cells or live in communities that form biofilms resistant to antibiotics. The ability to measure the levels of this messenger in individual living bacterial cells should boost the search for new antibiotics.

<http://tinyurl.com/03-100831a>



### Networking Capacities Of Human Brain

(UNIL, August 31, 2010)

A study realized at the University Hospital Center in Vaud and at the University of Lausanne under the supervision of Dr Micah Murray has proven that certain areas of the brain do not work in an isolated way but more in a networked way. In addition, it has been observed that human brain processes auditory information faster than we thought.

<http://tinyurl.com/03-100831b>



### Novel Drug Therapies Based On Polymer Chemistry

(Debiopharm, September 02, 2010)

Debiopharm Group, a Swiss-based global biopharmaceutical group of companies with a focus on the development of innovative prescription drugs that target unmet medical needs, announced that the Debiopharm Life Sciences Award 2010 went to Prof. Jean-Christophe Leroux from ETH Zurich for his innovative research on polymer chemistry, nanotechnology and pharmaceutical sciences to yield novel drug therapies. This year, the theme for the Award was Drug Delivery and Pharmaceutical Technology and the prize money reached CHF 100'000.

<http://tinyurl.com/03-100902a>



### Intelligent Bed For Bedsore Prevention

(Empa, September 02, 2010)

Empa's spin-off Compliant Concept has been honored with the CTI Medtech Award 2010 for its intelligent bed system for the prevention and therapy of decubitus ulcers (bedsores). The actively deformable slatted bed-frame structure ensures that bedridden patients are spared the development of bedsores, which are extremely painful and difficult to treat. The new nursing bed concept is based on a special slatted frame made of intelligent materials and a new mattress which, in combination, ensure that the bedridden occupant does not remain





motionless in the same position for too long, but is gently and firmly moved to imitate how a healthy person moves in bed.

<http://tinyurl.com/03-100902b>

### **Molecular Ultrafast Sciences and Technology Research Center**

(SNSF, September 02, 2010)

Research work has started in the National Centre of Competence in Research (NCCR) "MUST – Molecular Ultrafast Sciences and Technology". The aim of this NCCR is to achieve a more profound understanding of molecular structures and how they change. To this end the researchers first want to develop experimental and theoretical tools that make it possible to investigate chemical reactions, energy transfer processes at the atomic and molecular levels, and also electron and proton transfer processes with ultra short temporal and spatial resolution. A better understanding of these processes at the molecular level forms an important basis for the synthesis of complex, functional medicines, or the development of new electronic devices.

<http://tinyurl.com/03-100902c>

### **Kidney Homeostasis Research Network**

(SNSF, September 03, 2010)

The world's first research network to broadly examine physiological processes in the kidneys with regard to their role in preserving the balance (homeostasis) of body substances and functions will be launched in the shape of the National Centre of Competence in Research (NCCR) "Kidney.CH". Homeostasis refers to the body's system of self regulation which coordinates various functions such as body temperature, pulse rate, blood sugar level etc. and keeps them constant. Kidney homeostasis is particularly important given that chronic kidney disease can dramatically increase the risk of secondary diseases such as high blood pressure or osteoporosis. The aim is to incorporate research findings in new preventive, diagnostic and therapeutic approaches for treating kidney disease patients.

<http://tinyurl.com/03-100903a>

### **Genetic Research Project HapMap 3**

(UNIGE, September 03, 2010)

The third phase of the international HapMap project, which is the most comprehensive and ambitious study on genetic variations on genes' activities, has been completed. The research group is coordinated by Prof. Emmanouil Dermitzakis at the University of Geneva and gathers scientists from Switzerland, the U.S. and U.K. Even though it is known that DNA variations that have an influence of the activities of genes can favour a sensitivity to certain diseases such as diabetes, cardiovascular diseases or asthma, the understanding of subtle differences should make treatments more efficient.

<http://tinyurl.com/03-100903b>

### **New Experimental Malaria Drug**

(swissinfo.ch, September 03, 2010)

Scientists have identified a new experimental malaria drug able to cope with resistant strains of the deadly disease with just one dose. The discovery of the drug by an international team lead by Matthias Rottmann, researcher from the Swiss Tropical Institute in Basel, is particularly timely, as experts have reported in Asia the first signs of resistance to artemisinin, the essential ingredient of malaria treatments for millions of patients annually. In laboratory tests the new experimental anti-malarial drug, which belongs to a new class of compounds called spiroindolones, killed the two most common parasites responsible for malaria, including a range of drug-resistant strains.



<http://tinyurl.com/03-100903c>

### **Important Peptide Research Studies**

(UNIBAS, September 06, 2010)

The chemistry Prof. Helma Wennemers from the University of Basel has been honored with the Leonidas Zervas Award, which is one of the major prize in the peptide research domain. Indeed, she is famous for her studies on peptides as asymmetric catalysts, selective peptide authentication, polyproline as a molecular frame and selective division of peptides. The prize is awarded every two years and it is the third time that a scientist from Basel receives it.

<http://tinyurl.com/03-100906>



## Biological Cycle Enzyme

(UNIGE, September 10, 2010)

The team of Prof. Ueli Schibler from the University of Geneva has discovered and explained the major role of an enzyme that synchronizes internal clocks of the liver with the action of eating. Behaviors and biological functions, induced by internal clocks, fluctuate in a regular manner depending on the time of the day. These machineries are composed of genes whose expression oscillates on a circadian rhythm and reaches a daily peak. Disturbing these natural cycles can lead to physical disorders.

<http://tinyurl.com/03-100910>



## Meningococcal B Vaccine Candidate

(myScience.ch, September 12, 2010)

New Phase III data presented by Novartis Vaccines indicate that the investigational Multicomponent Meningococcal Serogroup B (4CMenB) Vaccine has the potential to be the first broad-coverage vaccine against the dynamic and deadly meningococcal B (MenB) disease. Results show that the large majority of the 3'600 children vaccinated at the same time as other routine vaccines achieved a robust immune response against all vaccine MenB antigens. Additionally, results show that 4CMenB had an acceptable tolerability profile when co-administered with other routine infant vaccines, which supports potential use of the vaccine in the first year of life, when the medical need is greatest.

<http://tinyurl.com/03-100912>

## Salmonella Clearance Depends On Gut Flora Diversity

(ETH Zurich, September 13, 2010)

Individuals with an intact complex gut flora are more likely to clear Salmonella after an infection than individuals with an altered, less complex gut flora. This is suggested by results from a mouse model for Salmonella diarrhea asking why certain people become chronic carriers after a salmonella infection. Prof. Wolf-Dietrich Hardt from ETH Zurich and his team have now discovered the circumstances under which an individual can become a chronic carrier of salmonella in a mouse model. If a way could be found to supplement and stabilize the patients' gut flora permanently with a greater variety of bacteria, persistent Salmonella infections might subside without drastic intervention.

<http://tinyurl.com/03-100913>

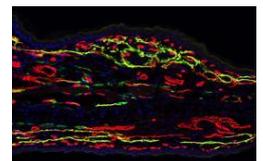


## Skin-Inflammation Mechanism

(ETH Zurich, September 15, 2010)

ETH Zurich pharmacists have discovered an astonishing mechanism that could help alleviate the suffering of patients with chronic skin inflammation, by stimulating lymphatic vessel growth. Prof. Michael Detmar at the Institute of Pharmaceutical Sciences hopes for an optimal treatment of inflammatory responses if blood vessels are inhibited and lymphatic vessels activated. In fact, the inflammation subsides noticeably if blood vessels can be prevented from growing into the foci of inflammation. Prof. Detmar hopes his research group's new strategy could provide a long-term replacement for cortisone therapy used to treat psoriasis.

