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Science-Switzerland, February – March 2026

News on Swiss science, technology, education and innovation

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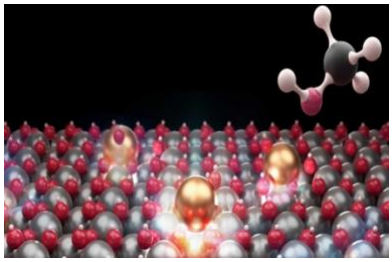
Single Atoms Transform CO2 Into Climate-Neutral Methanol

(ETH Zurich, March 10, 2026)



ETH Zurich researchers led by Prof. Javier Pérez-Ramírez created a catalyst where every atom works. They anchored isolated indium atoms on hafnium oxide to convert CO2 and hydrogen into methanol with superior efficiency compared to conventional nanoparticle catalysts. This breakthrough transforms atmospheric CO2 from waste into raw material, and could reshape the chemical industry's carbon footprint. The team's flame synthesis combusts starting materials at 2,000-3,000°C before rapid cooling locks indium atoms onto the surface. Operating at 300°C and fifty times atmospheric pressure, the catalyst transforms greenhouse gas into methanol, a universal precursor for plastics, fuels, and chemical products. This approach clarifies reaction mechanisms, enables rational catalyst design, and establishes a foundation for fossil-free chemical production.
/web/2026/00-260310-b7

Record 30% Efficiency With Perovskite Solar Cells at Fraction of Cost

(EPFL, March 18, 2026)

Scientists created solar cells that rival space-grade technology at 1,000 times lower cost per watt. EPFL and CSEM researchers led by Dr. Kerem Artuk, Prof. Dr. Christophe Ballif, and Dr. Christian Wolff achieved record 30.02% efficiency by stacking two thin-film perovskite cells with one silicon cell, shattering the previous 27.1% record and doubling their 2018 performance of 13%. The breakthrough shows that affordable perovskite and silicon materials can approach the 37% efficiency of expensive III-V semiconductors used in satellites. The team deployed three innovations: adding molecules to guide perovskite crystal formation and eliminate defects, boosting the top cell to 1.4V; developing a three-step fabrication method that improves near-infrared light absorption in the middle cell; and incorporating nanoparticles between layers to reflect sunlight back into the middle cell. This approach could lead to high-efficiency solar cells for utility-scale power plants, residential rooftops, and space applications, with potential to exceed 40% efficiency in the future.
/web/2026/00-260318-a0

Chip That Signs Photos at Capture Time Defeats Deepfakes

(ETH Zurich, March 25, 2026)

AI-generated deepfakes threaten democratic processes and public trust. ETH Zurich researchers led by Dr. Fernando Cardes García and Prof. Felix Franke developed a sensor chip technology that cryptographically signs images, videos, and audio at capture time in cameras. The hardware integration creates immutable digital signatures stored in publicly accessible ledgers like blockchain, letting anyone verify content authenticity and detect tampering. The technology builds on ETH Zurich's expertise in cellular signal sensors, embedding cryptographic functions directly into sensor chips. Verification compares the chip's ledger-stored signature against original data to confirm source and integrity. This breakthrough enables automatic authentication on social media platforms and manual verification by journalists and authorities, restoring trust in digital content. What's more is that physical tampering of that technology would require massive technological effort, making mass production of undetectable manipulated content impossible across any camera or sensor type.
/web/2026/00-260325-86

1. Policy

Switzerland to Host 2027 Global AI Summit in Geneva

(Swissinfo.ch, February 20, 2026)

Switzerland will host the 2027 World Summit on Artificial Intelligence in Geneva, President Guy Parmelin announced at the 2026 summit in New Delhi. The Swiss Federal Council secured this diplomatic milestone, positioning Geneva as the hub for AI governance discussions spanning medicine, climate, agriculture, and societal impacts. This appointment continues the rotating global summit series launched in 2023 by the United Kingdom, with subsequent hosts including South Korea and France. Geneva's selection leverages Switzerland's neutral diplomatic tradition and established international infrastructure to bring together governments, technology leaders, and researchers to address the opportunities and risks of AI across multiple sectors.
/web/2026/01-260220-a6

2. Education

95% of Teens Choose Sleep Over Early Classes, And Grades Improve

(University of Zurich, March 20, 2026)

When given the choice, 95% of teenagers slept 45 minutes longer on school nights. University of Zurich researchers tracked 754 fourteen-year-olds at Gossau Upper Secondary School who chose between 7:30am or 8:30am start times. Students averaged 38 minutes more sleep than the previous fixed 7:20am schedule. The study compared academic performance in English and mathematics before and after flexible scheduling. Students showed better mental health and higher test scores than cantonal benchmarks. In Switzerland, 47% of adolescents suffer chronic psycho-affective complaints from sleep loss. The University of Zurich's flexible model gives schools a practical solution to rigid schedules that clash with adolescent sleep biology.
/web/2026/02-260320-00

3. Life Science

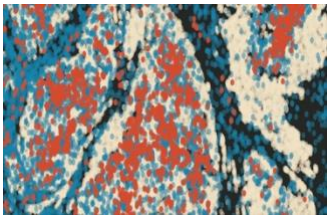
Hydrogel Beats Superbugs, Accelerates Healing

(ETH Zurich, February 04, 2026)

Researchers at ETH Zurich and Shanghai University, led by Dr. Qize Xuan and Prof. Raffaele Mezzenga, have created a hydrogel that fights antibiotic-resistant bacteria and speeds up healing. This hydrogel, inspired by the body's natural defenses, reduces MRSA bacteria in wounds by 95% and speeds up recovery in animal tests, shining a light in the battle against antibiotic resistance that causes 7.7 million deaths yearly. The team used egg whites and lysozyme to craft a dense mesh that captures bacteria. When activated by near-infrared light, the gel releases lysozyme to break down bacteria and magnesium ions to help immune cells heal wounds faster. Trials in mice and pigs showed less bacteria and quicker wound healing. Their research offers hope for potential new treatments for chronic wounds and infections, especially for diabetic individuals and those facing antibiotic resistance.
/web/2026/03-260204-25

Tumors Hijack Immune Cells to Fuel Their Own Growth

(University of Geneva, February 09, 2026)



Tumors reprogram neutrophils, the immune system's frontline defenders, to produce CCL3, a chemokine that accelerates cancer progression. University of Geneva researchers led by Dr. Mikaël Pittet discovered this hijacking occurs when neutrophils contact the tumor, transforming protective cells into cancer promoters. The researchers combined genetic manipulation to control CCL3 expression in neutrophils with new bioinformatics methods that detect these cells despite their low genetic activity. Analysis of data from numerous independent studies confirmed the pattern across diverse cancers.
/web/2026/03-260209-0c

Scientists Discover Molecular Sleep Switch That Keeps Breast Cancer Dormant

(University of Fribourg, February 16, 2026)

