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Science-USA (Boston+), December 2012

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swissnex Boston welcomes you to the 3rd edition of the monthly newsletter *Science-USA (Boston+)*. This electronic publication is designed to report on trends in education, research, innovation and art. Created for busy people in Switzerland, the newsletter will consist of two spotlights on outstanding Swiss talents and a concise overview of the developments in the science and innovation industries on the US East Coast. Additionally, we will provide you with a taste of swissnex Boston activities throughout the year.

Swiss Spotlight

Startup: SUBA - Swiss Underwater Buoyancy Assistant

(Christopher Webb CEO, SUBA, December 07, 2012)

Imagine the advantages for a Scuba Diver of being able to control the descent, depth limits and ascent profiles before and during a dive with the simple touch of a button. This is now possible thanks to SUBA®, which works similar to the cruise control in a car. SUBA will be on exhibiting at the 2013 Boston Sea Rovers at CoCo Key Hotel & Water Resort in Danvers MA, on March 8th – 10th 2013 and Beneath the Sea Consumer Scuba and Travel show at Meadowlands Exhibition Center, Secaucus, New Jersey on March 22nd – 24th 2013. Attendees can stop by the booth to see this remarkable new BCD up close.
http://swissinnovation.org/newsUS/web/2012/00-121207-06.html

Startup: zkipster - Industry's Best Guest List Management

(David Becker Co-Founder, zkipster, December 01, 2012)

The world of events is various - but one thing is universal: Everybody wants to get into the cool ones! Gate crashing red carpets is considered a sports discipline in New York and Los Angeles. Frankly, it is not hard at all - events with paper guest lists are chaotic and event proprietors have no chance keeping check-in under control. This is why zkipster - Tablet Guest List hit the scene. Two Swiss entrepreneurs developed the industry's best guest list management cloud service in alliance with a Manhattan-based public relations powerhouse. The app helps event producers from Boston to Zurich to digitally check guests into events. The guest list cloud replaces paper lists and allows event hosts to keep guest data up to date. Guest lists stored on iPads sync in real-time which devices at all points of entry. This is why it kills gate crashing.

swissnex Boston Events

Governor Deval Patrick meets swissnex Boston's newest Director

(swissnex Boston, December 21, 2012)

Felix Moesner and Andreas Rufer had the pleasure and privilege of meeting with Massachusetts' Governor Deval Patrick at the State House on December 20, 2012. The objective of this courtesy call was primarily to introduce Felix Moesner as the new Director of swissnex Boston and to inform the Governor about swissnex Boston's mission and some upcoming events. Felix highlighted the Deep Water Project with the PlanetSolar Boat, in partnership with the University of Geneva. Governor Patrick was both impressed and enthusiastic that PlanetSolar will come to Boston soon. Furthermore, Governor Patrick was interested in how Massachusetts and Switzerland can learn from each other's innovation economy. The sister agreement between the State of Massachusetts and the Canton of Basel was mentioned.
http://swissinnovation.org/newsUS/web/2012/00-121221-86.html

Swiss MIT Professor nominated to EPFL School of Engineering

(EPFL, December 13, 2012)

Olivier de Weck is a recognized leader in the area of systems engineering. His research focuses on the way that complex artificial systems – aircraft, space vehicles, cars, printers and critical infrastructures – are designed, and how they evolved over time. The main emphasis is on strategic properties that have the potential to maximize the value of the life cycle of these products. Olivier de Weck has developed new methods and quantitative tools that take into account ease-of-manufacture, flexibility, commonality and durability, among other characteristics. His knowledge of engineering complex systems will give him many opportunities to contribute to multi-disciplinary activities at EPFL, in particular at the Swiss Space Center.
http://swissinnovation.org/newsUS/web/2012/00-121213-46.html

First swissnex Connector Award

(swissnex Boston, December 12, 2012)

Another successful year for swissnex Boston is coming to an end. To thank the unique swissnex community and celebrate all the year's achievements swissnex Boston hosted the first swissnex Connector Award Gala. The highlight of the evening was when Mayor Henrietta Davis announced the swissnex Connector Award (SCA) winner. After a two month long campaign one of the 3 nominees (Daniela Domeisen, Prof. Joe Brain and Dave McLaughlin) of the SCA was elected. The successful winner, Daniela Domeisen co-founded SwissLinkBoston, a very dynamic and successful networking platform for Swiss students and young professionals. Another highlight of the event was the Charity Silent Auction. Fourteen pieces by the Basel Academy of Art and Design were auctioned and the proceeds was donated to the Cambridge-based education program Tutoring Plus.
http://swissinnovation.org/newsUS/web/2012/00-121212-c0.html

>> More past events at swissnex Boston:
http://www.yourswissnexboston.org/

New drug for chronic myeloid leukemia treatment; operations in Lausanne

(The Boston Globe, December 09, 2012)

Ariad Pharmaceuticals Inc. has spent two decades in classic biotechnology start-up mode. Company scientists have labored at designing drugs and identifying diseases to target, while its investors have waited for Ariad's first product to hit the market. As it anticipates that ruling, Ariad is moving quickly to transition from a research operation to a fully commercial company. The workforce has been more than doubled to nearly 300 employees since the start of the year. Ariad also has opened a European headquarters in Lausanne, Switzerland, and hired a sales force, including many refugees from Big Pharma companies, as preparations are made to market the new leukemia drug to oncology and hematology specialists on both sides of the Atlantic.
http://swissinnovation.org/newsUS/web/2012/00-121209-59.html

1. Policy

Massachusetts Senator named new Foreign Minister

(The Boston Globe, December 21, 2012)

President Obama nominated Massachusetts Senator John Forbes Kerry as the next secretary of state, turning to the chairman of the Senate Foreign Relations Committee and one of his earliest political allies to guide American diplomacy in an "uncertain world" during the next four years. The selection of the 69-year-old Kerry, which came after UN Ambassador Susan Rice withdrew her name from consideration last week, was heralded across the political divide as a wise choice of a fully tested player on the international stage who can dive into some of the world's most challenging problems -- from the civil war in Syria and fears of an Iranian nuclear bomb to winding down the war in Afghanistan and navigating America's complex economic and security relations with a rising China.
http://swissinnovation.org/newsUS/web/2012/01-121221-36.html