<http://tinyurl.com/03-100915>

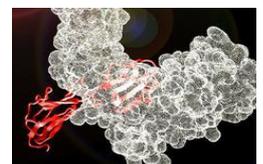


## Human Proteome Fully Mapped

(ETH Zurich, September 21, 2010)

A research team from ETH Zurich, led by Prof. Ruedi Aebersold, and from the Institute for Systems Biology, Seattle, has used mass spectroscopy methods to fully map the human proteome for the first time. The proteome data enables researchers to determine the number and type of proteins in any kind of biological sample using various mass spectrometric measurements. It is being made available to all biologists for further research. The researchers describe this as the "Gold Standard Reference for the human proteome".

<http://tinyurl.com/03-100921>



## Cells' Self-Destruction Mechanism Explained

(UNIGE, September 17, 2010)

Human cells are capable of provoking their own destruction as a reaction to a specific signal. This dysfunction can take place in normal as well as in pathological conditions and this process disorder is linked to the appearance of various diseases. The programmed cellular death is the result from a succession of biological events in which the mitochondria, the energetic central of the cell, plays an important role. The group of Jean-Claude Martinou at the



University of Geneva has shown how the membrane of this intercellular compartment becomes permeable when stimulated by a biochemical signal and how it releases molecules that induce cells' self-destruction.

<http://tinyurl.com/03-100917>

### Link Between Cardiovascular Diseases And Thyroid Diseases

(myScience.ch - UNIL, September 22, 2010)

A recent study published by an international research group led by Dr Nicolas Rodondi from the University Medical Policlinic in Lausanne shows a link between cardiovascular diseases and thyroid diseases, notably when the dysfunction of the latter has reached an advanced stage. This discovery will help better understand how to detect this problem at an earlier stage as well as develop new more efficient treatment against this disease.

<http://tinyurl.com/03-100922>



### Drug To Prevent Free Radicals Forming

(swissinfo.ch, September 23, 2010)

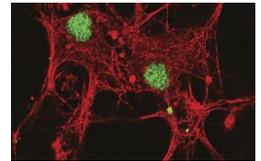
Geneva-based biotech company, GenKyoTex has won the 2010 Swiss Life Sciences Prize for the development of drugs that prevent the body from producing harmful forms of oxygen, known as free radicals. The inhibitors play an important role in the treatment of cardio-vascular, pulmonary and metabolic diseases. Organizers of the award hope the CHF 10,000 prize will "underline the importance of supporting young life science firms and demonstrate the importance of continuing support of academic education and attractive perspectives for young scientists".

<http://tinyurl.com/03-100923a>

### Cell-Based Platform To Fight Neurodegenerative Disease

(EPFL, September 23, 2010)

Researchers in EPFL's Brain Mind Institute have developed a novel platform that uses live, interconnected neurons to study the effects of Huntington's Disease on the cerebral cortex. Huntington's is a fatal genetic neurodegenerative disease that strikes mid-life and causes abnormal movements, mood disturbances, and cognitive decline. A team of investigators developed the cellular platform to study how neurons in the cerebral cortex communicate with one another. They found that the mutated gene in Huntington's caused a decrease in a chemical signaling factor, which in turn resulted in reduced communication between the cortical neurons.



<http://tinyurl.com/03-100923b>

### Reanimating The Human Heart For Transplant

(swissinfo.ch, September 24, 2010)

A team from Bern University hospital has developed a method to reanimate a human heart as long as 40 minutes after it has stopped beating, even when it has been kept at room temperature. The researchers, led by Hendrik Tevæarai, have been awarded the annual prize of the European Association for Cardio-Thoracic Surgery in Geneva for doubling the time believed the heart of dead patient can be kept suitable for transplants. This technique should make more hearts to be considered for transplants.

<http://tinyurl.com/03-100924>

### Functional Genomics Research For Food To Prevent Diseases

(EPFL, September 28, 2010)

Functional genomics and the associated sciences, which establish links between genes, eating behaviors and the expression of certain illnesses, are catching the interest of an increasing number of representatives of academia and industry. Nestlé has made a strong statement in terms of this new area of activity by announcing the creation of a new company, Nestlé Health Sciences SA, and a new research institute which will take up one whole building in the innovation area of EPFL. The envisioned research areas will focus on the diets of the future, with the goal of preventing illnesses such as obesity, diabetes and cardio-vascular disease.

<http://tinyurl.com/03-100928>

### Strong Radiology Research

(swissinfo.ch & myScience.ch, September 29, 2010)

On a per capita basis, Switzerland is number one in the world when it comes to diagnostic radiology research, a study released by the University of Zurich says. The report quantifies the research by calculating the number of studies undertaken in various nations and multiplying this by the impact of published findings and adjusting for population. Other socio-economic factors are also considered in the study. Switzerland is well ahead of the UK, Germany and the U.S., although these nations produce the highest absolute number of radiology research papers.

<http://tinyurl.com/03-100929>



## 4. Nano / Micro Technology / Material Science

### Universal Law For Material Evolution

(PSI, August 04, 2010)

Many important materials are composed of several phases, regions that differ in structure or chemical composition. When such a material is heated, atoms move from one phase to another, which changes the distribution of the phases and thus, the properties of the material. Researchers from the Paul Scherrer Institute, Northwestern University and Risø National Laboratory for Sustainable Energy have now shown that for an important case, there is a general law describing this process that is valid for all classes of materials, including metals and polymers. They found that the shape of the interfaces during break-up becomes universal, no matter what material is used. This sort of universality allows them to predict the dynamics of the break-up process in a vast array of materials.

<http://tinyurl.com/04-100804>

### High-Tech Clothing For Solar Impulse Pilots

(Empa, August 16, 2010)

When it gets cold, birds fluff up their coat of feathers; the air pockets between the feathers serve as an insulating layer and protect them from the cold. Conversely, when it gets warm, birds bring their feathers in close to their bodies. Empa researcher Markus Weder and his team copied this behavior from nature to develop a textile-based innovation, the vAIRis System ("variable insulation system"). This patented invention allows the production of down jackets whose insulating properties can be varied. This development also serves as the basis for the pilot's suit for Solar Impulse.

<http://tinyurl.com/04-100816>

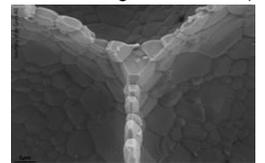


### Ceramic Foam For Insulation

(ETH Zurich, August 26, 2010)

The Institute for Non-metallic Inorganic Materials at ETH Zurich develops ceramic foams intended for use as energy-efficient thermal insulations in blast furnaces, as bone substitutes and for the controlled release of active ingredients in medicine. Urs Gonzenbach has developed highly porous ceramic foams that have significant advantages over conventional porous ceramics. They are up to 50% lighter, have a thermal conductivity that is about 30% lower and at the same time are twice as strong. The material owes these properties mainly to its porous microstructure which consists of tiny air inclusions, keeping the ceramic foams stable for several days.

<http://tinyurl.com/04-100826>

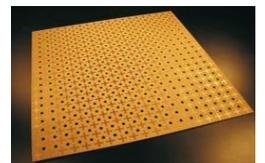


### New Radar Absorbing Surface

(ETH Zurich, August 31, 2010)

Researchers from ETH Zurich's Institute for Field Theory and High Frequency Electronics have developed new surfaces that can absorb radar radiation over an extremely broad range. Thanks to this multifaceted application, window panes could even double up as solar panels. Moreover, only being a few millimetres thick, the perforated plates are cheap and easy to make.

<http://tinyurl.com/04-100831>

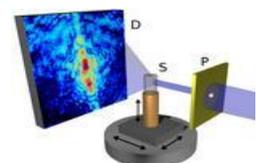


### High-Resolution Nano-Tomography

(PSI, September 23, 2010)

A novel nano-tomography method developed by a team of researchers from the Paul Scherrer Institute (PSI), ETH Zurich and the Technische Universität München (TUM), opens the door to computed tomography examinations of minute structures at nanometer resolutions. The new method makes possible, for example, 3-D internal imaging of fragile bone structures. This new technique will facilitate advances in both life sciences and materials sciences.