Cancer cells that break from tumors can lie dormant for years before re-activating. University of Fribourg and University of Bristol researchers led by Dr. Alev Yilmaz identified the molecular mechanism controlling this dormancy in triple-negative breast cancer. The CXCL10 molecule, produced by dormant cancer cells, attracts immune cells that prevent cancerous growth. When this signaling pathway breaks, sleeping cancer cells awaken and spread to organs like the lungs. Using mouse models, the team blocked CXCL10 or its receptor CXCR3 to trigger metastasis, confirming the protective role of ths pathway. This breakthrough could enable targeted therapies that strengthen the CXCL10/CXCR3 axis to maintain dormancy, and a diagnostic tool to identify high-risk patients who need aggressive intervention.
/web/2026/03-260216-b2

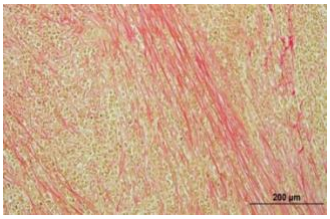
Coral Reefs Harbor Untapped Natural Pharmacy of Unknown Microbes

(ETH Zurich, February 26, 2026)

Coral reefs hold more potential for medical compounds than the entire open ocean. ETH Zurich researchers reconstructed complete genomes of 645 bacterial and archaeal species from over 800 coral samples collected during the Tara Pacific expedition. The team, led by Prof. Dr. Shinichi Sunagawa and Prof. Dr. Joern Piel, found that 99% were unknown to science. These microorganisms carry genetic blueprints for synthesizing natural products with pharmaceutical and biotechnological applications. High-performance computing enabled researchers to sequence microbial DNA fragments and identify species-specific biosynthetic pathways.
/web/2026/03-260226-ac

Invisible Breast Cancer Gets First Targeted Treatment

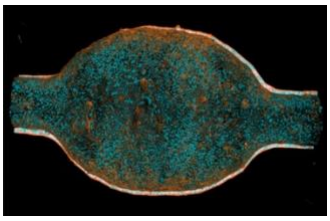
(EPFL, March 02, 2026)



Ten to fifteen percent of breast cancer patients have invasive lobular carcinoma (ILC), a cancer that spreads in thin patterns rather than forming distinct masses, making it nearly invisible to standard detection. EPFL researchers led by Prof. Dr. Cathrin Brisken discovered that the drug called PXS-5505 slows tumor growth and metastasis by disrupting how ILC cells exploit their collagen-rich environment. Using intraductal xenografts that reproduce human milk ducts in mice, the team showed that blocking lysyl oxidase enzymes prevents collagen crosslinking, severing the collagen-integrin-MYC signaling axis that fuels cancer growth. This breakthrough enabled the first treatment for ILC, a cancer historically excluded from clinical trials and forced to use therapies developed for other breast cancers.
/web/2026/03-260302-93

Concentrated Urine Drives Recurrent UTIs Through Hidden Bacterial Transformation

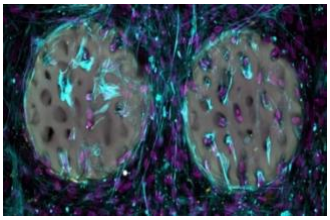
(EPFL, March 05, 2026)



Over 400 million people worldwide suffer UTIs annually, with concentrated urine as a hidden culprit. EPFL researchers led by Gauri Paduthol discovered that high-solute urine weakens bladder defenses while enabling uropathogenic E. coli to survive antibiotics. The bacteria transform into cell wall-deficient forms that lodge deep within bladder tissue, evading standard therapies and causing repeated infections. The team built a human mini-bladder using organoid technology integrated with microfluidic devices. Primary bladder cells grew into stratified tissue mimicking natural structure, then underwent filling-emptying cycles while exposed to varying urine concentrations and bacterial infection.
/web/2026/03-260305-8f

Laser-Printed Jelly Mimics Bone's 74-Kilometer Tunnel Network

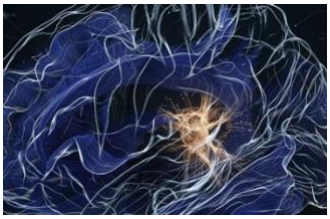
(ETH Zurich, March 06, 2026)



A dice-sized bone piece contains 74 kilometers of microscopic tunnels. ETH Zurich researchers led by Professor Xiao-Hua Qin and Dr. Wanwan Qiu created a hydrogel that replicates this architecture at record speeds to heal fractures without secondary surgeries. The material, 97% water, 3% biocompatible polymer, transforms from jelly to structured implant through two-photon laser microfabrication, solidifying at 400 millimeters per second with 500-nanometer precision. The researchers engineered a light-activated molecule that links polymer chains when laser pulses strike, solidifying targeted areas while non-irradiated regions wash away.
/web/2026/03-260306-52

Memory Centers Broadcast Signals Throughout our Brain Day and Night

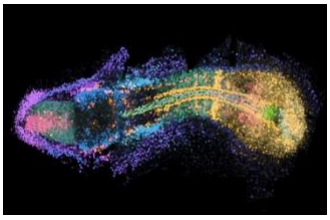
(University of Bern, March 12, 2026)



Scientists decoded brain dialogue for the first time, revealing that memory and emotion centers actively broadcast signals throughout the brain. Researchers at Inselspital and the University of Bern, led by Dr. Ellen van Maren and Prof. Maxime Baud, discovered the hippocampus and amygdala send twice as many signals as they receive during sleep and wakefulness, challenging our understanding of brain network communication. Using intracranial EEG with fine electrodes in 15 epilepsy patients, the team stimulated specific brain regions with imperceptible electrical impulses and tracked signal flow with millisecond accuracy over 24 hours. Millions of neural signals showed these deep brain structures act as broadcasters rather than passive processors.
/web/2026/03-260312-ec

Scientists Map 300,000 Embryonic Cells in Landmark Gene Atlas

(University of Basel, March 16, 2026)



Biozentrum, University of Basel researchers led by Dr. Yinan Wan and Prof. Alex Schier created the first 4D atlas mapping gene activity across entire embryos with subcellular precision. Their weMERFISH technology measures nearly 500 genes throughout whole tissues, tracking how 300,000 cells develop and move during early embryo development. The atlas reveals that tissue boundaries form through genetic reprogramming rather than physical cell sorting, challenging our understanding of embryonic organization. By combining spatial gene activity with regulatory region data, Prof. Alex Schier's team calculated patterns for thousands of genes across complete embryos, overcoming previous 2D slice limitations.
/web/2026/03-260316-81

Brain's Cleaning System Dysfunction Predicts Psychosis Risk Decades Before Symptoms

(University of Geneva, March 17, 2026)

A poorly functioning brain waste-clearance system in childhood predicts who will develop psychosis decades later. University of Geneva (UNIGE) researchers led by Dr. Alessandro Pascucci found that early dysfunction of the glymphatic system, the brain's cleaning network, marks a critical vulnerability for schizophrenia. In individuals with so-called 22q11.2 deletion syndrome who later developed psychosis, the glymphatic system was found to be altered in childhood and failed to mature normally. Reanalyzing 25 years of imaging data using optimized diffusion MRI revealed water molecule movement patterns indicating impaired waste clearance.
/web/2026/03-260317-8b

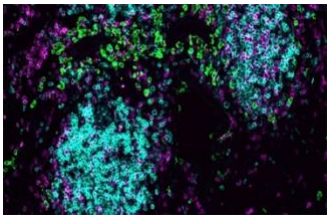
Physical Forces Predict and Control Animal Body Shapes

(University of Geneva, March 24, 2026)

