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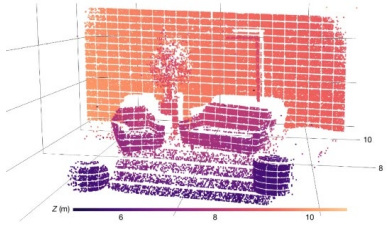
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4D IMAGING **A Silicon Chip That Enables the Creation Of 4D Cameras**



"The availability of cheap digital cameras based on complementary metal-oxide-semiconductor (CMOS) technology has spurred the development of various applications in the past 20 years, including smartphones with cameras and artificial intelligence for facial recognition, as well as advances in Earth-observing satellites. As the abilities of AI and machine vision develop, there is an increasing need for machines that can sense the 3D world moving dynamically around us, for example in autonomous driving, automation, robotics and augmented or virtual reality. However, the existing technology¹ for imaging the world in four dimensions is poor in range, accuracy and resolution, and is expensive and bulky.

What's needed is the equivalent of a CMOS image sensor that can measure the usual three dimensions, as well as velocity, all on an inexpensive silicon chip. This type of 4D camera could stimulate innovation and would have applications in many fields, from consumer technology to the automotive, industrial and space sectors."

Source: [Nature](#) (11 Mar 2026)

AI **What Happens If AI Makes Things Too Easy for Us? Making tasks too easy could have hidden psychological costs**



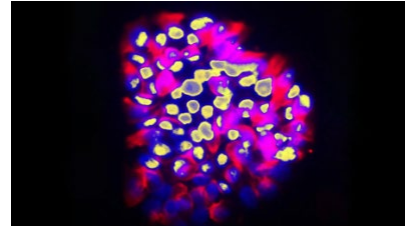
"Most people who regularly use AI tools would say they're making their lives easier. The technology promises to streamline and take over tasks both professionally and personally—whether that's summarizing documents, drafting deliverables, generating code, or even offering emotional support. But researchers are concerned AI is making some tasks too easy, and that this will come with unexpected costs.

In a commentary titled [Against Frictionless AI](#), published in *Communications Psychology* on 24 February, psychologists from the University of Toronto discuss what might be lost when AI removes too much effort from human activities. Their argument centers on the idea that friction—difficulty, struggle, and even discomfort—plays an important role in learning, motivation, and meaning. Psychological research has long shown that [effortful engagement](#) can deepen understanding and strengthen memory, sometimes described as "desirable difficulties."

The authors worry that AI systems capable of instantly producing polished answers or highly responsive conversation may bypass these processes of learning and motivation. By prioritizing outcomes over effort, AI could weaken the experiences that help people develop skills, build relationships, and find meaning in their work."

Source: [IEEE Spectrum](#) (22 Mar 2026)

AI **New AI Tool Predicts Cancer Spread with Surprising Accuracy**



"Why do some tumors spread while others remain localized? Scientists still do not fully understand what controls a cancer cell's ability to metastasize, but answering this question is essential for improving patient care. Researchers at the University of Geneva (UNIGE) studied cells from colon cancer and identified key factors that influence whether a tumor is likely to spread. They also uncovered specific gene expression patterns that can be used to estimate that risk.

Building on these findings, the team developed an artificial intelligence tool (MangroveGS) that converts these genetic signals into highly reliable predictions across multiple cancer types. The study, published in *Cell Reports*, could lead to more personalized treatments and help uncover new therapeutic targets."

Source: [Université de Genève](#) (21 Mar 2026)

ARCHITECTURE **Evenly Lit, Not Overlit: Rethinking Brightness in Subtropical Cities**



"In South China, there is occasionally an urban myth—especially across [Hong Kong, Shenzhen](#), and Guangzhou—about choosing a home that avoids western light. Over decades, the [west-facing sun](#) has proven to be a particularly difficult condition to live with: its low angle in the afternoon, its aggressive [heat gain](#) (especially in summer), and the way it penetrates deep into interiors. With global warming and longer, hotter seasons, that much-romanticized "afternoon glow" is increasingly experienced less as romance and more as [glare, heat](#), and fatigue. Although this wisdom circulates as a community-driven rule of thumb, it carries an undeniable architectural clarity about building orientations: avoiding western light is not only about thermal comfort, but also about avoiding the sharpest, most intrusive form of direct illumination—light that strikes at the most unforgiving angle, washing surfaces, flattening depth, and turning rooms into high-contrast fields of discomfort."