<http://tinyurl.com/04-100923>





## 5. Information & Communications Technology

### Campaigning For Free Wireless Access In Zurich

(swissinfo.ch, August 16, 2010)

Despite being Switzerland's largest city, main financial hub and an increasingly popular tourist destination, Zurich has yet to provide free wireless access to visitors and residents like other Swiss cities such as Lausanne and Geneva. A local computer expert spearheads efforts to gain free surfing facilities across the city. Rinaldo Cajochen founds a successful Facebook group and plans to start collecting the necessary 4'000 signatures to force a vote on the issue.

<http://tinyurl.com/05-100816>

### Augmented Reality To Make Real Objects Virtual

(ETH Zurich, August 19, 2010)

Researchers under the supervision of Mattias Harders at the Computer Vision Lab at ETH Zurich have developed a method with which they can produce virtual copies of real objects. The copies can be touched and even sent via the Internet. The aim of the EU project "Immersion", in which ETH Zurich has also been involved, was to develop new methods for haptic (sense of touch) interaction. In their next EU project, "Beaming", the scientists are planning a method of teleportation, in other words for virtually transporting people.



<http://tinyurl.com/05-100819>

### Tiny Biomolecule Switch

(PSI, August 24, 2010)

Researchers at the Paul Scherrer Institute and the University of Basel have altered the properties of a porphyrin molecule, a component of the haemoglobin molecule, which enables the transport of oxygen within the human body. A cobalt atom introduced into a porphyrin molecule acts as a tiny magnet, which aligns itself with the orientation of the magnetization of the substrate to which the molecule is attached. Researchers have shown that this property can be switched on and off by means of a simple chemical procedure, so that the molecule can be used as a tiny molecular switch. Even though this is still at the stage of fundamental research, it is already possible to think of a whole variety of applications, such as in magnetic data storage devices or even in quantum computers.



<http://tinyurl.com/05-100824>

### Fighting Against Counterfeit With Micro And Nanostructured Polymers

(ePresse – Le Temps, August 31, 2010)

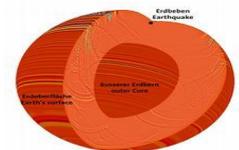
Researchers from the Swiss Center for Electronics and Microtechnology (CSEM) want to equip industrial products with micro and nanostructured marks to fight against counterfeit. They have developed a method based on micro and nanostructuring polymers to generate a unique countermark that can be made visible or not to the human eye. The reading of the mark is made using optical microscopy. The technology offers the advantage that every mark is random and cannot be copied identically.

<http://tinyurl.com/05-100831b>

### Scientific Simulations For High-Performance Computers

(ETH Zurich, September 02, 2010)

The Swiss platform for High-Performance and High-Productivity Computing (HP2C) is the world's first and only project with the aim of developing optimized scientific simulations for high-performance computers. Seismologists from the Institute of Geophysics at ETH Zurich are involved in the «Petaquake» project. A view into the Earth's interior similar to computed tomography for a human being could provide answers to central questions like what is the exact structure of the Earth's interior, what are the processes that take place there, where and how do earthquakes originate. This would thus help to improve seismic risk maps.



<http://tinyurl.com/05-100902>

### New eEconomy Board To Boost IT Technologies

(admin.ch, September 13, 2010)

Switzerland is the number one country in IT spending per capita. To use information and communication's technologies to their full extent, a new independent organ called eEconomy Board has been launched under the supervision of the Federal Councillor Doris Leuthard. It will gather 15 personalities from the economic, scientific and po-



litical sectors that will enhance knowledge transfer between the principal actors in the domain. Bio informatics, cloud computing, e-skills, smart work and social networks will benefit from a special focus.

<http://tinyurl.com/05-100913a>

### New Micro Projector

(EPFL, September 13, 2010)

Lemoptix, a spin-off of EPFL, working together with the Maher Kayal Laboratory, completed the development of its new micro projector with a projection head of 1 cm<sup>3</sup>. The device can be integrated in a portable computer or mobile telephone while keeping its bright, high-quality image. This projector uses very little energy, requiring on average 30% less current than the matrix- or LED-based technology currently available on the market. Many applications have already been identified, in particular in the automobile industry or the operating theater.



<http://tinyurl.com/05-100913b>

### Disney Research Zurich Wins Award

(ETH Zurich, September 23, 2010)

Disney Research Zurich has won the Tell Award for most significant Swiss Technology and Innovation Investment in 2009, the Walt Disney Company, ETH Zurich and the Greater Zurich Area AG jointly announced. Receiving the Tell Award is a mark of recognition to the Los Angeles-based company for successfully launching operations of its Disney Research Centre in the Greater Zurich Area in collaboration with ETH Zurich. The Tell Award is an annual celebration of Switzerland's most significant inward investment projects. Disney Research Zurich (DRZ) is the only research lab that Disney operates in Europe.



<http://tinyurl.com/05-100923>

## 6. Energy / Environment

### Arsenic Detector For Drinking Water

(UNIL, September 01, 2010)

Prof. Jan Roelof van der Meer from the Department of Fundamental Microbiology at the University of Lausanne, together with German researchers Hauke Harms and Mona Wells, were awarded the 2010 Erwin-Schrödinger Prize (EUR 50'000) for the development of an arsenic detector for drinking water. When gulped down, arsenic can cause severe skin, kidney and liver diseases as well as cancer. The new technology is extremely time efficient and very affordable compared to previous systems. It makes use of genetically modified bacteria that become luminescent when in contact with arsenic.



<http://tinyurl.com/03-100901>

### Swiss Balloon Over Kilimanjaro

(swissinfo.ch - UNIFR, August 09, 2010)

A research team from the University of Fribourg has taken its first air balloon flight over Kilimanjaro to collect data on climate change. The team, which includes mineralogists Mario Meier and Daniel Wiedenmann, drifted up to 5'500m and crossed over the massif but were unable to fly directly over the summit after winds pushed the balloon toward the South. The scientists brought along equipment to measure fine particles in the air. The material gathered will be studied back in Fribourg to help researchers better understand how volcanoes influence climate change. It is the first time such research has been conducted from a hot air balloon.



<http://tinyurl.com/06-100809>

### More Efficient Batteries

(PSI, August 11, 2010)

The Paul Scherrer Institute (PSI) takes part in the new research network of the chemical company BASF. Research focuses on energy storage of electric batteries. A goal of the project is to develop new materials and components with high energy density properties. The facilities at PSI will allow to perform experiments on new types of lithium-based batteries. Most of the research conducted at PSI will take place within projects initiated between the research institute and academic, industry and other scientific partners.

<http://tinyurl.com/06-100811a>



## Swiss Solar Taxi Around The World In 80 Days

(swissinfo.ch, August 11, 2010)

Louis Palmer, the Swiss inventor who last year circumnavigated the globe in a solar taxi, said four teams will follow in his tire tracks next week. Teams from Australia, Germany, South Korea and Switzerland will fire up their electric vehicles on August 16 in Geneva in an effort to race around the world in 80 days without producing any carbon emissions. They will finish there again in January 2011. Palmer said the aim was to show that electric vehicles were practical for daily use. He hopes to repeat the race every two years.

<http://tinyurl.com/06-100811b>



## Farm Animals' Methane Emissions Reduction

(swissinfo.ch, August 18, 2010)

According to the UN Food and Agriculture Organization, farm animals are responsible for 18% of total greenhouse gas emissions. Michael Kreuzer from ETH Zurich and his research team have added natural supplements to the cows' fodder that modify the animals' diet to stop them producing methane. After they added powdered tannins to hay, methane emissions dropped by 30 to 40%. The fruit of the soapberry and flax seeds also had a positive impact. The project is due to last three years. It is part of Switzerland's contribution to the world-wide search for ways to limit the impact of agriculture on the climate and environment.