Physical forces, not just genes, determine why animals look the way they do. University of Geneva (UNIGE) and EMBL researchers led by Dr. Aissam Ikmi and Prof. Guillaume Salbreux show that tissue mechanics, the ability to contract, stretch, or resist deformation, directly shapes animal forms. Their team identified three physical parameters that define "mechanotypes," species-specific mechanical signatures linking genes to body shapes. Testing on sea anemone Nematostella, they transformed elongated larvae into spheres by genetically modifying tissue mechanics. This breakthrough enables predictive modeling of how molecular changes create specific body forms.
/web/2026/03-260324-84

T Cells Position Themselves in Low-Oxygen Zones to Command Lung Defense

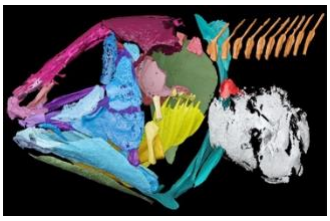
(University of Basel, March 26, 2026)



University of Basel researchers led by Jean de Lima found that specialized helper T cells migrate to oxygen-scarce edges of immune hubs during lung infection. There, they produce the so-called HIF-1α protein and release interleukin-21, directing macrophages, B cells, and natural killer cells into coordinated responses against respiratory pathogens. Using advanced imaging in influenza-infected mice and inducible knockout models, the team mapped how these cells position at hub boundaries to orchestrate defense networks. The findings show tissue-resident immune hubs function as command centers for on-site protection rather than antibody factories.
/web/2026/03-260326-04

Ancient Coelacanths Heard Through Their Lungs Before Diving Deep

(University of Geneva, March 27, 2026)



Ancient fish heard underwater through their lungs. Researchers at Geneva's Natural History Museum discovered that 240-million-year-old coelacanths used ossified lungs to detect sound waves. Synchrotron imaging revealed wing-like bony structures within the lung that transmitted vibrations to the inner ear through connecting canals, like the Weberian apparatus in modern carp and catfish. This finding explains why modern coelacanths lack this capability. As these fish moved to deep marine environments, their lungs regressed and the auditory function vanished. The team's X-ray analysis of Triassic fossils from Lorraine, combined with studies of modern coelacanth embryos, shows how sensory systems evolved in our aquatic ancestors.
/web/2026/03-260327-e9

DNA Packaging Changes with Age, Triggering Disease-Causing Protein Production

(Paul Scherrer Institute, March 27, 2026)

Your cells read the wrong instruction manual as you age because your DNA packaging opens up. Paul Scherrer Institute researchers led by Dr. Shivashankar G.V. found that chromatin, the tightly wound structure containing DNA, loosens over time, exposing genome regions that should stay locked. This breakdown causes aged cells to express incorrect genes and produce harmful proteins instead of responding to healing signals, potentially triggering cancer and other diseases. The team compared skin cells from 10-year-olds and 75-year-olds embedded in 3D collagen matrices under mechanical tension. Using high-resolution microscopy with AI algorithms, they mapped the 3D structure of chromatin at the molecular level while testing cellular responses to growth factor named 'TGF-β.' This breakthrough identifies pathologically modified chromatin patterns before disease develops, potentially allowing therapeutic interventions to restore youthful chromatin structure and prevent age-related tissue degeneration.
/web/2026/03-260327-0a

4. Nano / Micro Technology / Material Science

Nanodevice Produces Continuous Electricity from Evaporation

(EPFL, February 26, 2026)

Scientists generate electricity from evaporating saltwater, adding sunlight and heat boosts power production fivefold through surface charge effects. EPFL researchers led by Prof. Giulia Tagliabue built a nanodevice that produces continuous autonomous power by controlling ion movement and electron flow during evaporation. The system achieves 1 volt and 0.25 watts per square meter without material degradation. The device uses three layers: an evaporating top electrode, a saltwater ion transport layer, and a bottom collection layer with hexagonal silicon nanopillar networks coated with oxide. Heat drives evaporation while ion shifts create charge separation at the liquid-solid interface. Photons excite electrons in the semiconductor as heat amplifies negative surface charges. This breakthrough could enable battery-free sensor networks and self-powered environmental monitoring systems for internet-of-things applications wherever water, heat, and sunlight converge.
/web/2026/04-260226-14

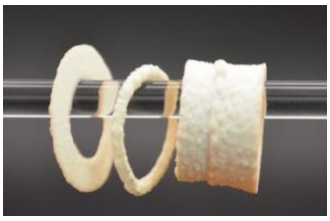
Smart Steel That Remembers Its Shape Could Save Aging Bridges

(EMPA, March 09, 2026)

Many Swiss bridges built before the 1980s near the end of their service life. Empa researchers led by Dr. Angela Sequeira Lemos and Dr. Christoph Czaderski developed the first strengthening system combining ultra-high-performance fiber-reinforced concrete with iron-based shape memory alloy bars. When heated to 200°C, the Fe-SMA bars contract toward their original shape, automatically prestressing the concrete and closing cracks without complex tensioning equipment. The team tested five 5-meter concrete slabs cracked to simulate real bridge conditions. Digital cameras tracked surface cracks while embedded fiber optic sensors monitored bar deformation during heating. Results showed the system doubles load-bearing capacity compared to unstrengthened slabs. The approach proves superior to conventional methods by making bridge decks stiffer, delaying permanent deformations, and lifting bent components. This breakthrough enables rehabilitation of heavily damaged bridges where traditional reinforcement fails, potentially extending infrastructure service life.
/web/2026/04-260309-80

3D-Printed Bone Scaffolds Bear Human Weight in 14 Days

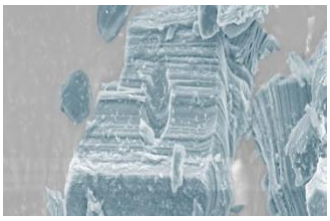
(EPFL, March 13, 2026)



Scientists developed a 3D-printable bone scaffold that becomes strong enough to bear adult human weight in 14 days using a room-temperature process. EPFL researchers led by Assistant Professor Esther Amstad embedded alkaline phosphatase enzymes into gelatin microparticles that trigger rapid hydroxyapatite crystal formation when exposed to calcium and phosphate solutions. This enzyme-driven mineralization creates load-bearing structures within 7 days without energy-intensive high-temperature treatments that destroy biological components. The breakthrough enables injectable scaffolds that let patients load broken bones weeks earlier than current technologies permit. The room-temperature approach preserves enzyme activity while creating porous structures, 50% void space from melted gelatin, that promote cell infiltration and natural bone regeneration.
/web/2026/04-260313-78

Scientists Crack the Code for 'Nano-Lasagna' That Could Capture CO2 and Fight Cancer

(EMPA, March 16, 2026)



Empa researchers have solved a critical challenge in nanomaterial production: mass-producing MXenes, ultra-thin layered materials nicknamed 'nano-lasagna,' without toxic chemicals. Dr. Jakob Heier's team replaced dangerous hydrofluoric acid with safer alternatives, making commercial-scale manufacturing viable for the first time. These versatile two-dimensional sheets, etched from crystalline MAX phase ceramics and separated through ultrasonic treatment, can be engineered from different elements to suit specific applications. AI modeling now predicts optimal synthesis and speeds up development of MXenes tailored for CO2 capture, energy storage, and medicine. atomic-scale thinness of these materials generates vast surface areas perfect for supercapacitors and catalysis, while natural antimicrobial properties unlock potential in targeted cancer therapies. Empa's green production method positions MXenes to reshape sectors from climate technology to healthcare.
/web/2026/04-260316-ba