2. Education

Tech-Savvy vision for Suffolk University

(The Boston Globe, December 04, 2012)

Suffolk University ninth president James McCarthy will unveil a new vision for the school that seeks to transform the 106-year-old university into a leader in tech-savvy, career-oriented learning while keeping tuition costs down. One of his first orders of business is funneling resources into career-oriented academic programs such as public policy, entrepreneurship, global business, innovation, and intellectual property. Online instruction will better equip students for a workplace where employees are expected to quickly digest and communicate information using technology. His goals for e-learning will also function as a key cost-saving measure.
http://swissinnovation.org/newsUS/web/2012/02-121204-50.html

Extra school hours in Massachusetts

(The Boston Globe, December 03, 2012)

Select schools in Colorado, Connecticut, New York, and Tennessee will join Massachusetts in adding extra school hours. The announcement comes six years after the Bay State launched a program to extend the day at schools in several districts; the new effort will add to that. More than 5,000 students at schools in Lawrence and Fall River will see longer days under the pilot program, and more than 19,500 students will participate in all five states. Participating schools will also receive technical assistance. Schools in the pilot program will plan to offer 300 extra hours of instruction and enrichment during the year.
http://swissinnovation.org/newsUS/web/2012/02-121203-c0.html

Gates grant for Boston's school system

(The Boston Globe, December 05, 2012)

Boston will receive a $3.25 million grant from the Bill & Melinda Gates Foundation to foster collaboration among the city's school system, charter schools, and parochial schools. Boston will be one of just seven US cities to receive a grant. The money will allow Boston to build upon a historic partnership launched last year to bolster the quality of education for all the city's students, regardless of what kind of school they attend. The grant will pay to train teachers and administrators on instructional techniques for students who are not fluent in English. It also will be used to identify and expand efforts to accelerate the performance of black and Latino boys and to simplify the process for parents to enroll their children in school.
http://swissinnovation.org/newsUS/web/2012/02-121205-83.html

Gender identity questions to improve college experience

(The Boston Globe, December 13, 2012)

The University of Iowa has become the nation's first public university to include optional questions about sexual orientation and gender identity on its application, hoping to improve the college experience for gays and lesbians. University officials say the move sends a strong signal that they value the diversity that gay, lesbian, bisexual, and transgender students bring to campus. They say that knowing some students' sexual orientation will allow them to track their enrollment and graduation rates and promote housing, student groups, and programs that might improve their social and academic success.
http://swissinnovation.org/newsUS/web/2012/02-121213-47.html

Massachusetts among the world's best in math and science

(The Boston Globe, December 11, 2012)

Massachusetts eighth-graders outperformed most countries on a highly regarded international math and science exam, according to results, offering fresh evidence that the state's educational system rivals academically powerful nations around the globe. In the science part of the test, only Singapore outscored Massachusetts eighth-graders. In math, Massachusetts trailed only South Korea, Singapore, Chinese Taipei, Hong Kong, and Japan; 63 countries took the test. The impressive showing on the Trends in International Math and Science Study, more commonly known as TIMSS, bodes well for Massachusetts as it tries to build a larger and more sophisticated workforce in the sciences and emerging technologies.
http://swissinnovation.org/newsUS/web/2012/02-121211-9e.html

3. Life Science

Professional athletes accumulate brain damage

(The Boston Globe, December 03, 2012)

The most extensive examination to date of deceased athletes' brains shows that most had signs of brain damage after suffering repeated head injuries — including two high school football players who died in their teens. The work provides new insight into an Alzheimer's-like condition, called chronic traumatic encephalopathy, that is thought to be caused by repeat concussions or blows to the head. The autopsies revealed extensive evidence of injury in which brain tissue is clogged by a protein, called tau, causing the destruction of brain cells. Some neurologists, however, emphasized that there is still reason for skepticism about whether multiple blows to the head lead to the type of brain damage documented in the study.
http://swissinnovation.org/newsUS/web/2012/03-121203-f1.html

Student athletes and head injuries

(The Boston Globe, December 28, 2012)

Some student athletes who suffered a head injury are at risk of returning to the field or rink before their brain is fully healed, according to a new study on a concussion test used by more than 300 schools in Massachusetts. The study, slated for publication in January's issue of the journal Brain Injury, found that 28 percent of the athletes who initially seemed to have regained their cognitive abilities, particularly memory, saw a dip after moderate exertion. Young people usually want to get back on the field. The study, though, suggests much tighter rules might be needed on when athletes can return to play after a head injury.
http://swissinnovation.org/newsUS/web/2012/03-121228-bf.html

Kidney cancer drug awaits FDA approval

(The Boston Globe, December 23, 2012)

AVEO's application for their lead drug candidate, tivozanib, was accepted for review last month by the Food and Drug Administration. The drug is for the treatment of advanced renal cell carcinoma — kidney cancer. And there are about 200,000 patients worldwide. New patients each year in the United States are in the range of 12,000 to 15,000. There have been drugs approved for that disease, starting in the early part of 2006. They do extend the life of patients and extend the period in which you can control the tumor but also have a lot of toxicity. Tivozanib throughout pivotal studies has shown not only that it can have efficacy, but it has much less side effects.
http://swissinnovation.org/newsUS/web/2012/03-121223-b7.html

Blood test for autism

(The Boston Globe, December 05, 2012)

Boston Children's Hospital researchers have developed a prototype blood test for autism, and preliminary results suggest it could one day be used to help diagnose the disorder when children are very young and respond best to treatment. The urgency and need for better tests for autism is increasing as its prevalence grows, in large part because children's brain are most easily molded early in life. Intervening sooner has a greater chance of having real and lasting improvements. But researchers cautioned that the work has limitations and that the blood test needs much more study before it is clear whether it could be a useful tool for doctors and parents.
http://swissinnovation.org/newsUS/web/2012/03-121205-0c.html

