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13 Apr – 17 Apr 2026

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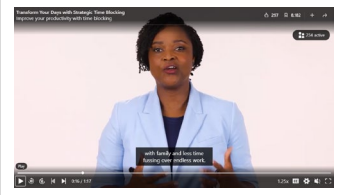

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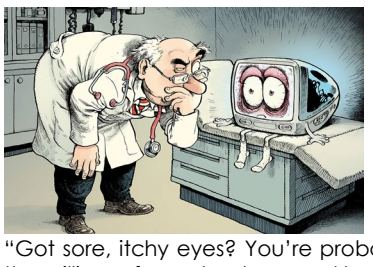
AI

Scientists invented a fake disease. AI told people it was real



"Got sore, itchy eyes? You're probably one of the millions of people who spend too much time staring at screens, being bombarded with blue light. Rub your eyes too much and your eyelids might turn a slight, pinkish hue.

So far, so normal. But if, in the past 18 months, you typed those symptoms into a range of popular chatbots and asked what was wrong with you, you might have got an odd answer: bixonimania..

The condition doesn't appear in the standard medical literature — because it doesn't exist. It's the invention of a team led by Almira Osmanovic Thunström, a medical researcher at the University of Gothenburg, Sweden, who dreamt up the skin condition and then uploaded two fake studies about it to a preprint server in early 2024. Osmanovic Thunström carried out this unusual experiment to test whether large language models (LLMs) would swallow the misinformation and then spit it out as reputable health advice. "I wanted to see if I can create a medical condition that did not exist in the database," she says.

The problem was that the experiment worked too well. Within weeks of her uploading information about the condition, attributed to a fictional author, major artificial-intelligence systems began repeating the invented condition as if it were real.

Even more troublingly, other researchers say, the fake papers were then cited in peer-reviewed literature. Osmanovic Thunström says this suggests that some researchers are relying on AI-generated references without reading the underlying papers."

Source: Nature (7 Apr 2026)

ARCHITECTURE

From London to Houston: Four Ongoing Pedestrianisation Initiatives Shaping More Walkable Cities

"Across Europe and North America, pedestrianisation is increasingly being deployed as a context-specific urban strategy shaped by distinct economic, social, and spatial pressures. As cities continue to reassess the role of streets in the wake of economic shifts, climate pressures, and changing mobility patterns, pedestrianisation is emerging as a tool in current urban transformation efforts. Across London, New York, Houston, and Stockholm, ongoing pedestrian-first projects are testing different pathways toward more resilient and walkable cities, ranging from statutory planning and capital construction to research-driven visioning. London's Oxford Street is advancing through consultation and governance reform to address retail decline; New York's Paseo Park is moving from a temporary pandemic intervention into permanent infrastructure; Houston is accelerating the pedestrianisation of its downtown core in preparation for a global sporting event; and Stockholm's Superline is using design research to rethink the future of an inner-city motorway. These initiatives reveal how pedestrianisation is being actively negotiated, designed, and built today, adapting to local motivations while converging on a shared objective of streets that perform as resilient public spaces rather than traffic conduits.."

Source: Archdaily (10 Apr 2026)

ARCHITECTURE

Arquivo: Deconstruction and Material Reuse for a Circular Architecture

"The construction industry today faces an unavoidable paradox: the urgent need for sustainable solutions for the future of cities collides with the exhaustion of the term "sustainability" itself, often reduced to a hollow commercial label. In this scenario, Arquivo – one of the winners of ArchDaily's 2025 Next Practices Award – emerges as a facilitator and mediator between different stakeholders in the construction field through disassembly – or rather, de-construction – and the reuse of building elements. Etymologically, if "construction" derives from the Latin construere (to heap up, assemble), the prefix "de-" imposes a conceptual inversion: it is not about destroying, but about disassembling with intelligence to understand the logic of the parts.

While conventional demolition practices generate a vast volume of waste and energy consumption, Arquivo proposes reuse as a viable alternative for the circular economy. The company operates in the gap between disposal and new construction, guided by a clear premise: "Reuse is only fully realized when the material gains a new life."

Source: Archdaily (9 Apr 2026)

ARCHITECTURE

"We Live in Toxic Interior Environments": Interview with Healthy Materials Lab

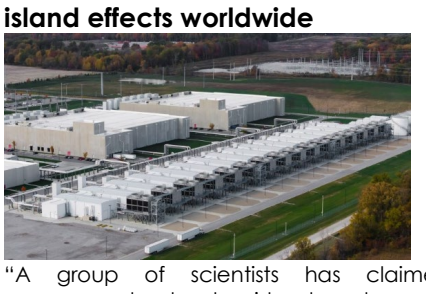
"The well-known phrase "man is what he eats" (Der Mensch ist, was er isst), by Ludwig Feuerbach, asserts that the physical, mental, and even moral constitution of human beings is directly linked to what they consume. Today, this idea is widely internalized, with growing awareness around food, nutrition, and the impact of what we ingest on our bodies. Yet, this same level of awareness doesn't extend to the environments we inhabit, where materials continue to be treated as technical decisions rather than active agents in the relationship between body and space. Considering that a large portion of the global population spends around 90% of their time indoors, it is rarely discussed what actually composes these spaces at their most fundamental level: materials. Walls, floors, and finishes are often approached as technical or aesthetic choices, when in reality they can function as continuous sources of exposure to potentially harmful substances..