Sawdust Becomes Fire-Resistant Building Material

(ETH Zurich, March 20, 2026)

ETH Zurich researchers convert sawdust into composite boards that resist ignition three times longer than untreated spruce. The breakthrough keeps millions of tonnes of annual waste in the material cycle while offering a sustainable alternative to cement-bonded boards with superior carbon credentials. The team used watermelon seed enzymes to control the crystallization of the mineral 'struvite' from the mineral 'newberyite' in water. Large crystals form between sawdust particles, binding them after two days of pressing and room-temperature drying. Tests at the Polytechnic University of Turin show the material resists ignition for 45 seconds versus 15 seconds for regular wood. The boards contain just 40 percent binder compared to 60-70 percent cement in conventional products, making them lighter and fully recyclable. Mechanical grinding and heating above 100 degrees Celsius separates components for reuse as building materials or fertilizer, with potential to source struvite from sewage treatment plants.
/web/2026/04-260320-9a

5. Information & Communications Technology

Better Heart Attack Care for Cancer Patients Thanks to AI Tool

(University of Zurich, February 05, 2026)

Nearly one in three cancer patients who suffer a heart attack die within six months, highlighting the need for the ONCO-ACS tool to enhance treatment precision and outcomes for this high-risk group. Dr. Florian A. Wenzl, Prof. Thomas F. Lüscher, and their team at the University of Zurich, Imperial College London, and Royal Brompton and Harefield hospitals, have created ONCO-ACS. This tool is a risk prediction model that uses artificial intelligence to combine cancer-related factors with standard clinical data, predicting the likelihood of death, major bleeding, or another cardiac event within six months.
/web/2026/05-260205-91

Breakthrough Enables AI-generated Coherent Videos of Any Length

(EPFL, February 09, 2026)

Current generative AI models achieve coherent videos of under 30 seconds before they collapse into randomness. EPFL researchers led by Prof. Dr. Alexandre Alahi, broke this barrier through a counterintuitive approach: teaching AI to learn from its own errors. Their Stable Video Infinity system feeds generation mistakes back into training, forcing models to stabilize and recover from imperfect data rather than avoid errors. The method needs minimal processing power and datasets, making extended video generation accessible. The team also developed LayerSync, where expert model components guide weaker sections during training by recycling internal logic.
/web/2026/05-260209-e1

Password Managers' 'Zero-Knowledge' Promise Cracked by ETH Researchers

(ETH Zurich, February 19, 2026)

ETH Zurich and USI researchers led by Matteo Scarlata exposed critical flaws in three major password managers serving 60 million users. Their malicious server simulation showed 12 attacks on Bitwarden, 7 on LastPass, and 6 on Dashlane, contradicting these platforms' zero-knowledge encryption guarantees. By impersonating legitimate servers, the team proved hackers could view and modify stored credentials during vault synchronization or password retrieval. Compromised servers can access banking details and credit cards through routine user actions, login attempts, password views, or data syncs.
/web/2026/05-260219-a0

Algorithm Masters 16,000-Step Simulations Without Breaking Natural Laws of Physics

(EPFL, February 25, 2026)

Most AI models collapse after a few iterations when simulating physical systems. EPFL researchers led by vinay sharma and Prof. Olga Fink developed Dynami-CAL GraphNet, an algorithm that embeds Newton's third law directly into its architecture. This enables stable simulations exceeding 16,000 consecutive steps while obeying physics principles, where conventional AI fails within iterations. The graph neural network represents interacting objects as nodes and their relationships as edges, trained on minimal datasets like four simple simulations. Tests across granular sphere collisions, human motion capture, and protein molecular dynamics validated its ability to extrapolate beyond training scenarios.
/web/2026/05-260225-61

AI Learns the Language of the Mountains to Predict Deadly Avalanches

(Swissinfo.ch, March 05, 2026)

Mountains vibrate, creak, and shift, and AI algorithms now listen to these seismic signals to predict avalanches before they strike. Swiss Federal Institute for Forest, Snow and Landscape Research WSL researchers Dr. Cristina Pérez Guillén and Dr. Andri Simeon developed a system that detects over 90 percent of avalanches in real-time while reducing false alarms that plagued earlier warning technologies. The AI model operates like language processing systems but reconstructs missing seismic signal patterns instead of text. Trained on over 20 years of ground sensor recordings from 1999 onward, the system distinguishes avalanche vibrations from earthquakes, helicopters, and traffic by recognizing their unique seismic signatures.
/web/2026/05-260305-97

AI System Detects Ocean Garbage Patches and Predicts Their Drift

(EPFL, March 10, 2026)

EPFL's Environmental Computational Science and Earth Observation Laboratory, with the Swiss Data Science Center and The Ocean Cleanup, built an AI system that spots floating garbage patches and forecasts their movement within 24 hours. Scientists Dr. Emanuele Dalsasso and Dr. Christian Donner trained machine learning algorithms on Sentinel-2 and PlanetScope satellite data, achieving 3-5 meter resolution updated daily to detect debris stretches hundreds of meters long. The system pairs optical image recognition with drift prediction models that integrate wind and current forecasts, corrected using decades of GPS drifter data from the Global Drifter Program. This allows governments and NGOs to deploy clean-up operations strategically rather than reactively. EPFL's approach fills the critical planning gap that has hindered ocean clean-up efforts, with proof-of-concept ready for field testing and code available for the global research community.
/web/2026/05-260310-7e

Smartwatches Predict Mental Decline With 87.5% Accuracy

(University of Geneva, March 18, 2026)

Smartwatches can now forecast mental and cognitive decline before symptoms appear. University of Geneva researchers led by Dr. Igor Matias tracked 88 volunteers aged 45-77 for 10 months, using heart rate, physical activity, sleep patterns, weather, and air pollution data analyzed through AI. The system predicted emotional states with 90-95% accuracy and cognitive states with 80-90% accuracy, averaging just 12.5% error. This transforms everyday wearables into early warning systems for brain health. With more than half of people worldwide experiencing mental disorders and one in three affected by neurological conditions, the technology offers proactive detection before clinical symptoms emerge. The passive monitoring requires no extra effort from users, making mental healthcare screening accessible and continuous rather than sporadic and clinic-based.
/web/2026/05-260318-97

6. Energy / Environment

Atmospheric Screening Detects Success of Anesthetic Gas Regulations

(EMPA, February 12, 2026)

Empa researchers led by Dr. Alina Begley confirmed that regulations restricting climate-damaging anesthetic gases work. Their long-term atmospheric monitoring detected declining levels of desflurane, a greenhouse gas 2,500 times more potent than CO2, while its alternative sevoflurane increased correspondingly. The team combined air pre-concentration systems with gas chromatography and mass spectrometry, using custom software called ALPINAC that employs machine learning to reconstruct molecules from fragments. This approach detects halogenated gases and ozone-depleting substances even at vanishingly small concentrations or when compounds are unknown. Empa's atmospheric screening provides policymakers with evidence that environmental regulations achieve measurable results, enabling data-driven decisions on controlling trace atmospheric pollutants that amplify climate change.
/web/2026/06-260212-96