Personalized medicine service in Massachusetts

(The Boston Globe, December 05, 2012)

With personalized medicine becoming a key focus for medical research and diagnosing conditions, Partners HealthCare System, the region's largest hospital and physicians network, is positioning itself to become a national leader in the emerging field. Boston-based Partners will launch a "whole genome" sequencing and interpretation service for patients at its nine hospitals across Eastern Massachusetts, including Massachusetts General and Brigham and Women's. The service, which will cost about $9,000, is intended to help doctors and patients make critical decisions about treatments. Once it is up and running, the genetic screening and interpretation service — using a suite of proprietary Partners software — could be extended to hospitals elsewhere.
http://swissinnovation.org/newsUS/web/2012/03-121205-52.html

New golden age of biotech in Massachusetts

(The Boston Globe, December 11, 2012)

We're living in a new golden age of biotechnology in Massachusetts. This golden age is about important new drugs and therapies, the kind that have legitimate blockbuster potential. More local companies than ever are developing products like that and bringing them to market. Biogen and Genzyme literally helped invent their industry decades ago. Those companies pioneered their own commercial pathways when the major pharma companies were ignoring those products. Now a group of smaller companies showing serious commercial potential. Those companies have emerged from the pack with realistic blockbuster ambitions. Today's biotech companies with the most potential have very good products and a plan to keep most of the commercial opportunity for themselves.
http://swissinnovation.org/newsUS/web/2012/03-121211-bc.html

Spin-off development of "Bioartificial" Organs

(The Boston Globe, December 12, 2012)

The Holliston company said it will seek to raise $20 million by taking public its wholly owned subsidiary, Harvard Apparatus Regenerative Technology, known as HART, which is developing parts for "bioartificial" organs such as replacement tracheas using plastic scaffolds seeded with the cells of patients needing airway transplants. Executives said they expect to complete the offering within seven months depending on market conditions. This spinoff will allow each business to focus exclusively on being successful in its own market. Harvard Bioscience would retain 80 percent of HART and distribute the remaining shares to Harvard Bioscience shareowners.
http://swissinnovation.org/newsUS/web/2012/03-121212-f9.html

Osteoporosis bone drug development

(The Boston Globe, December 12, 2012)

Radius Health Inc. is weighing other ways to raise the roughly $55 million needed to take its experimental osteoporosis drug through the next stage of development. An estimated 200 million women and 30 million men suffer from osteoporosis, a bone disease that makes them vulnerable to debilitating hip, neck, and back fractures. While existing treatments work to slow bone loss, a new generation of medicines from Radius and competing companies, including Amgen Inc., seek to strengthen bones and prevent fractures. In past years, there was strong investor appetite for biotechs that had drugs in the late stages of development. But price pressures from insurers and risk aversion by the Food and Drug Administration, which approves drugs in the United States, has altered that calculation.
http://swissinnovation.org/newsUS/web/2012/03-121212-71.html

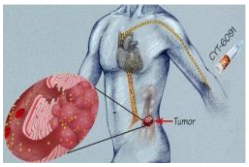
New biotechnology company for protein therapy

(The Boston Globe, December 06, 2012)

Yet another biotechnology company has opened for business in the backyard of the Massachusetts Institute of Technology. Jump-started with $40 million in funding and support from heavyweights in the biotech and pharmaceutical fields, Moderna Therapeutics is aiming to create drugs that stimulate the production of proteins to treat cancer, genetic diseases, hemophilia, diabetes, and other conditions. The initial funding, from the venture capital firm Flagship Ventures and private investors, will be used to begin conducting human clinical trials within the next two years for a treatment that is designed to speed up the way therapeutic proteins are generated, and reduce the cost of such treatments.
http://swissinnovation.org/newsUS/web/2012/03-121206-f4.html

Gold particles could deliver cancer drugs

(The Boston Globe, December 24, 2012)



AstraZeneca is expected to announce that its oncology unit in Waltham is collaborating with a Maryland company to develop an innovative cancer therapy. The proposed treatment involves delivering powerful cancer drugs on the backs of gold nanoparticles, made by CytImmune, Rockville, Md., that are so tiny 5,000 of them can fit in the width of a human hair. At that size, the gold flecks make a particularly good vehicle because they can easily carry other molecules, like cancer drugs. The gold nanoparticles may solve a longtime challenge facing cancer drug developers: delivering medicine in high enough doses to kill the cancer cells but not the patient.
http://swissinnovation.org/newsUS/web/2012/03-121224-cd.html

New drug brings high cholesterol under control

(The Boston Globe, December 24, 2012)

Aegerion Pharmaceuticals has won Food and Drug Administration approval to sell its first drug, Juxtapid, a treatment for a rare inherited genetic disorder that can raise cholesterol to life-threatening levels. The condition, homozygous familial hypercholesterolemia, or HoFH, is resistant to statins and other medications typically used to bring high cholesterol under control. In a 78-week clinical trial, the drug reduced patients' LDL (low-density lipoprotein) cholesterol levels by an average of 50 percent. The drug will be available in pill form nationwide beginning in January and will be taken by patients in conjunction with a low-fat diet and other lipid-lowering treatments.
http://swissinnovation.org/newsUS/web/2012/03-121224-8f.html

The importance of new drugs

(The Boston Globe, December 25, 2012)

The crowd of biotech and small drug companies operating in Massachusetts are known as a vibrant industry capable of creating big profits and thousands of good jobs. The focus is on products and sales, whether they will drive stock prices higher or make a company attractive as a takeover target. The most successful new products are defined more by commercial achievement ($1 billion in annual sales) than how they improve the lives of patients. In fact, some of those products, e.g. Iclusig, Kalydeco, and Avonex affect lives in profound ways. Many patients face a future of debilitating pain and suffering, perhaps something worse, before a new treatment changes everything.
http://swissinnovation.org/newsUS/web/2012/03-121225-aa.html

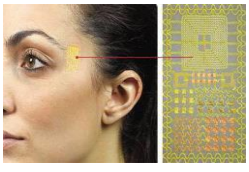
New drugs and devices in Boston

(The Boston Globe, December 30, 2012)