<http://tinyurl.com/06-100818a>

## Global Risk Forum Outcomes

(Global Risk Forum Davos, August 18, 2010)

The 3<sup>rd</sup> International Disaster and Risk Conference (IDRC) held in Davos with its motto "Risks, Disasters, Crisis and Global Change – From Threats to Sustainable Opportunities" was another milestone toward the integration of the ever more complex and interwoven portfolio of risks, security and disaster related topics, themes and trends. Moreover, the conference demonstrated that the community of risk and disaster experts, scientists, managers and practitioners has experienced itself a fast process of integration. The more intricate, complex and multifaceted nature of risks require an innovative, integrated and problem-oriented approach to risk and disaster knowledge and management.

<http://tinyurl.com/06-100818b>

## New Center For Sustainable Development And Environment

(UNIBE, August 19, 2010)

The University of Bern has opened a new interdisciplinary Center for Sustainable Development and Environment. This new research center will reinforce the international position of the institution in the domain. Among other topics, food security as well as the distribution of wealth among a population will be studied. Besides research, tools will aimed at politicians will be developed in order to implement projects and promote the practical utilization of knowledge.

<http://tinyurl.com/06-100819>

## Biggest Swiss Solar Park Starts Power Generation

(myScience.ch, August 24, 2010)

The first photovoltaic panels of Switzerland's largest solar park initiated by EPFL and Romande Energie have been mounted on rooftops of buildings at the Federal Institute of Technology in Lausanne. Besides serving in R&D activities and experiments, the PV modules covering an area of 20'000 m<sup>2</sup> will deliver more than 2 million kW every year. Both citizens and companies are welcome to become partners of this project dubbed "moncarrésolaire" (literally my solar square).

<http://tinyurl.com/06-100824>



## New Method For Drinking Water Evaluation

(Eawag, August 26, 2010)

An interdisciplinary team consisting of members of Eawag and Zurich Water Company won the Muelheim Water Award. The jury selected the Swiss project among 23 international applications because it presented a new, practical method for the evaluation of drinking water. The team led by Prof. Thomas Egli convinced the jury with its project that proposes a method capable of directly detecting the germ count in drinking water to a large extent. It is already in application at present at Zurich Water Company and contributes to securing the high quality of the drinking water in Zurich. This is the second time that an Eawag team receives the award.

<http://tinyurl.com/06-100826>





## Ecobalance Of Electric Car Li-Ion Batteries

(Empa, August 27, 2010)

Battery powered electric cars will most likely play a major role in future of mobility. What was not known so far, however, was how environmentally friendly the manufacture, operation and disposal of the rechargeable batteries are. Empa researchers have now, for the first time, calculated the ecological footprint of the most commonly used type, the lithium-ion battery using a detailed life cycle assessment. The result is better than expected. A conventional car with a petrol engine must consume less than 4 liters of fuel per 100km in order to be as environmentally friendly as modern electric cars.

<http://tinyurl.com/06-100827>



## Energy Consumption Statistics

(admin.ch, August 30, 2010)

Since 1990, Switzerland's final energy consumption has risen by just under 13%. In 2008, 18.5% of final energy consumption was derived from renewable sources (including wood and hydro-power) and 80% of Switzerland's energy demand was met by imported energy. Representing around a third of final energy consumption, transport is proportionally the largest consumer group. Households account for 25%, industry and services for the rest. Fossil fuels such as oil, natural gas and coal account for around two-thirds of the energy consumed in Switzerland.

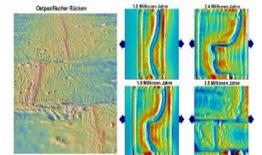
<http://tinyurl.com/06-100830a>

## Plate Tectonics Phenomenon Explained

(ETH Zurich, August 30, 2010)

Transform faults subdivide the mid-ocean ridge into segments. Up until now, it was thought that these faults were ruptures that formed in less stable crust areas. Taras Gerya at the Department for Earth Sciences at ETH Zurich has recorded a model of the dynamics that lead to the transform faults, which shows that what were assumed to be ruptures are in fact structures that have grown naturally. She carefully studied the Earth's largest underwater mountain range, the mid-ocean ridge, which is found at locations where new oceanic crust is created in the planet's oceans.

<http://tinyurl.com/06-100830b>



## First Survey On Fungus Biodiversity In Northern Hemisphere

(ETH Zurich, September 09, 2010)

Switzerland is a biodiversity hotspot in relation to the worldwide distribution of dark septate fungal root endophytes (DSEs) of the *genus Phialocephala*. A new study by Christoph Grünig from the Institute of Integrative Biology of ETH Zurich showing their distribution in the northern hemisphere is now available for the first time. Mycologists have analysed more than 5'500 samples from North America, Europe and Asia and determined the species present in them genetically, because the fungi, which live in root cells, are morphologically indistinguishable from one another. However, the distribution is still unclear and does not follow any pattern.

<http://tinyurl.com/06-100909a>

## Sustainability-Driven Healthcare Leader

(myScience.ch, September 09, 2010)

Roche has been named Supersector Leader in Healthcare in the Dow Jones Sustainability Indexes for the second year running. This top ranking among the world's leading sustainability-driven healthcare companies is a reflection of Roche's commitment to its employees, communities and environment, and positions Roche as a global leader in the management of sustainable business practices. Roche's activities in the area of sustainability include, among others, reduction of energy consumption and improving energy efficiency and the development of new approaches to bring medically valuable and sustainable healthcare products and services to patients around the world.

<http://tinyurl.com/06-100909b>

## Sustainable Building In Extreme Conditions

(ETH Zurich, September 09, 2010)

The new Monte-Rosa hut has been awarded a solar prize in the category "new buildings and renovations". The mountain hut, built 2,883 meters above sea level, has a self-sufficiency level of 90%, achieved thanks to the use of solar panels and of efficient air conditioning and water treatment systems. It will also be labelled as a "Minergie-P" building according to Swiss construction standards. The objective of ETH Zurich is also to demonstrate that sustainable building in extreme conditions is feasible.

<http://tinyurl.com/06-100909c>





## CFC Ban Has Proven Effective For Ozone Layer

(ETH Zurich, September 10, 2010)

For the first time, Jörg Mäder and Thomas Peter from the Institute for Atmospheric and Climate Science of ETH Zurich have used worldwide data from all the measuring stations that have measured the ozone layer thickness practically every day for decades. They analyzed the size of the variations and trends, and which factors contributed to temperature variations as a measure of climate change. They were able to clearly show that the ozone increase at most of the stations in recent years can be explained only through the effectiveness of the 1987 Montreal Protocol, which regulated the use of chlorofluorocarbons (CFCs) that deplete the ozone layer and act as a greenhouse gas.

<http://tinyurl.com/06-100910>

## More Eco-Friendly And Cheaper Lithium-Ion Batteries

(PSI, September 16, 2010)

The 2010 Swisselectric Research Award was given to the Swiss chemist Andreas Hintenach who managed to substantially increase the life span of lithium-ion batteries. The technology he developed makes current storage more eco-friendly and cheaper compared to actual batteries. He used microscope techniques to observe how graphite-coated electrodes exfoliate during charging and discharging processes, progressively reducing the storage capacity of the battery. He used olivine to show that this deterioration process was slower and also developed efficient ways to manufacture olivine-coated electrodes.



<http://tinyurl.com/06-100916>

## International Renewable Energy Agency

(swissinfo.ch, September 22, 2010)

Switzerland will join the International Renewable Energy Agency (IRENA). The stated goal of the international organization is to become "the main driving force for promoting a rapid transition towards the widespread and sustainable use of renewable energy on a global scale". Nearly 150 states and the EU have signed IRENA's statutes. The Swiss government agreed to join the international agency in hopes of benefiting from technology and know-how transfers. IRENA was launched at the beginning of 2009 by Germany, Denmark, Spain and Austria.