Source: [Archdaily](#) (20 Mar 2026)

ARCHITECTURE **Housing Affordability Crisis: Architectural and Policy Responses from Spain, France, Australia, and the United States**



"Today's housing crisis is a global phenomenon that can be broadly divided into two major problems: a shortage of residential buildings and barriers to accessing those that already exist. The deficit is real and concrete when it comes to what the UN calls "adequate housing for all." According to UN-Habitat, an estimated 96,000 new housing units would need to be built per day to meet population needs by 2030. Climate change and forced migration are broadening the gap. But 2.8 billion people worldwide, representing nearly 40% of the global population, lack access to stable shelter, secure land, and basic sanitation services not only because of underproduction, but also due to an economic barrier: an affordability crisis. As demand grows and prices rise, housing, now increasingly functioning as a form of social security, becomes a target for rental income and real estate speculation. As adequate housing is a human right, pressure on governments and private entities is increasing worldwide to limit speculation and ensure fair access to existing dwellings. Below, we present four examples of initiatives in Spain, Australia, France, and the United States that aim to urgently expand housing access while limiting speculation."

Source: [Archdaily](#) (17 Mar 2026)

ARCHITECTURE **Seven Buildings Draped with Fabric-Like Glass Facades**



"In this roundup, we spotlight seven buildings with undulating glass facades that resemble flowing fabric, giving new meaning to the idea of curtain walling.

From a rippling theatre in Brisbane to a pearlescent flagship store in Tokyo, the featured projects each use curtain-like elevations to create a distinct character.

They demonstrate how architects are challenging the ubiquitous trend of rectilinear glazed buildings, proving that all-glass facades don't have to be visually homogeneous.

Read on for seven buildings draped with fabric-like facades:"

Source: [Dezeen](#) (21 Mar 2026)

DESIGN **AI Toys Could Stunt Emotional Development of Young Children, Study Warns**



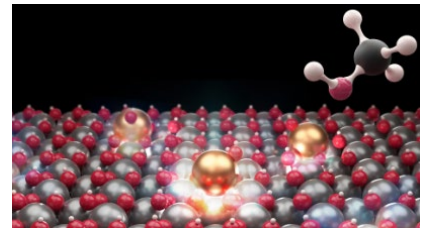
"Designers need to work closely with [child development](#) experts when creating [AI](#) toys to ensure they help rather than hinder kids' psychological growth, the co-author of a pioneering study has told Dezeen.

From [chatbot-powered Barbies](#) to stuffed toys by [Curio](#) and [Bondu](#), conversational AI companions for young children are a burgeoning industry.

But these kinds of toys can miss the mark when it comes to adequately responding to children, according to the [University of Cambridge's AI in the Early Years report](#) – the first to examine the possible psychological impacts of playing with generative AI for under-fives."

Source: [Dezeen](#) (24 Mar 2026)

ENERGY **Scientists Turn CO2 Into Fuel Using Breakthrough Single-Atom Catalyst**



"Every chemical reaction must overcome an energy hurdle before it can occur. Substances need an initial input of energy to start reacting. Sometimes this barrier is small, like lighting a match. In many industrial processes, however, the required energy is much higher, which increases costs.

To make reactions easier and more efficient, chemists rely on substances called catalysts. These "reaction helpers" reduce the energy needed. The most effective catalysts often contain metals, including rare and expensive ones.

Breakthrough Catalyst Turns CO2 Into Methanol

Researchers at ETH Zurich have now made a major advance in catalyst design. Their new system significantly lowers the energy needed to produce methanol (an alcohol) from carbon dioxide and hydrogen.

The team also achieved an unusually efficient use of the metal indium. In this catalyst, each individual indium atom acts as its own active site. This is a major shift from traditional approaches, where metals are grouped in particles.

Another key advantage is improved precision. In the past, catalyst development often relied on trial and error. This new design allows scientists to better observe and understand the reactions happening on the surface, opening the door to more deliberate and optimized catalyst development."