Fresh off their success in hosting well-attended national industry conventions in Boston, Massachusetts biotechnology and medical technology companies will turn their attention next year to bringing new drugs and devices to market. After years of research and clinical trials, several biotechs are making the transition to full-scale commercial enterprises as they win Food and Drug Administration approval for new therapies. At the same time, a growing number of global pharmaceutical companies are setting up operations in the Boston area to strike drug research partnerships with the region's cluster of venture-backed biotechnology firms and university and hospital researchers.
http://swissinnovation.org/newsUS/web/2012/03-121230-94.html

Flexible body sensors adhere to skin

(The Boston Globe, December 31, 2012)



For years, scientists and engineers have struggled to design electronics that could conform to the human body as it moves and flexes. But now a Cambridge firm is poised to deploy its first wave of products based on stretchable circuit technology. The company, MC10 Inc., is developing flexible electronics for a variety of applications, from the medical world, where its circuits can more closely and precisely monitor heart conditions, to athletics, where its sensors track vital signs and can even detect possible concussions. MC10 is making devices that are not intrusive or unwieldy, so consumers and patients will be more willing to accept them. The sensors it plans to release in 2013, for example, are about the size of a postage stamp.
http://swissinnovation.org/newsUS/web/2012/03-121231-8e.html

Wearable heart rate sensor

(The Boston Globe, December 31, 2012)

Based at Harvard University's Innovation Lab, the new start-up Bobo Analytics is working on a wristwatch-like product to monitor your heart rate and movement. As founder and chief executive Will Ahmed put it: "The chest strap that monitors heart rate is a 30-year-old technology, and people don't wear it all the time. We want to understand what's happening on a daily basis." The prototype has two optical sensors that collect data about your pulse, as well as an accelerometer to monitor motion. Ahmed said the company is also testing sensors for skin temperature and perspiration. The Bobo device can send data via Bluetooth to a nearby phone, tablet, or laptop, letting users log their data over time.
http://swissinnovation.org/newsUS/web/2012/03-121231-d9.html

Biological clock linked to gene variation

(The Boston Globe, December 10, 2012)

A large team led by researchers at Boston hospitals recently reported a surprising result: a common variation in a gene was associated with being an early bird, and with the time of day people died. The scientists who published the new findings in the Annals of Neurology said the research needs to be repeated in a larger group of people to see whether it holds up. But, given the importance of our body's natural rhythms, they and others argue, it is important to try and unravel the biology of the clock.
http://swissinnovation.org/newsUS/web/2012/03-121210-c1.html

4. Nano / Micro Technology / Material Science

Animal inspired novel medical appliances

(The Boston Globe, December 24, 2012)

When faced with a thorny medical problem, Dr. Jeffrey Karp and his students sometimes head to Franklin Park Zoo or the New England Aquarium. Animal life is a big source of inspiration for Karp and his colleagues at the center on regenerative therapeutics he runs at Brigham and Women's Hospital. The group has a knack for developing clever pieces of medical engineering based on how animals have adapted to their environment. A case in point: waterproof bandages inspired by the sticky feet of the Tokay gecko, a native of Southeast Asia. Now Karp has two more creature-inspired inventions: a cancer detector sparked by jellyfish tentacles and a painless needle designed after the quills of a porcupine.
http://swissinnovation.org/newsUS/web/2012/04-121224-f2.html

5. Information & Communications Technology

Energy-efficient supercomputer with help of crowd funding

(The Boston Globe, December 03, 2012)

To raise the money for his company's new computer, called Parallella, Olofsson turned to KickStarter, the online "crowdfunding" service that lets ordinary people invest money like venture capitalists. Visitors to the KickStarter website can pledge small amounts of money to help launch businesses that appeal to them. Investors don't get a stake in the company; instead, they get the satisfaction of backing a bright idea, and, in this case, a chance to own one of the first Parallella computers. Parallella uses a new, highly efficient processor that was designed by Olofsson's team. Like a high-end desktop computer, it can run billions of calculations per second. But while a typical PC uses 100 watts of power or more, Parallella will require just 5 watts. By connecting multiple units, a user could build a supercomputer that would be extremely energy-efficient.
http://swissinnovation.org/newsUS/web/2012/05-121203-f1.html

New car services via smartphone apps

(The Boston Globe, December 03, 2012)

At a recent conference, regulators and car services from the United States and Europe talked about how smartphone apps are changing the hire-a-car business. Some are integrated with car companies' dispatching systems, while others allow drivers to directly connect with passengers, phone to phone. The battle underscores the tension between lawmakers and technology companies as websites and mobile apps outmaneuver old rules. Services like Uber, Airbnb, and Craigslist can cut out the middlemen and lead to more efficient markets. But regulators say they could put consumers at risk.
http://swissinnovation.org/newsUS/web/2012/05-121203-76.html

New Big Data analyzing start-ups

(The Boston Globe, December 03, 2012)

The science of analyzing huge troves of data has become such a big business that investors in Massachusetts are rushing to find the next billion-dollar companies. Chris Lynch, a partner at the Cambridge venture capital firm Atlas Venture, said Big Data analysis can benefit businesses of all kinds and goes beyond commercial uses. Massachusetts is already home to a substantial Big Data community, thanks in part to research at Boston-area universities and a rich legacy of corporate giants in the information technology business. Even so, the state is losing data scientists who are lured away by other opportunities. So Lynch and others opened a nonprofit hacker space, dubbed hack/reduce, to encourage development in the field by providing researchers with access to large data sets and the computing power necessary to analyze them.
http://swissinnovation.org/newsUS/web/2012/05-121203-4c.html

Big Data scientists

(The Boston Globe, December 30, 2012)

Data scientist has been called the sexiest job of the 21st century. As organizations wrestle with the ocean of data generated by mobile devices, social computing, the cloud, and other technologies, data scientists help turn this information, known as Big Data, into insights companies can use. Andrew Schwartz is a data scientist and cofounder of Lattice Engines, a data analysis firm in Boston. In a previous company, he worked to help a casino optimize slot machines. He discovered that the size of the "take" is not as important as the frequency and distribution, meaning people are very responsive to hearing someone else win, even if it's just a small amount. They are more likely to stay around and play if they hear other people hit the jackpot.
http://swissinnovation.org/newsUS/web/2012/05-121230-48.html