Wrong Location Tree Planting Warms Planet, Strategic Forests Cool with Half the Land

(ETH Zurich, March 16, 2026)

Planting trees in the wrong place can warm the planet instead of cooling it. ETH Zurich researchers led by Nora Fahrenbach found that strategic forest positioning could achieve identical cooling effects using half the land area, equivalent to saving all EU countries combined. Their supercomputer simulations show that tropical reforestation delivers maximum cooling benefits, while northern latitude planting in Siberia, Canada, and Alaska contributes to warming by reducing snow's reflective properties. The team ran five simulations on ETH's Euler supercomputer over four months, generating 300 terabytes of data that tracked both carbon absorption and surface effects like albedo and evapotranspiration through 2100. This first comprehensive comparison of global reforestation scenarios provides policymakers with precise targeting guidance for climate initiatives. However, Assistant Professor Robert Jnglin Wills notes that even optimal large-scale reforestation reduces temperatures by only 0.25°C maximum, making it a supplement rather than substitute for urgent fossil fuel emission cuts.
/web/2026/06-260316-ff

Switzerland's Soils Harbor Forever Chemicals in 99% of Samples

(ZHAW, March 17, 2026)

Over 99% of Swiss soil samples contain PFAS 'forever chemicals.' ZHAW Zurich University of Applied Sciences and ETH Zurich researchers led by Dr. Juliane Glüge documented nationwide contamination of these synthetic substances that never break down. Analyzing 1,070 measurements from cantonal investigations and the National Soil Monitoring program revealed median PFAS levels of 2.4 micrograms per kilogram across Swiss soils, with hotspots at sites where firefighting foam or sewage sludge were applied. This assessment enables federal and cantonal authorities to prioritize enforcement actions at contaminated sites while confirming that PFAS pollution pervades Switzerland's landscape. The research, commissioned by the Swiss Federal Office for the Environment, establishes baseline contamination levels that distinguish background presence from point-source pollution. ZHAW's approach combining regulatory monitoring data with targeted sampling provides a replicable framework for other nations assessing persistent chemical contamination in agricultural and settlement soils.
/web/2026/06-260317-6f

70% of European Soils Harbor Contamination That Cripples Underground Ecosystems

(University of Zurich, March 23, 2026)

University of Zurich and University of Vigo researchers including Dr. Julia Königer and colleagues from ten European institutions analyzed 373 soil samples across 26 countries. They found 70% contaminated with pesticides, fungicides (54%), herbicides (35%), and insecticides (11%), even in forests and meadows where pesticides are never applied. Glyphosate emerged as the most common ingredient, suppressing mycorrhizal fungi and nematodes essential for plant nutrition. The team examined how 63 pesticides affect bacteria, fungi, nematodes, and single-celled organisms, plus key genes governing phosphorus and nitrogen cycling. Pesticides altered soil communities and reduced natural nutrient recovery, forcing farmers to apply extra fertilizers to maintain yields. University of Zurich's Prof. Marcel van der Heijden notes current regulations test only single species, missing community-level damage. This first comprehensive assessment of pesticide prevalence in European soils shows urgent need for regulatory reform protecting entire soil ecosystems rather than isolated organisms.
/web/2026/06-260323-80

Drought-Resistant Crops Failed Because Scientists Targeted Plants, Not Soil

(ETH Zurich, March 24, 2026)

Scientists spent billions breeding drought-resistant crops. All of them failed. ETH Zurich's Prof. Andrea Carminati and University of Tasmania's Prof. Tim Brodribb found why: soil physics, not plant traits, limits water extraction. When soil dries beyond -1.5 megapascals, capillary and viscous forces in soil pores spike so high that plants cannot draw water fast enough, regardless of cellular adaptations. Model calculations combining soil physics with plant physiology revealed this constraint by analyzing water movement from soil to roots. This explains why programs boosting cellular solute concentrations failed. They fixed plant biology while the bottleneck existed in soil pores. The findings shift drought resistance strategies from genetic modification to soil management, targeting capillary forces and pore structure instead of cellular traits.
/web/2026/06-260324-7d

7. Engineering / Robotics / Space

River Delta Discovery Confirms Ancient Ocean Half the Size of Earth's Arctic

(University of Bern, February 06, 2026)

Mars was once blue. Three billion years ago, an ocean half the planet's surface, as large as Earth's Arctic Ocean, covered the red planet. University of Bern researchers led by PhD student Ignatius De Loyola Indi Argadestya found river delta structures near the Valles Marineris canyon that prove an ancient coastline existed. These fan deltas formed where rivers deposited sediments into standing water, marking the clearest proof yet that Mars had conditions favorable for life. The team analyzed high-resolution images from the Bernese CaSSIS camera aboard ESA's ExoMars Trace Gas Orbiter, combined with Mars Express and Mars Reconnaissance Orbiter data. Their mapping of southeast Coprates Chasma revealed scarp-fronted deposits characteristic of river deltas on Earth. Prof. Fritz Schlunegger's sedimentological approach identified depositional patterns impossible without a stable ocean. This discovery transforms how we understand planetary water loss and habitability, showing how Mars shifted from a water-rich world to its current arid state.
/web/2026/07-260206-13

Earth's Chemical Good Fortune Explains Why Life Is So Rare

(ETH Zurich, February 10, 2026)

Earth benefited from chemical good fortune 4.6 billion years ago. ETH Zurich researchers led by Dr. Craig Walton and Prof. Maria Schönbächler discovered that only planets with precise oxygen levels during core formation retain enough phosphorus and nitrogen to support life. If oxygen concentrations had differed when Earth's metallic core separated from its rocky mantle, these essential elements would have sunk into the core with heavy metals, leaving the surface barren. Computational models examining the role of oxygen during planetary differentiation show Earth exists in a narrow chemical Goldilocks zone. This breakthrough lets astronomers refine the search for habitable worlds by targeting solar systems with Sun-like stars, whose composition determines oxygen availability during planet formation.
/web/2026/07-260210-4a

Rocky Planet Found Beyond Gas Giants Rewrites Formation Theory

(University of Geneva, February 17, 2026)

An unusual rocky planet has been discovered orbiting far from its star, challenging our understanding of planetary formation. Led by Prof. Monika Lendl at the University of Geneva, researchers detected LHS 1903 e, a rocky world located beyond two gas giants in a red dwarf system 116 light-years away. This arrangement flips the typical planetary order found in our Solar System and most known systems, where rocky planets occupy inner orbits while gas giants lie farther out. Using observations from the CHEOPS space telescope and simulations from the University of Bern, scientists confirmed this reversed configuration.
/web/2026/07-260217-05

Why 65 Years of Silence Suggests Aliens Are Rare or Far Away

(EPFL, February 17, 2026)