<http://tinyurl.com/06-100922>

## World's Biggest Solar Boat

(Tages Anzeiger, September 28, 2010)

The MS Tûranor PlanetSolar has set sail in Monaco for its world tour, powered solely by the electricity from its solar panels on the deck. The six-men crew led by Swiss sailor Raphaël Domjan will spend at least eight months at sea, with a first stop in Miami. The trip will bring them to Cancún, San Francisco, Sydney, Singapore, Abu Dhabi and the Suez canal, traveling almost 50'000km. The catamaran is 31mx15m big and solar modules cover an area of 537m<sup>2</sup>, propelling the 95-ton boat at 14 km/h, making it world's biggest solar boat.



<http://tinyurl.com/06-100928>

## 7. Engineering / Robotics / Space

### Swiss Participation In Mars Mission

(UNIBE, August 03, 2010)

The Institute of Physics at the University of Bern is again taking part to an important mission to Mars. The ExoMars Trace Gas Orbiter (EMGO) of NASA and ESA is the first mission to Mars where probes of the surface of the planet should be brought back to Earth. The device will analyze the chemical composition of the atmosphere and will try to identify the sources of atmospheric trace gases like methane. Researchers in Bern will build the telescope of the High Resolution Stereo Color Imager camera which will take high-resolution pictures of the red planet. The launch of the EMGO is planned in 2016.

<http://tinyurl.com/07-100803>

### Affordable Sun Observation Device For Developing Countries

(ETH Zurich, August 09, 2010)

Students of the Institute of Astronomy at ETH Zurich are building affordable measuring devices that are operated worldwide. For example, they have designed a 800-gram equipment of the size of a shoe box to observe the Sun.



The aim is to enhance collaborative research with partner institutes in developing countries and to create a global network of Sun-observing stations.

<http://tinyurl.com/07-100809>

### World Record For Space Probe

(UNIBE, August 13, 2010)

The space probe Rosetta has made it into the Guinness World Records' book. The probe has covered 408 million kilometers away from the Sun, further than any other probe propelled via solar energy. Onboard the ESA mission is the Rosina mass spectrometer that was developed at the University of Bern. Rosetta should reach the Churyumov-Gerasimenko comet in 2014.

<http://tinyurl.com/07-100813>

### Neurological Studies At International Space Station

(UNIBAS, August 17, 2010)

In the coming years, an international research team will study the consequences of long stays in space aboard the International Space Station. The University of Basel takes part to the project through Prof. Dominique de Quervain, a neurologist whose research focuses on the effects of stress factors in space on memory. This research is part of the general project launched by ESA to better understand the consequences linked to stress on the immune systems and brains of astronauts.

<http://tinyurl.com/07-100817>

### Exoplanetary System Discovered

(UNIGE, August 23, 2010)

A team of astronomers from the University of Geneva has discovered a planetary system with at least five planets that orbit around a star similar to the Sun. Scientists also proved the existence of two additional planets, one of which would be the lightest planet ever detected. It has been evidenced that distances between planets and their star follow a regular pattern, which is also observed in our solar system. Physicists have used the HARPS spectrometer mounted on one of the large ESO telescopes in Chile.

<http://tinyurl.com/07-100823>



### World's Fastest Long-Haul Sailboat

(swisster.ch, August 24, 2010)

The Hydroptère sailing team revealed the prototype of a new vessel designed to be the fastest long-haul sailboat in the world. Two wing-like foils – the only parts of the boat to touch the water – are joined by a light framework and cargo netting, powered only by the wind driving sails on a towering mast. Engineers have innovated a new system of lateral rudders and a second rear tail unit that can be raised by a new system to diminish water drag. EPFL played a key supporting role as official scientific advisor to the team, conducting studies around materials, aero-hydrodynamic behavior and computer vision systems.

<http://tinyurl.com/07-100824>



### Super-Massive Black Holes To Explain Universe Formation

(swissinfo.ch, August 25, 2010)

A team of astronomers led by Lucio Mayer from the University of Zurich believes to have discovered how and when the universe's first super-massive black holes were born. The discovery could help scientists understand how gravity and dark matter formed the universe. Using computer simulations, Mayer and his team found the first super-massive black holes were probably born when early galaxies collided and merged together, around 13 billion years ago. The team's results show that big structures like galaxies and massive black holes built up quickly, the opposite of what was thought until now.

<http://tinyurl.com/07-100825>



### CERN's Space Detector

(swisster.ch, August 26, 2010)

CERN's alpha magnetic spectrometer (AMS) is designed to study cosmic rays for antimatter and dark matter in a project that complements particle physics research being done on the ground. It has been transported from Geneva to Florida where tests will be conducted before its launch aboard NASA's space shuttle scheduled in 2011. The AMS is a detector that will examine fundamental issues about matter and the origin and structure of the Universe directly from space.

<http://tinyurl.com/07-100826>



## Brain Controlled Wheelchair

(EPFL, September 05, 2010)

José de R. Millán's laboratory in the EPFL Neuroprosthetic Center is accomplishing a seemingly impossible task, namely piloting a wheelchair using only one's mind. An artificial intelligence system called shared control is being developed to render the brain-machine interface more usable. In effect, thoughts activate specific brain patterns that are recorded by electroencephalography (EEG) using a helmet with electrodes. These patterns are then interpreted by a computer that transmits a command to the chair.

<http://tinyurl.com/07-100905>



## Mini-Robot For Industrial Inspection

(swissinfo.ch, September 06, 2010)

A miniature robot developed at EPFL has won the Industrial Innovation Award in Japan. Experts reckon Cy-Mag 3-D's ability to negotiate the tightest nooks and crannies inside power generators could save millions in costly shutdowns. Indeed, the device has heralded the possibility, through its cockroach-like ability, to reach inaccessible areas deep inside the guts of a power generator, an inspection process which currently requires shutdown and sometimes disassembly.

<http://tinyurl.com/07-100906>



## Innovative Electric Sports Car Wins X-Prize 2010

(Tages Anzeiger, September 17, 2010)

The X-Prize 2010 for the promotion of energy efficiency for vehicle manufacturing was awarded to the Swiss team X-Tracer Switzerland from Peraves AG in Winterthur that developed an innovative electric sports car. The company won this USD 2.5 million Progressive Insurance Automotive X-Prize prize from the X Prize Foundation in the category alternative tandem. The Swiss car covered a distance of 100 km using only 1.24 liter gas. The vehicle has two seats and had to have a minimum average speed of 88km/h over 160km and consume less than 2.3 liter of gas for 100 km.

<http://tinyurl.com/07-100917>



## Carbon-Fiber Enhanced Water Turbine Blades

(myScience.ch – FHNW, September 28, 2010)

The University of Applied Sciences in North-Western Switzerland (FHNW) has been awarded the 2010 Innovation Prize for the development of intelligent systems for water turbine blades. The German industry association awards this prize annually to projects that are innovative in the reinforced synthetic materials domain. FHNW worked in collaboration with EPFL to enhance blades using carbon fiber-enhanced plastics that can be used by electric companies running turbines in Swiss dams.

<http://tinyurl.com/07-100928>



## 8. Physics / Chemistry / Maths

### Cold Atoms To Depict Microwave Fields

(UNIBAS, August 02, 2010)

Microwave switching networks are integrated in numerous electronic devices where they decode and convert information. Simulation of those complex microwaves fields are required to optimize them. Researchers from the University of Basel, the Ludwig Maximilian University in Munich and the Max Planck Institute for Quantum Optics have developed a method which allows to depict magnetic fields induced by microwaves in an extremely precise way. They use ultra cold atoms as sensors for microwaves' fields. Observed images show the distribution of states of a cloud of atoms in the vicinity of a micro chip after the spreading of a microwave pulse.