Restoring production back by major US company

(The Boston Globe, December 07, 2012)

Apple Inc. chief executive Tim Cook said the company will move production of one of its existing lines of Mac computers to the United States next year. Industry watchers said the announcement is both a cunning public relations move and a harbinger of more manufacturing jobs moving back to the United States as wages rise in China. Like most consumer electronics companies, Apple forges agreements with contract manufacturers to assemble its products overseas. However, the assembly accounts for a fraction of the cost of making a PC or smartphone. Most of the cost lies in buying chips, and many of those are made in the United States, Cook noted in his interview with NBC.
http://swissinnovation.org/newsUS/web/2012/05-121207-ec.html

New smart Braille typewriters

(The Boston Globe, December 10, 2012)

Like 6-year-olds around the world, Madison Logan is learning to read and write. Unlike most children, however, the Quincy girl has vision problems severe enough to make her legally blind. But that is not slowing her down. The new Smart Braille, the writing system that transforms text into raised dots on paper has a digital technology to help students and teachers master the tactile language. The computer could also contain Braille tutorials that would allow students to practice on their own. An electronic voice would correct them when they made errors and recorded cheers would ring out when they got words right.
http://swissinnovation.org/newsUS/web/2012/05-121210-df.html

New app for event scheduling

(The Boston Globe, December 10, 2012)

In our wonderful world of e-mail, text messages, Twitter direct messages, and Facebook messages, it can still be challenging to coordinate events that involve human beings connecting in the real world. A new Boston-built iPhone app called Toucanect is tackling that. It brings events, messaging, and maps together and lets you create groups of people associated with individual events and keep them up to speed on what's happening. The app was developed by Cambridge-based Intrepid Dev. They received some early funding and guidance from several investors who had been backers of CardStar, a mobile app acquired earlier this year by Constant Contact.
http://swissinnovation.org/newsUS/web/2012/05-121210-4f.html

E-Commerce Innovation Center

(The Boston Globe, December 24, 2012)

At the beginning of the year, Staples said it would open an "e-commerce innovation center" in Kendall Square this year, to build a technology team separate from its Framingham headquarters. The office supplies giant, which happens to be the number two online merchant, after Amazon.com, dubbed the new Cambridge facility Velocity Lab. It opened in August. "We decided to get radically more aggressive about strengthening our e-commerce and digital capabilities," said Staples' e-commerce senior vice president, Brian Tilzer. "Digital is the glue between our different channels — our call centers, our stores, and our website." By setting up an outpost in Cambridge, he explained, "we can diversify the talent we were bringing to Staples."
http://swissinnovation.org/newsUS/web/2012/05-121224-28.html

6. Energy / Environment

Heat view to speed energy efficiency for potential buildings

(The Boston Globe, December 02, 2012)

Raising $100 million and dedicating 10 years to creating a better wind turbine or solar panel is a tough task right now. Raising a couple million to create a new software product that can be sold profitably in a year or two is more realistic — and many of these energy efficiency start-ups are doing just that. Sagewell is just one of a handful of Massachusetts companies developing software to assess energy use, and ideally help reduce it. They roam the streets with cameras designed to take pictures of homes on either side of the car — pictures of heat seeping out from windows, eaves, and inadequately insulated walls. Rather than Google's StreetView, this was what you might call HeatView. The company makes money by referring them to insulation installers and window replacement companies, which pay Sagewell a fee.
http://swissinnovation.org/newsUS/web/2012/06-121202-0c.html

Global emissions of carbon dioxide increase

(The Boston Globe, December 03, 2012)

Emissions continue to grow so rapidly that an international goal of limiting the ultimate warming of the planet to 3.6 degrees, established three years ago, is on the verge of becoming unattainable, said researchers affiliated with the Global Carbon Project. In 2011, nearly 38.2 billion tons of carbon dioxide were emitted into the air worldwide from the burning of fossil fuels such as coal and oil, according to new calculations published in the journal Nature Climate Change. That is about a billion tons more than the previous year. The total for last year amounts to more than 2.4 million pounds of carbon dioxide released into the air every second. The majority of the increase was from China, according to the report.
http://swissinnovation.org/newsUS/web/2012/06-121203-4a.html

Inflatable LED solar light for disaster zones

(The Boston Globe, December 10, 2012)

Anna Stork and a cofounder launched LuminAID in response to the need for portable lighting in Haiti after the 2010 earthquake left more than a million people homeless. The company makes an inflatable, solar-powered lighting device that is also sold for home-safety and outdoor uses. It recharges in approximately five hours of sunlight and produces between eight and 10 hours of bright LED light. So in designing LuminAID and optimizing its mobility, its design, and performance we realized that its features — lightweight, waterproof, simple design — make it a really useful product for home emergency kits or for camping.
http://swissinnovation.org/newsUS/web/2012/06-121210-e8.html

Antarctic warming found to be higher than expected

(The Boston Globe, December 24, 2012)

A paper released Sunday by the journal Nature Geoscience found that the temperature at a research station in the middle of West Antarctica has warmed by 4.4 degrees since 1958. That is roughly twice as much as scientists thought and three times the overall rate of global warming, making central West Antarctica one of the fastest-warming regions on Earth. A potential collapse of the West Antarctic ice sheet is one of the long-term hazards that have led scientists to worry about global warming. The base of the ice sheet sits below sea level, in a configuration that makes it especially vulnerable. Scientists fear that a breakup of the ice sheet, over a period that would presumably last at least several hundred years, could raise global sea levels by 10 feet.
http://swissinnovation.org/newsUS/web/2012/06-121224-4a.html

Ecological impact of seals

(The Boston Globe, December 28, 2012)