EPFL researchers led by theoretical physicist Dr. Claudio Grimaldi found a mathematical paradox in alien signal detection. Their Bayesian model shows that high detection probability today requires an implausibly large number of past technosignatures to have passed Earth, often exceeding total habitable planets within a few thousand light-years. The model links three factors: past Earth contacts, technosignature lifetimes (days to millennia), and current instrument ranges. By treating signals as light-speed emissions (waste heat and focused beacons) the analysis shows extraterrestrial technologies are likely rare, distant beyond several thousand light-years, or exceptionally long-lasting.
/web/2026/07-260217-13

Hair-Thin Cable Could Replace Thousands of Moon Seismometers

(ETH Zurich, March 26, 2026)

The Moon has lacked seismic instruments since 1972. ETH Zurich researchers led by Simone Probst show that a single fiber-optic cable using Distributed Acoustic Sensing can function as thousands of lightweight seismic sensors, detecting moonquakes, meteorite impacts, and spacecraft landings. The Moon's lack of atmosphere makes surface deployment more effective than on Earth, where ground coupling challenges limit performance. The team used laboratory shaker tests with crushed basalt simulating lunar regolith and computer simulations modeling cable behavior under lunar gravity. Lasers send rapid light pulses through the cable while imperfections scatter light back to an interrogator, revealing stretching and vibrations from seismic waves.
/web/2026/07-260326-92

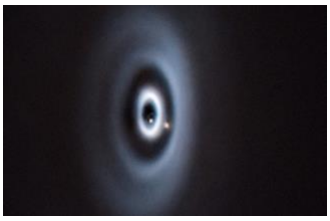
MESH Secures US$3.8M Seed Round to Automate Rebar Construction Through Robotics

(NCCR, March 27, 2026)

Construction robotics startup MESH Robotic Construction secured $3.8 million to scale its autonomous rebar platform, backed by ABB Robotics Ventures, Apprecia Capital, Shimizu Corporation, Sika, buildify.earth and Aargauische Kantonalbank. Since its founding the ETH Zurich spin-off, led by CEO Ammar Mirjan, processed over 1 million reinforcement elements for projects including Switzerland's new Gotthard tunnel. MESH's platform combines software with industrial robotics and digital quality control, addressing labor shortages while removing workers from dangerous repetitive tasks. Unlike conventional factory robots locked into single tasks, their software enables industrial robots to handle, place, and join rebar while switching between designs instantly, eliminating the specialized programming that limits traditional factory automation.
/web/2026/07-260327-e5

The Earth Formed Entirely From Inner Solar System Materials

(ETH Zurich, March 31, 2026)

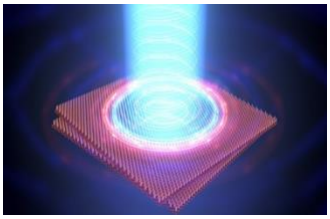


Scientists have overturned a fundamental assumption about Earth's origins. ETH Zurich researchers led by Paolo Sossi and Dr. Dan Bower found our planet contains less than 2% material from beyond Jupiter, possibly zero, contradicting decades of theory claiming 6-40% outer Solar System contribution. Everything forming Earth, including ocean water, originated exclusively from the inner Solar System. The team analyzed ten isotopic systems across meteorites from Mars and asteroid Vesta using advanced statistical methods. This data-driven approach showed Earth, Mars, and Vesta share compositional similarities forming a trend line from the Sun, indicating Jupiter blocked outer material migration. The breakthrough proves volatile elements existed locally rather than requiring distant delivery, rewriting planetary formation models. ETH's findings now enable predictions about Venus and Mercury composition despite lacking physical samples from these worlds.
/web/2026/07-260331-05

8. Physics / Chemistry / Math

Light Toggles Magnetism Without Heat

(University of Basel, February 02, 2026)



Researchers at the University of Basel and ETH Zurich, led by Olivier Huber, Kilian Kuhlbrodt, Prof. Dr. Tomasz Smolenski, and Prof. Dr. Ataç Imamoğlu, have developed a way to alter the magnetic polarity of materials using only light, avoiding heat. This method allows for the creation of adaptable electronic circuits by optically writing topological circuits on a chip, potentially transforming condensed matter physics and electronics. The team used a unique material composed of two thin layers of molybdenum ditelluride, slightly twisted against each other. They applied a laser pulse to modify the spins' collective orientation within the material, a change they verified by analyzing the reflection of a weaker second laser beam. This technique demonstrates how to manipulate electron spins, and paves the way for developing compact interferometers for measuring tiny electromagnetic fields, marking a significant advancement in combining electron interactions, topology, and dynamic control in research.
/web/2026/08-260202-b8

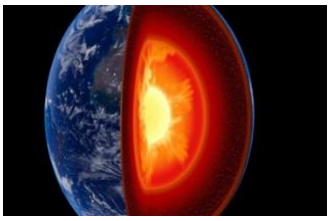
Electron Spin Reveals Atomic Geometry Controls Quantum Speed

(EPFL, February 10, 2026)

Quantum transitions occur in tens to hundreds of attoseconds, timescales where light barely crosses a virus. EPFL researchers led by Prof. Hugo Dil measured these events using electron spin as an internal clock, eliminating external timing artifacts. Their spin- and angle-resolved photoemission spectroscopy shows atomic symmetry directly controls transition speed: 3D copper completes transitions in 26 attoseconds, layered titanium diselenide requires 140-175 attoseconds, and chain-structured copper telluride exceeds 200 attoseconds. The team exploited quantum interference patterns in ejected electron spins after synchrotron light excitation. By analyzing how wavefunctions evolve from initial to final states, they inferred transition times without external clocks.
/web/2026/08-260210-3c

Earth's Core Holds 50 Oceans Worth of Hidden Hydrogen

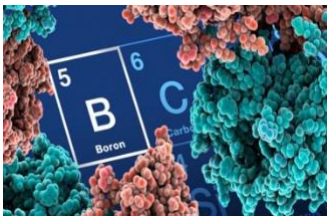
(ETH Zurich, February 17, 2026)



Earth's surface water may represent a fraction of the planet's total hydrogen. ETH Zurich researchers led by Professor Motohiko Murakami found Earth's core contains hydrogen equal to 9 to 50 times all current ocean volumes. This hydrogen exists as iron hydride within molten metal, forming nanostructures with silicon and oxygen rather than water molecules. Using laser-heated diamond anvil cells, the team recreated core formation conditions with pressures exceeding one million atmospheres and temperatures hotter than the Sun's surface. Advanced tomography revealed how hydrogen, silicon, and oxygen migrate into molten iron at the nanoscale.
/web/2026/08-260217-6d

Boron Breakthrough Unlocks Synthesis of Previously Impossible Proteins

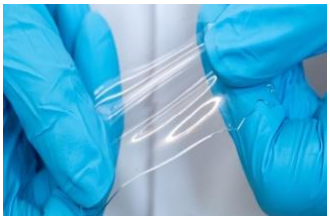
(ETH Zurich, March 11, 2026)



Around 60% of medicines target membrane proteins that are so poorly soluble they clump together and resist synthetic production. ETH Zurich researchers led by Prof. Jeffrey Bode developed a boron-containing compound that synthesizes these proteins at concentrations 1,000 times lower than conventional methods. The team created a zwitterionic organoboron complex that acts as a protective cage, shielding the reactive boron group from degrading acids during automated synthesis while maintaining rapid fragment coupling. This breakthrough produces previously inaccessible signaling proteins, protein hormones, and membrane receptors.
/web/2026/08-260311-12