<http://tinyurl.com/08-100802>



### Improvements In Catalytic Converter

(EPFL, August 03, 2010)

Catalytic converters are encountered everywhere in our cars and in the chemical industry. However, the chemical reaction and molecular mechanisms are not well understood. A discovery on heterogeneous catalysis made at the



EPFL may help to shed light on a field with high economic and ecological stakes. Researchers mixed methane with water vapour, which was then converted into hydrogen and CO on contact with a nickel surface. Using a powerful laser, chemists have been able to excite the vibrations and to orientate the methane molecules. Surprisingly enough, this process increases the effectiveness of the reaction many times over by a factor of between 1000 and 10,000.

<http://tinyurl.com/08-100803>

### Swiss Free-Electron X-Ray Laser Inaugurated

Researchers at the Paul Scherrer Institute (PSI) have unveiled the core installation of the new installation called SwissFEL, which will be the future free electron X-ray laser of the PSI from 2016 onwards. Federal Councillor Didier Burkhalter activated the device that produced the first electron beam. This state-of-the-art device will further strengthen the leading role that Switzerland plays in research on a global scale.

<http://tinyurl.com/08-100824>

(PSI, August 24, 2010)

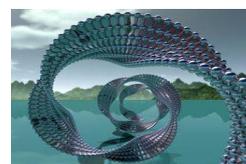


### Creative Pictures Of Algebraic Forms

(Tagesanzeiger.ch & ETH Zurich, September 07, 2010)

ETH Zurich and Tagesanzeiger.ch, in partnership with the Oberwolfach Institute of Research in Mathematics, are looking for the most creative pictures of algebraic forms. ETH Zurich will exhibit creations that visitors can make themselves using computer programs. An open competition is organized.

<http://tinyurl.com/08-100907>



### European Young Chemists Award 2010

(EPFL, September 21, 2010)

Profs. Anne-Clémence Corninboeuf (computational molecular design), Xile Hu (Laboratory of Inorganic Synthesis and Catalysis) and Cramer Nicolai (Cramer group) were awarded the European Young Chemists Award 2010 during 3<sup>rd</sup> EuCheMS Chemistry Congress held in Germany. The event presents the latest research in the core topic areas of chemistry, feature multidisciplinary programming, and highlight chemistry's impact on society. It brings together chemical and molecular scientists from industry, academia and government institutions across Europe and from around the world.

<http://tinyurl.com/08-100921>

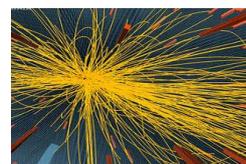


### Promising Results At CERN's LHC

(swissinfo.ch, September 22, 2010)

Researchers at CERN say the Large Hadron Collider (LHC) appears to have produced a small amount of the matter that existed in the first moments of the universe. Colliding particles seem to be creating hot dense matter that would have existed microseconds after the Big Bang and might hold the key for understanding how the liquids, gases and solids of our universe were created. Data showed for the first time that protons have quantum properties that can be enhanced in collisions.

<http://tinyurl.com/08-100922>



## 9. Architecture / Design

### University Cinema Section At Locarno's Film Festival

(ECAL, August 16, 2010)

After having won the "Pardino d'oro" two years ago and the "Cinema e Gioventù Prize" last year, the cinema section of the University of art and design Lausanne (ECAL), headed by Lionel Baier, has been awarded further prizes at Locarno's Film Festival 2010. ECAL won the four major distinctions in the short film category for the national competition.

<http://tinyurl.com/09-100816>





## New Urban Quality Research Program

(SNSF, August 25, 2010)

The national research program NRP 65 «New Urban Quality» aims at (further) developing concepts and strategies for new urban quality and testing the feasibility of the research findings. The projects will demonstrate innovative ways to achieve urban development, urban redevelopment, and urban planning in Switzerland that are realizable in the medium and long term. CHF 5 millions will be allocated over three years to five projects; two at ETH Zürich and the others at the University of Fribourg, the Università della Svizzera italiana (USI) and the architect office in Rougemont.

<http://tinyurl.com/09-100825>

## Successful Swiss Design At Biennale

(EPFL, September 07, 2010)

The Kingdom of Bahrain's first National participation at the International Architecture Exhibition, La Biennale di Venezia, has been awarded the Golden Lion. The exhibit titled Reclaim, which was conceptualized, designed, and constructed by the Laboratory of Architectural Production lead by Prof. Harry Gugger and Leopold Banchini at EPFL, is a reflection about cultural transitions and how they are represented by architecture.

<http://tinyurl.com/09-100907>



## Technology Meets Fashion

(ETH Zurich, September 08, 2010)

18 students from the Swiss Textile School, together with 15 electro engineers students of ETH Zurich, have designed fashion clothes that feature special effects such as LEDs, motion sensors and other computer-linked devices. The project, dubbed "Ready-to-live", aims at including technology with fashion to create "living clothes" that react to stimulus from the environment.

<http://tinyurl.com/09-100908>



## Swiss Pavilion Façade In Shanghai Reacts To Environment

(swiss-architects.com, September 10, 2010)

The façade of Switzerland's pavilion at the Shanghai Expo 2010 is rewarded by two international prizes, namely the iF communication design gold award 2010 and the red dot award 2010 on communication design. It makes use of the sun as a creative force to store energy and reacts to flashes of visitors' cameras. Plastic elements, which are sensitive to light exposure and to the activity of neighboring elements, are spread throughout a grid, emitting light via LEDs when stimulated. The resulting pattern is thus constantly evolving according to the environment.

<http://tinyurl.com/09-100910>



## Innovative Thermal Bath Design

(swiss-architects.com, September 23, 2010)

The thermal baths in Samedan designed by Miller & Maranta have been awarded the contractworld.award 2011 after having been honoured by the best architects Award 2011. These prizes underline their innovative ideas applied to interior design.

<http://tinyurl.com/09-100923>



## 10. Economy, Social Sciences & Humanities

### Earliest Dog Bones Found

(Swisster.ch, August 02, 2010)

The earliest evidence of a domestic dog anywhere in the world were found at an archeological site in Kesslerloch in the canton of Schaffhausen. German scientists who have dated bones, including a cranial fragment and teeth from a dog, to between 14,100 and 14,600 B.C. The researchers said the bone fragments were distinctly different from the remains of wolves from the same era.

<http://tinyurl.com/10-100802>





### Mammoth Unearthed

(myScience.ch, August 04, 2010)

Blasting operations in a stone quarry in Wildegg in canton Aarau allowed the digging up of bones and tusks of mammoths. Archaeologists from the University of Neuchâtel will conduct tests and analysis to determine the origin of the animal. The rests of the ancestor of the elephant were discovered in a moraine from the glacial period dating back between 145'000 and 230'000 BC and were partially in a sediment form.

<http://tinyurl.com/10-100804>



### Chronic Stress Transmitted Hereditary

(ETH Zurich, August 19, 2010)

Researchers from the University of Zurich and ETH Zurich led by neuroscientist Isabelle Mansuy have shown that depressive, impulsive and antisocial symptoms caused by acute chronic stress during childhood are transmitted from generation to generation in an epigenetic way. After eight years of experiments on mice, this discovery could explain certain behavior patterns observed in patients suffering from traumatic disorders.

<http://tinyurl.com/10-100819>



### System To Digitalize Nuremberg Trials

(swissinfo.ch, August 27, 2010)

Historic audio recordings from the Nuremberg Trials of Nazi war criminals will be made available to the public thanks to a unique Swiss system. The International Court of Justice in The Hague has requested help from the College of Engineering and Architecture in Fribourg to digitalize hundreds of hours of audio from the trials stored on 2'000 dusty old vinyl records using the "Visual Audio" system that has been developed together with the Swiss National Sound Archive in Lugano. Although transcripts and short films of the trials already exist, it will be the first time digital recordings of the entire trial sessions will be available to the public via the internet.