It is within this context that the Healthy Materials Lab (HML), founded in 2015 at Parsons School of Design, proposes a shift in perspective. Based on the recognition that the design and construction industry, especially within the affordable housing sector, plays a critical role in the declining health of both people and ecosystems, the lab argues that material specification should be understood as a central public health concern. We spoke with Jonsara Ruth and Alison Mears, architects and founders of the lab, who shared how this initiative has been developed over the past decade and why material selection may be one of the most critical decisions in contemporary architectural practice. The lab emerged supported by a three-year grant from the JPB Foundation, enabling the development of research on material impacts and the formulation of strategies aimed at architectural practice.."

Source: Archdaily (8 Apr 2026)

ENVIRONMENT

Study links data centres to heat island effects worldwide



"A group of scientists has claimed a pronounced heat island phenomenon correlated with the development of data centres in an early study, speculating on the heat's "remarkable influence on communities and regional welfare".

The non-peer-reviewed paper, published by a group of nine researchers affiliated with institutions such as the University of Cambridge and Nanyang Technological University, presented its findings based on 20 years of remote land-surface sensor temperature data. It was published on the public-domain research site Arxiv.

340 million could be impacted

Called the Data Heat Island Effect, the study showed that temperatures are rising an average of 3.6 degrees fahrenheit (2 degrees C) in areas immediately surrounding the " locations of the main AI hyperscaler centres", while as much as a 16.4 (9.1 degrees C) degree increase was shown in the most extreme cases.

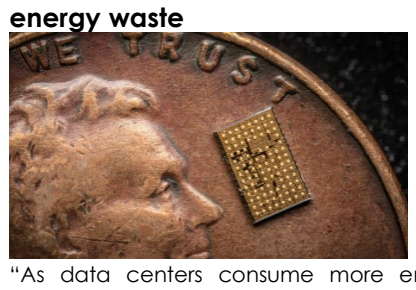
Its findings also provided insight into how widely felt the thermal effects are, claiming the centres and associated heat islands could impact a total of over 340 million people worldwide..."

"We assess the impact on the communities, quantifying that more than 340 million people could be affected by this temperature increase," said the group.

"Our results show that the data heat island effect could have a remarkable influence on communities and regional welfare in the future, hence becoming part of the conversation around environmentally sustainable AI worldwide."

ENERGY

This new chip could slash data center energy waste



"As data centers consume more energy to support growing digital demands, engineers at the University of California San Diego have introduced a new chip design that could make powering graphics processing units (GPUs) more efficient. The innovation focuses on a key function in electronics: converting high voltages into the lower levels required by computing hardware. In laboratory testing, a prototype chip successfully performed this type of voltage conversion with high efficiency under conditions similar to those found in modern data centers.

The findings, published in Nature Communications, suggest the potential for smaller and more energy-efficient systems in advanced computing environments..."

ENERGY

The world is getting brighter at night but some places are going dark

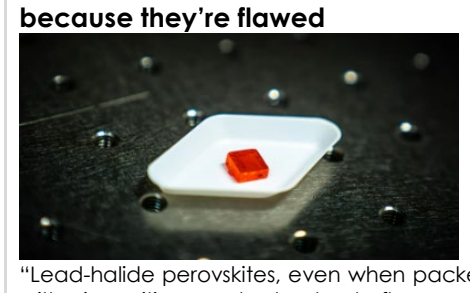
"Satellite observations show that the planet is steadily getting brighter at night, but the trend is far from uniform. Data from the VIIRS DNB instrument, covering 2014 to 2022, indicate that global nighttime lighting has been increasing by roughly two percent each year.

"Although there has been a total increase of 16 percent worldwide, that does not mean that lighting is increasing everywhere," explained Christopher Kyba. "In areas where lighting increased, we found global emissions rose by 34 percent. This was offset by an 18 percent decrease in emissions from other areas."

These findings reveal that changes in nighttime lighting are more dynamic and localized than previously understood. Rapid urban growth made countries like China and India significantly brighter during the study period. In contrast, some industrialized nations saw declines in light emissions, often linked to the adoption of LED technology and policies aimed at reducing light pollution."

ENERGY SOLAR

These cheap solar cells work better because they're flawed



"Lead-halide perovskites, even when packed with impurities and structural flaws, are remarkably effective at turning sunlight into electricity. Their performance is now approaching that of silicon-based solar cells, which have long dominated the industry. In a recent study published in Nature Communications, researchers at the Institute of Science and Technology Austria (ISTA) present a detailed explanation for this unexpected efficiency, solving a mystery that has puzzled scientists for years.