Stretchable Silicone Electrolyte for Safe Flexible Batteries

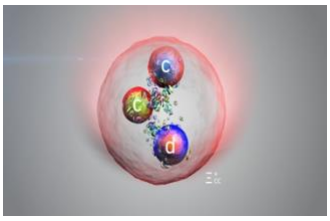
(EMPA, March 12, 2026)



A stretchable silicone-based material eliminates flammable liquid electrolytes while enabling flexible batteries that bend with the human body. Empa researchers led by Prof. Dr. Dorina Opris and Dr. Can Zimmerli developed a functionalized polysiloxane electrolyte that prevents dangerous lithium dendrite formation while accommodating volume changes during charging cycles. This breakthrough enables pure lithium metal anodes for higher energy density, and could turn rigid pacemaker batteries into soft, patient-friendly power sources. The team chemically modified polysiloxane polymers by adding nitrile functional groups to the backbone, creating ion conductivity while preserving elastic properties.
/web/2026/08-260312-e9

CERN Discovers Ultra-Heavy Proton Cousin Four Times Its Mass

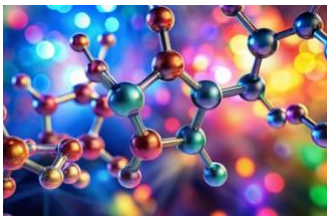
(CERN, March 19, 2026)



CERN's LHCb Collaboration found a doubly charmed baryon, a proton-like particle four times heavier than a proton. This exotic particle contains two charm quarks and one down quark, marking only the second baryon with two heavy quarks ever observed. Analysis of proton-proton collision data achieved 7 sigma statistical significance, well exceeding discovery thresholds. The LHCb detector's 2023 upgrades captured decay products from high-energy collisions. This breakthrough advances understanding of quantum chromodynamics, the strong force binding quarks into composite particles. The particle lives up to six times shorter than its 2017-discovered counterpart, making detection exceptionally difficult and validating theoretical models of quark behavior. LHCb's upgraded capabilities position the experiment to probe rare particle phenomena as the Large Hadron Collider transitions toward its High-Luminosity phase, potentially discovering new physics beyond current frameworks.
/web/2026/08-260319-a8

Light-Activated Drug Switches Shape in Trillionths of a Second

(Paul Scherrer Institute, March 20, 2026)

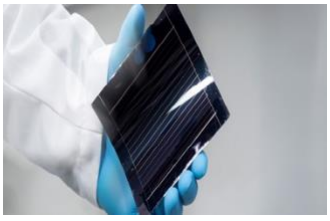


Researchers at the Paul Scherrer Institute (PSI) switched a blood pressure drug between highly effective and less effective forms in picoseconds using violet light. Dr. Robin Stipp, Dr. Quentin Bertrand, and colleagues captured the first molecular film of photoazolol-1, a light-switchable beta blocker, trans-forming from straight to bent shapes inside β-adrenergic receptors. SwissFEL's ultrafast X-ray pulses revealed how violet light bends the drug molecule, creating a controllable regulator rather than an on/off switch. This advance enables structure-based design of precision drugs that activate only in light-exposed tissues, eliminating systemic side effects. The atomic-level insights show how the bent form remains bound but loses effectiveness, providing a blueprint for light-controlled treatments for high blood pressure, autoimmune reactions, and Parkinson's disease. PSI's time-resolved crystallography transforms photopharmacology from trial-and-error into rational drug engineering for localized therapeutic control.
/web/2026/08-260320-4a

10. Economy, Social Sciences & Humanities

Record Efficiency Does Not Guarantee Market Success for Next-Gen Solar Cells

(EMPA, March 09, 2026)



Despite achieving record-breaking efficiency in laboratories, many promising solar cell technologies fail to reach the market. Empa researchers led by Dr. Mirjana Dimitrievska reveal that the solar research community has chased the wrong goal. Their analysis shows efficiency records matter far less to industry than researchers realize. Resilience, stability, sustainability, and manufacturing cost prove more critical for commercial adoption. The team compared two emerging thin-film technologies: CIGS copper indium gallium diselenide from the 1990s and current perovskite solar cells, which attracted over 500 million dollars in investment by 2025. Their analysis identifies a disconnect between laboratory achievements and industrial requirements. The findings also show that early collaboration between institutions and manufacturers, long-term field testing over efficiency benchmarks, and publishing negative results could accelerate technology transfer across emerging technologies facing similar commercialization challenges.
/web/2026/10-260309-42

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

FireDrone: Emergency Response with Heat Resistance

(EMPA, February 03, 2026)

The FireDrone, developed by researchers David Häusermann and Dr. Fabian Wiesemüller from Empa and EPFL, can endure temperatures up to 200 degrees Celsius. Insulated with ultra-light polyimide aerogel featuring air-filled pores within heat-resistant plastic, this drone ventures into hazardous zones like burning buildings and dense forests, delivering real-time thermal imaging to emergency teams. Years of research into polyimide aerogel led to this break-through. The FireDrone is equipped with an infrared camera for transmit-ting high-resolution thermal images and an internal cooling system to manage its electronics. It operates independently of satellite signals, making it ideal for indoor use during emergencies and industrial inspections.
/web/2026/11-260203-e2

ETH Zurich Shatters Startup Record With 46 New Ventures

(ETH Zurich, March 05, 2026)

ETH Zurich launched 46 ventures in 2025, raising CHF 540 million across 41 financing rounds, a 27% increase from 2024. The university now separates 'ETH Spin-offs' (24 companies built on university research) from 'ETH Startups' (22 ventures using institutional knowledge without direct research ties). Notable launches include an AI-powered sock that reduces diabetic neuropathy pain and a crisis-proof smartphone communication system. New Business Creation Regulations and the UBS-funded "UPortunity" accelerator drove this growth. The program provides monthly salaries, project budgets, workspace, and expert mentoring. Nine ventures came from ETH Student Project House. Technology and Software ventures led at 26%, with AI and machine learning dominating. Female founder participation doubled to 17% over the past decade. This dual-track system lets students and graduates launch ventures beyond traditional research commercialization while keeping institutional support.
/web/2026/11-260305-7b

AI Platform Cuts Product Development Time by Two Years

(Neural Concept, March 19, 2026)

Neural Concept raised $100 million to transform engineering workflows. The EPFL spinout's CAD-native AI platform lets teams explore millions of design options early in development. Their physics-aware system shifts engineering from trial-and-error to data-driven optimization, saving customers $50 million annually and reducing late-stage redesigns by 30-50%. The platform embeds AI directly into design and simulation workflows through copilots that under-stand geometry, constraints, and design intent. Integrated with Nvidia, Siemens, Ansys, Microsoft, and AWS, it compresses development cycles from months to days. Over 50 companies, including General Motors, GE Vernova, Leonardo Aerospace, and multiple Formula 1 teams, now use the technology. CEO Pierre Baqué's approach has driven fourfold enterprise revenue growth in 18 months, with Goldman Sachs Alternatives leading this funding round.
/web/2026/11-260319-8d

Amazon Acquires Swiss Startup RIVR Building Multi-Modal Delivery Robots

(Swissinfo.ch, March 24, 2026)