<http://tinyurl.com/10-100827>

### Celtic Festival At Swiss Archeological Site

(swisster.ch, August 30, 2010)

Wannabe warriors have clashed during battle reenactments during the first Celtic festival ever to take place at this major archaeological site in La Tène, Neuchâtel, which is considered a reference for Celtic studies for European scientists. Craftsmen, bands and storytellers also provided insight and entertainment from a 2,000-year-old culture. No Celtic written history exists, possibly because druids censored writing, to maintain their mystique as "keepers" of knowledge. They also took charge of education, medicine and religion.

<http://tinyurl.com/10-100830>



### New Finance Research Center

(UNIL, September 02, 2010)

The University of Lausanne (UNIL) and the EPFL have inaugurated the new finance center, which brings professors, students and companies together. Besides research activities, teaching has a central role and two master programs have been established. The one at UNIL will focus on portfolio and risk management whereas the one at EPFL will focus on financial engineering. The doctoral program is supported by the Swiss Finance Institute, a leader in Europe. In its objective of establishing itself as a pole of excellence, seminars will also be organized.

<http://tinyurl.com/10-100902>

### Age-Heterogeneity Effect On Company Productivity

(UNIZH, September 03, 2010)

The 2010 Gerontology Vontobel Prize has been awarded to the economist Stephan Veen from the University of Zurich for his work entitled "The effect of age-heterogeneity on company productivity: Results from a large employer-employee data set". He could show for the first time that the increase in age-heterogeneity has a positive effect on operational productivity when companies follow an innovative business strategy. The prize is one of the major award in this domain and is endowed with CHF 20'000.

<http://tinyurl.com/10-100903>

### Archaeological Remains Of A Church

(UNIL, September 08, 2010)

An archaeologist from the University of Lausanne has discovered archaeological remains of a church dating back to the fifth century AD. Doing excavations every year since 2008 on the Epomanduodorum site in the canton of



Jura, he was originally digging to find monuments of an old Roman military camp before unearthing and discovering surprising relics. Excavations will resume next summer.

<http://tinyurl.com/10-100908>

### Jewish Community Undergoes Radical Transformation

(SNSF, September 14, 2010)

The Jewish society in Switzerland is undergoing a radical transformation. More and more Jews do not identify themselves with religious rules of traditional orthodox communities and start adhering to more liberal groups. How mixed marriages, those involving Jews and non-Jews, are handled remains the biggest source of potential conflict. These are the conclusions drawn by a recent study from the National Research Program "Religion, the State and Society" (NRP 58).

<http://tinyurl.com/10-100914>



### eDiversity – Web-Based Cultural Diversity

(Neue Luzerner Zeitung, September 17, 2010)

The Swiss-Academies Award for Transdisciplinary Research, with a cash prize of CHF 75'000, has been given to the project "eDiversity: The Legal Protection of Cultural Diversity in a Digital Networked Environment" led by Prof. Beat Graber from the University of Lucerne. It is awarded every two years by the Swiss Academy of Economics. The project proposed new basic principles concerning the regulation of media to protect old, indigenous cultural assets as well as modern ones that are for example web-based.

<http://tinyurl.com/10-100917>

### Finance And Development Competence Center

(IHEID, September 20, 2010)

The Graduate Institute of International and Development Studies (IHEID) at the University of Geneva and the Pictet Foundation will start a partnership, which aims at creating a competence center dedicated to finance and development. The foundation pledged to give CHF 25 millions to the famous Graduate Institute in Geneva to build a new building as well as to finance various chairs.

<http://tinyurl.com/10-100920>



### Factors Influencing Job Creation

(EPFL, September 21, 2010)

For the second time in a row, Prof. Marc Gruber has won one of the most prestigious awards in the field of entrepreneurship research. The article "Individual and Opportunity Factors Influencing Job Creation in New Firms" by Prof. Marc Gruber is the winner of the 2009 "Thought Leaders Award" by the Entrepreneurship Division of the Academy of Management. The award committee honours the best published papers in entrepreneurship in 2009 in three categories: foundational; thought-leader; and research promise.

<http://tinyurl.com/10-100921>

### Management Master Course Ranking

(ePresse – Le Temps, September 24, 2010)

The University of St.Gallen is ranked 4<sup>th</sup> in the latest masters in management ranking by the Financial Times. In effect, its program "Strategy and International Management" leads the other programs from other Swiss universities, the Master of Science in Management from the University of Lausanne being ranked 35<sup>th</sup>. The daily economic newspaper has surveyed 65 leading international business schools, focusing notably on the recruiting percentage among their graduates and their financial remuneration.

<http://tinyurl.com/10-100924>

### Pluridisciplinary Research Promotion

(Le Temps, September 27, 2010)

The Brocher Foundation recently inaugurated the Villa Brocher that will welcome researchers from around the world in order to encourage a pluridisciplinary thought on the ethical, legal and social implications for humankind of recent medical research and new medical technologies. The Foundation aims to give the opportunity to both junior and senior researchers to write scientific articles, meet other researchers from different disciplines and backgrounds working on close topics, meet experts from the numerous International Organizations based in Geneva and Swiss academic institutions and also organize pluridisciplinary symposia or workshops.

<http://tinyurl.com/10-100927>



## 11. Technology Transfer / IPR / Patents

### World's Top Young Innovators

(EPFL, August 26, 2010)

MIT's Technology Review magazine lists Jochen Munding of routeRANK as one of the world's top innovators under the age of 35. Selected from more than 300 nominees, the TR35 is an elite group of young innovators who exemplify the spirit of innovation. routeRANK provides a software solution for travel planning. Unlike other solutions that consider only one means of transport at a time, routeRANK addresses the entire travel route by integrating rail, road, and air connections. In a single search, routeRANK's patent-pending technology finds and ranks the best possible travel routes, allowing users to sort them according to their priorities such as price, travel time, and CO<sub>2</sub> emissions.

<http://tinyurl.com/11-100826>

### New, Unique Master In Corporate Law And Innovation

(UNINE, September 09, 2010)

The University of Neuchâtel launches a unique and first-of-its-kind master in Switzerland on corporate law and innovation with a special focus on innovative start-ups. Intellectual property is a major theme that will be taught in order for students to gain knowledge in this growing domain. Students will learn about the tools for an efficient technology transfer. Internship possibilities will be offered to participants, allowing them to complete their theoretical education.



<http://tinyurl.com/11-100909>

### Underground Positioning System Technology

(CTI, September 24, 2010)

InfraSurvey Sarl., a spin-off of L'Institut Suisse de Spéléologie et de Karstologie and founded in February 2010, won the Prix BCN Innovation of Banque Cantonale Neuchâteloise endowed with CHF 500'000. The award recognizes InfraSurvey's unique UnderGround Positioning System technology which helps to localize persons underground and in real time and projecting 3-D pictures. InfraSurvey Sarl. has been profiting from CTI Start-up Coaching since October 2009.

<http://tinyurl.com/11-100924>

### National Innovation Park Project

(ePresse – AGEFI, September 28, 2010)

The city of Biel could be chosen for the construction of a national innovation park. A study by the Swiss research foundation proves the feasibility of this project that could offer a platform to science and economy for diverse research activities, gathering Swiss as well as international companies and universities but also universities of applied sciences. The park would be linked to the projects in Dubendorf near Zurich and in Rarogne/Tourtemagne in the canton of Valais.

<http://tinyurl.com/11-100928>

### New Interfaces For Electronic Equipment

(EPFL, September 30, 2010)

Logitech is opening its new and largest research and development center at EPFL. It will be called the "Daniel Borel Innovation Center", in honor of the co-founder of the company. The new building, situated in EPFL's innovation area, will house teams specialized in the research and development of a new generation of interfaces. These interfaces will be integrated into, for example, computing platforms, TV screens in the "digital home" and in smartphones. The researchers will work closely with the Logitech incubator.