It raises an obvious question: how can a relatively simple, low-cost material compete with highly refined silicon technology developed over decades? Over the past 15 years, lead-halide perovskites have emerged as promising candidates for next-generation solar cells. Unlike silicon, which requires ultra-pure single-crystal wafers, these materials can be produced using inexpensive solution-based methods while delivering comparable performance…

Scientists have now discovered that defects inside the material actually help, creating networks that separate and guide electric charges efficiently. Using a novel imaging method, they revealed hidden structures acting like charge "highways." This insight could unlock even more powerful, low-cost solar cells."

Source: DEZEEN (9 Apr 2026)

OPTICS

Dragonflies can see a color humans can't and it could change medicine

"Different species sometimes arrive at the same biological solution on their own, a phenomenon known as parallel evolution. Researchers at Osaka Metropolitan University (OMU) have now found that dragonflies detect red light in a way that closely mirrors how mammals, including humans, do. Because many medical technologies depend on red light, this discovery could have implications far beyond insect biology.

Human vision relies on proteins in the eye called opsins. These proteins allow us to perceive different colors. We have three main types, each tuned to blue, green, or red wavelengths, which together enable full color vision.

Dragonflies stand out among insects for their ability to detect red light. A research team led by Professors Mitsumasa Koyanagi and Akihisa Terakita at OMU's Graduate School of Science identified a specific opsin in dragonflies that responds to light at around 720 nm. This wavelength lies beyond the deepest red that humans can normally see.

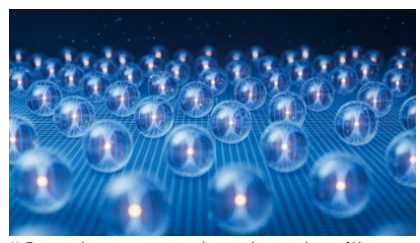
"This is one of the most red-sensitive visual pigments ever found," Professor Terakita said. "Dragonflies can likely see deeper into red light than most insects."."

Source: Osaka Metropolitan University (9 Apr 2026)

Source: University of California (10 Apr 2026)

QUANTUM

Quantum computers keep losing data. This breakthrough finally tracks it



"Quantum computers struggle with a major flaw: their information vanishes unpredictably. Scientists have now created a new method that can measure this loss over 100 times faster than before. By tracking changes in near real time, researchers can finally see what's going wrong inside these systems. This could be a big step toward making quantum computers stable and practical."

Why Quantum Computers Lose Information

A key challenge has been figuring out exactly how fast this information disappears. Without that knowledge, it is difficult to improve the performance and reliability of quantum systems.

"In the widely used superconducting qubits, the time it takes for information to disappear is, on average, reasonable. But it seems to vary randomly over time," explained Danon.

That unpredictability creates a major obstacle. Scientists have lacked a fast and dependable way to measure how long qubits can hold information. Solving this issue is essential if quantum computers are ever going to become stable enough for practical use.

Source: Norwegian University of Science and Technology (8 Apr 2026)

Source: Ruhr-University Bochum (9 Apr 2026)

WATER PURIFICATION

Breakthrough water filter removes 98% of toxic PFAS forever chemicals

"Scientists have developed a clever new way to trap "forever chemicals" in water using nano-sized cages that lock onto PFAS molecules. Unlike current methods, this approach can capture short-chain PFAS—the hardest type to remove. Tests show it can eliminate up to 98% of these pollutants and still work after multiple uses. The discovery could lead to more effective water filtration systems worldwide."

Their findings, published in the journal *Angewandte Chemie International Edition*, highlight the use of a nano-sized molecular cage designed to act as a highly selective 'PFAS trap'.

"While some long-chain PFAS can be partially removed using existing water treatment technologies, the capture of short-chain PFAS -- which are more mobile in water -- remains a major unresolved challenge," says project leader Dr. Witold Bloch, from Flinders University's College of Science and Engineering.

"We discovered that a nano-sized cage captures short-chain PFAS by forcing them to aggregate favourably inside its cavity. This unusually strong binding mechanism is different from that of traditional adsorbent materials."

Source: Flinders Uni (8 Apr 2026)

Source: Institute of Science and Technology Austria (10 Apr 2026)

3D PRINTING

Superlimão 3D-prints pavilion for inaugural Brazilian Architecture Biennial

"Brazilian architecture studios Superlimão, H2C Arquitetura and Vida de Vila have created experimental pavilions in Ibirapuera Park in São Paulo for the first edition of the Brazilian Architecture Biennial.

The three pavilions were presented in an exhibition called Pátio Metrópole outside of Oscar Niemeyer's Pavilion of Brazilian Culture in the urban park. Each presented technological solutions, ancient and modern, to Brazil's climate."

Source: Dezeen (10 Apr 2026)