Amazon has acquired RIVR Technologies (now Amazon RIVR), an ETH Zurich spin-off that builds walking, driving robots to deliver packages. The quadrupedal robots use wheeled end effectors to handle final delivery steps from van to door. These autonomous units work with human drivers to manage multiple nearby drop-offs at once, cutting repetitive short walks. The technology lets robots switch between locomotion modes to navigate urban environments. RIVR's platform traverses stairs, rolls on flat surfaces, and stands upright when needed. The company has deployed across several countries, proving commercial viability.
/web/2026/11-260324-e2

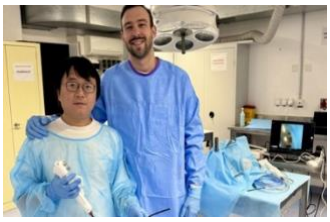
Swiss Startup Raises $225M to Break AI's Data Movement Barrier

(kandou.ai, March 24, 2026)

Kandou AI secured one of the largest funding rounds in semiconductor history to solve AI's critical bottleneck: data transfer speed. Led by Maverick Silicon with backing from SoftBank Group, Synopsys Inc, and Cadence, the Lausanne-based company developed patented signaling technologies that accelerate data movement between processors and memory using standard copper interconnects. Their silicon-proven SerDes technology breaks the 448G (448 Gbps per lane) barrier, enabling multi-terabit connectivity at a fraction of traditional power consumption and cost. This breakthrough addresses AI infrastructure's fundamental constraint. As models grow exponentially, performance depends on memory bandwidth rather than raw compute power. Kandou AI's approach reimagines copper-based interconnects through advanced information theory, delivering higher performance without expensive optical solutions. The technology makes high-speed connectivity accessible at lower costs, reshaping how data centers handle massive AI workloads as memory demands continue their explosive growth.
/web/2026/11-260324-25

Endoscope Switches from Soft to Rigid in Milliseconds

(EPFL, March 27, 2026)

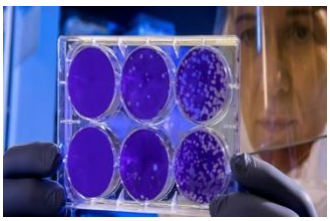


EPFL's Laboratory of Intelligent Systems created variable-stiffness endoscopes that shift from flexible to rigid in milliseconds. Led by Dr. Yegor Piskarev through spin-off Dexterous Endoscopes, the technology solves why surgeons convert minimally invasive procedures to open surgery when standard endoscopes cannot maintain stability after navigation. The device uses mechanically segmented architecture where interconnected segments move freely during navigation, then rapidly compress to lock into a stable, force-transmitting structure. Unlike previous soft robotics using smart polymers or vacuum systems, this mechanical solution lets surgeons reach and treat multiple targets in single ENT, urological, and gastrointestinal procedures. The innovation could reduce invasive conversions and procedure times for 190 million annual endoscopic patients worldwide while lowering healthcare costs.
/web/2026/11-260327-79

12. General Interest

Your 2009 Swine Flu Vaccine May Shield You from Bird Flu

(University of Geneva, February 11, 2026)



Your childhood flu exposure and 2009 pandemic vaccination could determine your protection against avian flu H5N1, which has jumped from birds to cattle to humans in 71 North American cases. University of Geneva researchers led by Dr. Mariana Alcocer Bonifaz found that antibodies from seasonal flu infections also target H5N1 by attacking the virus's stem region. People who received adjuvanted vaccines during the 2009 H1N1 pandemic show elevated protective antibodies, while those born before 1965 possess higher baseline immunity from childhood H1 or H2 exposures. This revelation adds one more argument in favor of pandemic strategies that use existing immune memory. The team's analysis of antibody neutralization against H5N1 clade 2.3.4.4b shows these cross-reactive antibodies block viral spread between cells. Adjuvanted H5N1 vaccines would need lower doses per person, expanding vaccination capacity with current production infrastructure.
/web/2026/12-260211-71

Virtual Robot Training Achieves 99% Real-World Accuracy

(ABB, March 10, 2026)

ABB Robotics and NVIDIA closed the decades-old 'sim-to-real' gap that blocked AI scaling in factories. Manufacturers can now train robots virtually and deploy them to real factory floors with 99% accuracy. The partnership integrates NVIDIA Omniverse libraries into ABB's RobotStudio software, creating RobotStudio HyperReality that cuts costs by 40% and halves time-to-market. The system combines accurate simulation with ABB's virtual controller running identical firmware to hardware. Synthetic data trains physical AI models in digital twins, while ABB's Absolute Accuracy technology shrinks positioning errors from 8-15mm to 0.5mm. This advance removes the need for physical prototypes and reduces setup times by 80%.
/web/2026/12-260310-e1

13. Calls for Grants/Awards

Researchers Win Queen Elizabeth Prize for their Spinal Stimulation Breakthrough

(EPFL, February 04, 2026)

Researchers Dr. Jocelyne Bloch and Dr. Gregoire Courtine from EPFL and the University of Lausanne UNIL/CHUV have been honored with the 2026 Queen Elizabeth Prize for Engineering. They are among nine scientists recognized for pioneering neural interfaces that restore lost human function, specifically their electronic spinal stimulation technology that enables individuals with spinal cord injuries to regain voluntary movement. Their breakthrough combines targeted electrical stimulation with advanced rehabilitation methods, re-activating neural circuits that control locomotion. Blending engineering and medical knowledge to overcome physical limitations, EPFL and UNIL/CHUV's decade-spanning research is greatly enhancing independence and quality of life for spinal cord injury patients.
/web/2026/13-260204-98

Upcoming Science and Technology Related Events

HPC-AI Advisory Council Swiss Conference 2026
April 20-23
https://hpcadvisorycouncil.ch
IT, Web & Electronic, AI
Palexpo Locarno

Hack Summit 2026
April 22-23
https://www.hacksummit.co
Environment & Climate Conditions, Scientific Research & Development
Beaulieu Congress Center, Lausanne

SCS Spring Meeting 2026
April 23
https://sm26.scg.ch
Scientific, Research & Development
University of Fribourg

Energy Innovations Forum
April 23-24
https://www.innovationsforum-energie.ch/
Power, Renewable & Storage Energy
Zurich Marriott Hotel

Swiss IT Congress 2026
April 30
https://it-congress.ch/
IT, Web & Electronic, AI, Scientific Research & Development
Hotel Schweizerhof Bern

Bürgenstock Conference 2026
May 3-7
https://bc26.scg.ch
Chemicals, Physics & Molecular Sciences, Scientific Research & Development
Hotel Waldstätterhof Brunnen

Swiss Biotech Day 2026
May 4-5
https://swissbiotechday.ch
Pharmaceutical & Biotechnology, Scientific Research & Development
Congress Center Basel

SC4RC 2026
May 4-8
https://sc4rc.org
IT, Web & Electronic, AI, Scientific Research & Development
CERN, Geneva

Micro Nano Fabrication Annual Meeting
May 12
https://cmi-events.epfl.ch/
Nanoscience, Research & Development
SwissTech Convention Center, Lausanne

Nano Industry Materials Development with AI
May 12
https://nano.swiss/
Nanoscience, AI, Research & Development
TECHNOPARK Aargau

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