In the past five years, New England's growing seal population has been blamed for luring great white sharks to Cape Cod beaches. Fishermen complain they have to compete against the marine mammals' insatiable appetite for a dwindling number of fish. The relationship between seals and humans has grown so tense that five adult seals were shot in the head last year. A new group of some of the region's major marine institutions and researchers will use science to better understand the role of seals in nature and how they affect the public. For starters, the Northwest Atlantic Seal Research Consortium just released a report dispelling fears that defecating seals will foul beaches. The study found that, to the contrary, water quality at beaches frequented by seals is often cleaner.
http://swissinnovation.org/newsUS/web/2012/06-121228-66.html

Moratorium on incinerators to be loosened

(The Boston Globe, December 30, 2012)

A state plan to loosen a nearly quarter-century moratorium on new waste incinerators is reigniting a long-simmering trash war in Massachusetts over how to deal with the vast amounts of garbage that residents and businesses generate each day. State officials say landfill space is already so tight that Massachusetts is forced to export significant amounts of trash. To ease the landfill crunch, officials want to allow new technologies on a limited scale that would turn waste into energy and not emit as many harmful air pollutants as traditional incinerators. State officials will probably decide whether to ease the moratorium within 30 to 60 days after receiving public comment through Feb. 15 as part of finalizing a solid-waste master plan for the state.
http://swissinnovation.org/newsUS/web/2012/06-121230-52.html

Market challenges ahead for Clean Energy

(The Boston Globe, December 30, 2012)

The last year was a tough one for the alternative energy sector and 2013 could be just as challenging for many segments of this still-emerging industry. High profile bankruptcies of government-backed companies such as battery maker A123 Systems of Waltham and energy storage firm Beacon Power of Tyngsborough have made investors reluctant to back young companies that might need years of capital infusions before becoming profitable. Cheap natural gas prices are making the new technologies less competitive. Government support is waning as Washington tries to bring ballooning budget deficits under control. In Massachusetts however, clean technology companies are expected to benefit from aggressive state policies to bolster the industry.
http://swissinnovation.org/newsUS/web/2012/06-121230-d5.html

7. Engineering / Robotics / Space

The moon's crust secrets

(The Boston Globe, December 05, 2012)

The moon's battered crust is riddled with deep fractures that may extend miles underground, according to the first findings from two NASA spacecraft orbiting Earth's nearest neighbor. Two washing machine-size spacecraft are circling the moon, swooping within about 4 miles of its cratered landscape. They measure tiny fluctuations in its gravity, giving scientists a precise picture of the interior by keeping close track of their position relative to each other. Understanding the moon, and how it was formed, is more than a matter of history, however: The deep fractures found on the moon might suggest one way early life could have taken refuge on other planets, if it existed.
http://swissinnovation.org/newsUS/web/2012/07-121205-7c.html

Better, more-sensitive robot fingers

(The Boston Globe, December 03, 2012)

Eduardo Torres-Jara, an assistant professor at Worcester Polytechnic Institute, wants to expand the kinds of tasks robots can perform by giving them more-sensitive fingers. His start-up, Robot Rebuilt, is making the rounds of Boston venture capital firms. Torres-Jara said he was "inspired by the ridges humans have on their fingers. We wanted to make a robotic hand that would mimic that and achieve some of the same sensitivity our hands have." The robot, Tactico, builds upon work done at MIT's Computer Science and Artificial Intelligence Lab, supervised by Rod Brooks, the iRobot cofounder who is now at Rethink Robotics.
http://swissinnovation.org/newsUS/web/2012/07-121203-34.html

First man made spacecraft to exit the solar system

(The Boston Globe, December 04, 2012)

The unstoppable Voyager 1 spacecraft has sailed into a new realm of the solar system that scientists did not know existed. Voyager 1 and its twin, Voyager 2, have been speeding away from the sun toward interstellar space, or the space between stars. Over the summer, Voyager 1, which is farther along in its journey, crossed into this new region where the effects from the outside can be felt. He is on track to become the first manmade object to exit the solar system. Exactly when that day will come is unknown, partly because there's no precedent. Though the cameras aboard the nuclear-powered Voyagers have long been turned off, the probes have enough power to operate the other instruments until around 2020.
http://swissinnovation.org/newsUS/web/2012/07-121204-66.html

An unmanned aerial vehicles with unlimited flight time

(The Boston Globe, December 10, 2012)

Three years after it was founded, CyPhy Works is showing off two hovering drones designed for indoor and outdoor operations. One of the most interesting elements of CyPhy's product design is that its unmanned aerial vehicles, or UAVs, are tethered to a hand-held control system on the ground, rather than free-flying. The company's "microfilament" technology sends power to the UAV, meaning that its flight time is unlimited. It also transmits high-definition video to the control system. The company says it cannot be jammed by an enemy, unlike with systems using wireless links. CyPhy says its two vehicles may be used for tasks like helping investigate the interior of buildings without sending people in.
http://swissinnovation.org/newsUS/web/2012/07-121210-87.html

Snapshots of "cosmic dawn"

(The Boston Globe, December 12, 2012)

A team of scientists announced that NASA's Hubble Space Telescope has produced a comprehensive snapshot of the "cosmic dawn" of the universe, capturing a set of seven primitive galaxies that formed several hundred million years after the big bang. The oldest galaxy of the set came very early in the lifetime of the universe, which began 13.7 billion years ago. That galaxy, scientists believe, dates to 380 million years after the rapid expansion of the universe known as the big bang. The other six galaxies date from 400 million to 600 million years after the big bang, and scientists noted that these offer glimpses of the universe when it was less than 3 percent of its current age.
http://swissinnovation.org/newsUS/web/2012/07-121212-21.html

8. Physics / Chemistry / Math

Extra emergency equipment for nuclear power plant

(The Boston Globe, December 10, 2012)

If disaster strikes a US nuclear power plant, the utility industry wants to be able to fly in heavy-duty equipment that could avert a meltdown. The effort, called FLEX, is the US nuclear industry's method for meeting new Nuclear Regulatory Commission rules that will force 65 plants to get extra emergency equipment on site and store it protectively. As a backup, the industry is developing regional hubs in Memphis and Phoenix that could truck or even fly in more equipment. Industry leaders say the effort will add another layer of defense in case a Fukushima-style disaster destroys a plant's multiple backup systems.
http://swissinnovation.org/newsUS/web/2012/08-121210-a9.html