<http://tinyurl.com/11-100930>

### Swiss Federal Institute of Intellectual Property

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

### Swiss Technology Transfer Association

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



## 12. General Interest

### World's 2<sup>nd</sup> Best Country In Newsweek Ranking

(Newsweek, August 17, 2010)

Newsweek magazine ranks Switzerland No. 2 in world's best countries. Being only outstripped by Finland, Switzerland ranks No. 2 in health and quality of life and is among the top ten in education and economic dynamism, the openness of a country's economy and the breadth of the size of its corporate sector.

<http://tinyurl.com/12-100817>

### Swiss Abroad Launch Social Network

(swissinfo.ch, August 19, 2010)

Swiss expatriates have entered virtual space by launching their own online social network SwissCommunity. The platform will allow the nearly 700,000 Swiss abroad to contact each other, exchange information, strengthen ties with their country of origin and stay up-to-date on what's going on in Switzerland. SwissCommunity is designed as an exclusive worldwide club of expatriates and has officially been inaugurated at the annual congress of the Organisation of the Swiss Abroad (OSA).

<http://tinyurl.com/12-100819>

## 13. Calls

### New ERC Grant Call

(S&T Office, August 30, 2010)

The European Research Council (ERC) has launched the 4<sup>th</sup> call for Starting Grants. The deadlines for proposal submission depend on the discipline: October 14, 2010 for Physical Sciences and Engineering, November 9, 2010 for Life Sciences and November 24, 2010 for Social Sciences and Humanities. The ERC Starting Grant addresses researchers who obtained their PhD 2-12 years before the publication of the call and will conduct their ERC-project at a host institution in an EU member state or associated country (such as Switzerland).

<http://tinyurl.com/ERC-regional>

### Marie Curie Grant Call

(S&T Office, August 30, 2010)

The two following Marie Curie Actions are equally open: (i) Industry-Academia Partnerships & Pathways (IAPP), aiming at fostering dynamic pathways between public research organizations and private sector, in particular SMEs (deadline for proposal submission: December 7, 2010); (ii) Initial Training Network (ITN), aiming at improving early-stage researchers' career perspectives in both public and private sectors (deadline for proposal submission: January 26, 2011).

<http://tinyurl.com/13-100830>

### Call For Challenges In Information And Communication Sciences and Technologies

(SNSF, August 31, 2010)

The Challenges in Information and Communication Sciences and Technologies (ERA-Net CHIST-ERA) are ready for the opening of its 1<sup>st</sup> call. Launched in January 2010, the program involves agencies, including the Swiss National Science Foundation (SNSF), from nine European countries. Two topics will be addressed in this first call: "Quantum Information Foundations and Technologies" and "Beyond Autonomic Systems - the Challenge of Consciousness". The CHIST-ERA initiative is looking for highly innovative and multidisciplinary collaborative projects in information and communication sciences and technologies.

<http://tinyurl.com/05-100831a>

### Funding For International Workshops

(SNSF, September 21, 2010)

The International Exploratory Workshops of the Swiss National Science Foundation (SNSF) allow for researchers working in Switzerland to organize workshops with partners from abroad. The aim of this funding instrument, which is open to all fields of research, is to allow researchers working on a similar question to meet and advance their knowledge on the issue. Typically, the workshop should bring together scientists with different backgrounds that might bring new insights to a theme by sharing their knowledge and actively working together. Interdisciplinary is therefore encouraged. Furthermore, it is strongly advised to have a balance of established researchers and young promising scientists among the participants.

<http://tinyurl.com/13-100921>



## Astroparticle Physics - Call For Applications

(SNSF, September 21, 2010)

ASPERA is a network of national government agencies responsible for coordinating and funding national research efforts in Astroparticle Physics. This call is the 2<sup>nd</sup> of a series of common calls for R&D and design studies for the realisation of future Astroparticle infrastructures identified in the ASPERA Roadmap and is targeted towards future high energy cosmic ray and neutrino mass experiments. The duration of the funding period for successful proposals shall be up to 3 years. The deadline for the receipt of proposals will be on November 19, 2010.

<http://tinyurl.com/13-100921b>

## Upcoming Science and Technology Related Events

### Forum EPFL

October 12-20, 2010

<http://forum.epfl.ch>

Switzerland's biggest recruiting fair  
EPFL campus

### 4<sup>th</sup> National Climate Forum

October 20, 2010

<http://www.climateforum.ch>

Energy, Science, Economy  
Congress Hotel Seepark, Thun

### Mechanical Properties of Materials

October 20, 2010

<http://www.empa-akademie.ch>

CCMX Technical Aperó  
Empa, Dübendorf

### 3<sup>rd</sup> Motor Summit 2010

October 26-28, 2010

<http://www.motorsummit.ch>

Zentrum Glockenhof, Zurich

### CEO days 2010 (CTI)

October 27, 2010

<http://www.b2match.com/ceoday>

High-Tech Start-Up Meeting  
BEA Congress Center, Bern

### Renewable Energies

October 27, 2010

<http://www.fael.ch>

Seminar on renewable energies  
Aula Kantonsschule Hottingen, Zurich

### Sustainable Mobility

October 27, 2010

<http://www.empa-akademie.ch>

Technology Days 2010  
Empa, Dübendorf

### Techno-Pôle Inauguration

October 29, 2010

<http://tinyurl.com/techno-pole>

The Ark, Sierre

### 5<sup>th</sup> Swiss Innovation Forum

November 04, 2010

<http://www.swiss-innovation.com>

Novartis Campus, Basel

### swissnexDay 2010

November 08, 2010

<http://www.swissnex.org>

Internationalization of Swiss higher education institutions  
EPFL and ECAL campus, Lausanne

### Novatlantis

November 08, 2010

<http://www.novatlantis.ch>

Towards a 2'000 W society  
Novatlantis Bauforum, Basel

### 19<sup>th</sup> Europe Forum Lucerne

November 08-09, 2010

<http://www.europa-forum-luzern.ch>

Education, Research, Innovation  
KKL Luzern

### venture ideas

November 10, 2010

<http://tinyurl.com/venture-ideas>

Company creation & tech transfer  
Auditorium CO1, EPFL campus

### Micronarc Industrial Forum

November 10, 2010

<http://www.micronarc.ch/forum2010>

Aspects of nanomaterials: conception, characterization and processing  
Ecole d'ingénieurs et d'architectes de Fribourg

### House Building and Energy Fair 2010

November 11-14, 2010

<http://tinyurl.com/bern2010>

BEA bern expo, Bern

### Swisstech 2010

November 16-19, 2010

<http://www.swisstech2010.com>

Europe's central fair for the subcontracting industries  
Messe, Basel



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

State Secretariat for Education and Research SER  
swissnex and Swiss Knowledge Network

### **2011 Academic Enterprise Award Europe**

February 03, 2011

<http://www.sciencebusiness.net/aces>

ETH Zurich

### **Red Conference**

March 7-10, 2011

<http://www.red-conference.ch>

Rethinking Education in the Knowledge Society

Monte Verità, Ascona

### **Science-Switzerland Back Numbers**

[http://www.swissinnovation.org/Science-Switzerland\\_JunJul\\_2010.pdf](http://www.swissinnovation.org/Science-Switzerland_JunJul_2010.pdf)

[http://www.swissinnovation.org/Science-Switzerland\\_AprMay\\_2010.pdf](http://www.swissinnovation.org/Science-Switzerland_AprMay_2010.pdf)

[http://www.swissinnovation.org/Science-Switzerland\\_FebMar\\_2010.pdf](http://www.swissinnovation.org/Science-Switzerland_FebMar_2010.pdf)

[http://www.swissinnovation.org/Science-Switzerland\\_DecJan\\_2009-2010.pdf](http://www.swissinnovation.org/Science-Switzerland_DecJan_2009-2010.pdf)

[http://www.swissinnovation.org/Science-Switzerland\\_OctNov\\_2009.pdf](http://www.swissinnovation.org/Science-Switzerland_OctNov_2009.pdf)

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