9. Architecture / Design

MIT planning to rezone Kendall Square

(MIT, December 13, 2012)

MIT formally submitted its rezoning petition for a 26-acre parcel of Institute-owned property in the Kendall Square area to the City of Cambridge. The petition is expected to be referred by the City Council to the Planning Board and the Council's Ordinance Committee, each of which is charged with reviewing zoning matters. The new petition embraces the dimensional framework recommended through the K2 process, increases the number of housing units from 120 to as many as 300 (with a mix of low, moderate, market-rate, and micro units), provides for innovation space, sets LEED Gold as a standard for all commercial buildings, and establishes a community fund for open space, transportation, and workforce training.
http://swissinnovation.org/newsUS/web/2012/09-121213-b1.html

10. Economy, Social Sciences & Humanities

First study on Massachusetts' underground economy

(The Boston Globe, December 04, 2012)

Governor Deval Patrick's administration is launching a first-of-its-kind study to define the scope and financial cost of Massachusetts' underground economy, as investigators continue to find widespread violations of tax and labor laws. The study, to be conducted over the next year, will identify the extent of employment fraud by industry category, and attempt to tabulate the amount of money the state is losing each year in unpaid taxes. The effort will focus on the practice of illegally misclassifying workers as independent contractors, which allows companies to keep employees off the official books while benefiting from their labor. The study will be funded with a portion of the proceeds from a settled lawsuit against FedEx Corp. for misclassifying drivers as independent contractors.
http://swissinnovation.org/newsUS/web/2012/10-121204-d4.html

Math student decodes 17th-century shorthand mystery

(The Boston Globe, December 05, 2012)

Lucas Mason-Brown, 21, a senior math student at Brown University, was an unlikely candidate to help unlock the secrets of a centuries-old New England manuscript. Together with a small team of Brown students he cracked a previously undeciphered shorthand used by Roger Williams, the religious thinker and founder of Rhode Island — a mystery that had stumped researchers for years. After almost a year of analysis, Mason-Brown says he's decoded about 75 percent of the writings. The deciphered content of the shorthand, while interesting, isn't groundbreaking. None of the notes have anything to do with the essay on which it was written — typical for the period, Williams probably didn't want to waste paper. And the shorthand wasn't for secret-keeping — just a method to write his thoughts in a small space.
http://swissinnovation.org/newsUS/web/2012/10-121205-25.html

Economy will grow in 2013

(The Boston Globe, December 18, 2012)

Business economists believe the country will see modest growth in 2013 with strength coming from a further rebound in housing which will help offset weakness in business investment. In its latest survey of top forecasters, the National Association for Business Economics says it is looking for the economy to grow in 2013 by 2.1 percent after 2.2 percent growth in 2012. That would continue the same tepid growth the country has seen since the Great Recession ended in mid-2009. Growth at that pace is not strong enough to make a significant improvement in unemployment. The NABE economists believe unemployment will average 7.7 percent for all of next year, right at the level it reached in November.
http://swissinnovation.org/newsUS/web/2012/10-121218-72.html

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

High demand for talented engineers

(The Boston Globe, December 04, 2012)

Headhunters are madly scrambling to find enough talented engineers and developers for their clients — fledgling start-ups and established companies alike. The clients are so desperate to fill jobs they are piling on the pay and the perks for qualified candidates. Driven by a proliferation of start-ups and the expansion of West Coast stalwarts such as Amazon.com and PayPal to the Boston area, employment in the local tech sector has grown 7 percent in the past year, well beyond the general economy's gain. On a typical recent day, there were more than 3,500 job openings at Boston-area companies on the tech-based career site Dice.com.
http://swissinnovation.org/newsUS/web/2012/11-121204-68.html

What comes after cool apps and social media hype?

(The Boston Globe, December 09, 2012)

Boston entrepreneurs and investors worry that the feast of initial "seed" funding available to young companies over the past few years is going to lead to a major famine in 2013, as the crop of start-ups that raised their first $1 million discover that there isn't enough follow-on money to support all of them. Basically, over the last six years, it became sexy to be an entrepreneur, and relatively cheap to set up a site or create a mobile app. But it's starting to become clear that beneath all the app store and social media hype, it turns out to be just as hard as ever to build a real business. As 2013 nears, making money is starting to become more important than simply chasing a cool opportunity.
http://swissinnovation.org/newsUS/web/2012/11-121209-0c.html

Koa Labs, New workspace for entrepreneurs in Harvard Square

(Innovation Economy, December 11, 2012)

Serial entrepreneur Andy Palmer doesn't need ink for a new startup space he has opened in Harvard Square, and there's no website for it, either. Palmer says Koa Labs has space for about twenty entrepreneurs, and that he has been fielding inquiries from at least fifty. Desks cost $450 a month, and Palmer says his focus is on "young, first-time folks who want to be on the Red Line." While Harvard Square has been home to startups like Vlingo and venture capital firms like General Catalyst, this is the first shared workspace for entrepreneurs. Palmer has been involved with startups like Vertica, CloudSwitch, and Infinity Pharmaceuticals, in addition to a long-standing relationship with Novartis's Cambridge R&D facility as its head of software.
http://swissinnovation.org/newsUS/web/2012/11-121211-ae.html

Unusual companies at Mass Innovation Night

(The Boston Globe, December 17, 2012)

Trailblazers was one of several companies with unusual products on display at Mass Innovation Nights, which was hosted by the Hive, the Boston.com site about developments in the Massachusetts innovation community. Trailblazers Aquatic LLC makes such an unusual product — treadmills that are submerged in water and used to rehabilitate injured dogs. Founder Macartney was hoping to catch the interest of an angel investor to help bankroll production of the underwater treadmills. Made in Warwick, R.I., they retail for about $42,000. At the center of the networking event was Bobbie Carlton, founder of Mass Innovation Night and Carlton PR & Marketing in Woburn and a familiar face at entrepreneurship events.
http://swissinnovation.org/newsUS/web/2012/11-121217-a4.html

Educational apps for children

(The Boston Globe, December 17, 2012)

In 2014, the preschool cable network Nick Jr. plans to introduce a television show featuring a little boy, his miniature pet dragon, and a magic stick. But the show, ''Wallykazam,'' will not be new to users of smartphones and tablets. Educational applications built around it will start appearing in app stores late next year, making ''Wallykazam'' Nickelodeon's first major show to be introduced as a mobile product first, said Steve Youngwood, Nickelodeon's general manager for digital media. Driving the change, at Nickelodeon and other preschool television brands, are parents who are increasingly putting mobile devices into preschoolers' hands and laps.
http://swissinnovation.org/newsUS/web/2012/11-121217-ea.html

Crowdfunding through KickStarter site

(The Boston Globe, December 23, 2012)

April 21 marked an amazing milestone for Jon Ramaci and his Cambridge start-up, iCache. He'd set out to raise $50,000 on the crowdfunding site KickStarter for an iPhone accessory and blew past his initial goal, collecting $352,000. ICache promised to start delivering its accessory, the Geode, by June. But by late fall, disappointed iCache backers were calling police detectives and the Internet Crime Complaint Center. Plenty of Massachusetts-based KickStarter projects, like wood-cased Bluetooth speakers from Vers Inc. or a theft-resistant bike light from Gotham Bicycle Defense Industries, have raised money on the site and successfully shipped. But other inventors are discovering just how hard it is to turn a prototype into a finished product.
http://swissinnovation.org/newsUS/web/2012/11-121223-f3.html

Promising technology outlook for 2013 in Massachusetts

(The Boston Globe, December 30, 2012)

In technology, all signs point to another big year for Massachusetts. Some of the state's hottest start-ups, such as the Cambridge software firm HubSpot Inc. and Boston's network security company Rapid7 Inc., are poised to launch initial public stock offerings, which will pump more cash into the state's innovation ecosystem. But what could be even more promising is a growing interest among venture capitalists in funding tech start-ups that work in mobile technology, robotics, big data analytics, and enterprise software – all areas in which Massachusetts companies excel. One of the most talked about tech trends is another Massachusetts specialty known as "big data." This segment of the tech industry uses sophisticated software to analyze massive datasets collected from the Internet and other sources.
http://swissinnovation.org/newsUS/web/2012/11-121230-93.html

12. General Interest

Massachusetts lacks equal pay for women

(The Boston Globe, December 10, 2012)

Despite Massachusetts' historic leadership on pay equity — in 1945 it became the first state to require equal pay for comparable work — the gap between men's and women's salaries here is now among the biggest in the country. Women earned 77 percent of what men took home in median full-time pay. In Massachusetts, more women delay motherhood until later in life, meaning that more women delay time off from the workplace as well as transition into jobs with greater flexibility — factors that can imbalance men and women's pay. Salary discretion also favors men's negotiating skills, which tend to be more effective than women's, yielding higher starting salaries for men, who in Massachusetts also hold a high number of professional jobs.
http://swissinnovation.org/newsUS/web/2012/12-121210-4e.html

White population in minority by 2043

(The Boston Globe, December 13, 2012)

White people will no longer make up a majority of Americans by 2043, according to new census projections. That is part of a historic shift that is already reshaping the nation's schools, workforce, and electorate, and that is redefining long-held notions of race. America continues to grow and become more diverse because of higher birth rates among minorities, particularly for Hispanic people who entered the Unites States at the height of the immigration boom in the 1990s and early 2000s.The US will become the first major post-industrial society in the world where minorities will be the majority. Among children, the point when minorities become the majority is expected to arrive much sooner. The United States has nearly 315 million people today. The US population is projected to reach 400 million in 2051.
http://swissinnovation.org/newsUS/web/2012/12-121213-b0.html

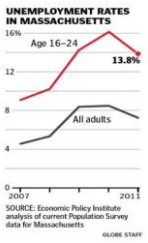
Boston University, Berklee College alumnus PSY celebrated 35th

(The Boston Globe, December 31, 2012)

Former Boston University and Berklee College of Music student PSY, whose "Gangnam Style" music video exceeded 1 billion YouTube views, celebrated his 35th birthday in Las Vegas.
http://swissinnovation.org/newsUS/web/2012/12-121231-a0.html

13.8% youth unemployment in Massachusetts

(The Boston Globe, December 17, 2012)



Two recent studies that address youth unemployment suggest that the challenges young people face seeking jobs in the Bay State show no signs of letting up. A report published by the Massachusetts Budget and Policy Center says that 13.8 percent of Massachusetts residents between the ages of 16 and 24 are unemployed — more than double the unemployment rate for young people in 2000, when it was 6.7 percent. Part of the reason for the disparity between youth and adult unemployment is the increasing demand, in some industries, for post-secondary-school education and specialized training. A near-constant decrease in employment rates for young people suggests the importance of government agencies and nonprofits focusing their attention on helping young people gain their first forays into the career world.
http://swissinnovation.org/newsUS/web/2012/12-121217-d2.html

13. Calls for Grants / Awards

> **SNSF Project Funding**
The Swiss National Science Foundation (SNSF) accepts applications for project funding on April 1 and October 1 each year. Applications must be submitted directly by researchers.
http://www.snf.ch/E/funding/projects/Pages/default.aspx

> **EU Seventh Framework Programme**
The seventh EU Framework Programme on Science Research and Innovation
http://cordis.europa.eu/fetch?CALLER=FP7_NEWS&ACTION=D&RCN=34831

> **New England Venture Summit**
Call for Top Innovators. The New England Venture Summit is an ideal venue to connect emerging growth companies with active Venture Capitalists, Angel Investors, Corporate VCs and Investment Firms. It provides an unparalleled opportunity for startups to meet, network and showcase their innovative investment opportunities to a leading group of investors.
http://www.youngstartup.com/newengland2012/overview.php

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