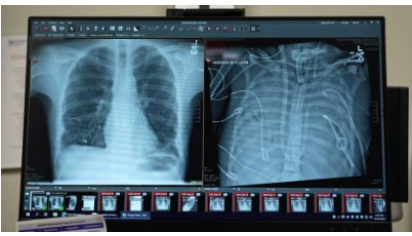
Source: [ETH](#) (20 Mar 2026)

MED TECH **He Survived 48 Hours Without Lungs and Lived**

QUANTUM **Scientists Just Found a Hidden 48-Dimensional World in Quantum Light**

SUSTAINABILITY **Generative AI-Powered Forecasting for Sustainable Urban Development**

TEACHING & LEARNING **AI Broke College Assessment. One University Believes It's Got a Fix**



"Humans cannot survive without lungs. Yet one patient managed to live for 48 hours without them."

In a report published in the Cell Press journal Med, surgeons detail how they removed a man's severely infected lungs and used an "artificial lung" system to keep him alive until a double lung transplant could be performed. The case highlights a potential new way to keep critically ill patients alive while they wait for donor organs."

Source: [CELL PRESS](#) (18 Mar 2026)

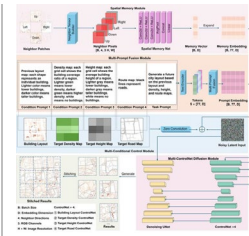


"Scientists at the University of the Witwatersrand in South Africa, working with collaborators from Huzhou University, have uncovered a surprising feature in one of the most widely used tools in quantum optics. They found that standard methods for producing entangled photons can contain previously unseen topological structures. In their experiments, these structures reached a record 48 dimensions and included more than 17,000 distinct topological signatures, creating a vast new "alphabet" for encoding stable quantum information."

In most quantum optics labs, entangled photons are generated using a technique called spontaneous parametric downconversion (SPDC). This process naturally creates entanglement in the spatial properties of light. The researchers discovered that within this spatial structure lies a hidden realm of high-dimensional topologies. These complex patterns could provide new ways to store and protect information, potentially making quantum systems more resistant to noise.

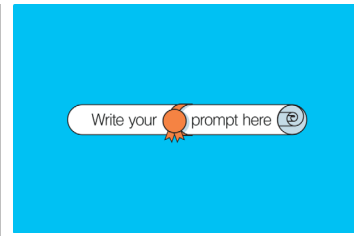
The team demonstrated this effect using the orbital angular momentum (OAM) of light, which can span from simple two-dimensional cases to extremely high dimensions. This flexibility allows for much richer structures than previously recognized."

Source: [Uni of the Witwatersrand](#) (21 Mar 2026)



"Researchers introduce a novel generative AI-driven framework, MMCN (Memory-aware Multi-Conditional generation Network), for forecasting future urban layouts by jointly considering building density, building height, transportation networks, and historical development patterns. Leveraging a generative architecture-enhanced diffusion model with multi-conditional control, semantic prompt fusion, and spatial memory embedding, MMCN offers a novel approach to modeling complex urban evolution. This framework provides a powerful tool to explore sustainable urban development, demonstrating AI's transformative potential in urban design."

Source: [EurekAlert!](#) (24 Mar 2026)



"In the United States, colleges have set guidelines around the use of generative artificial intelligence in classrooms, but they are largely leaving [the policymaking](#) and policing to professors themselves. The result is a mishmash of bans, limits, and permissions that some teaching experts say creates confusion, strains faculty, and exacerbates academic-integrity issues."

"Going to a policy that says that every professor can use AI is telling people that there is no policy," said Marc Watkins, director of the University of Mississippi's AI Institute for Teachers. He described the mood among faculty as "a panic attack" every day.

Halfway around the world, Australia's oldest university debuted a model [last semester](#) to try to ease the problem.

Administrators and faculty leaders at the University of Sydney concluded that having faculty try to ban or catch AI use wasn't sustainable — so they entirely redesigned how students are evaluated. The system, which the university is calling the "[two-lane approach](#)," offers a defined set of assessment formats instructors can choose from that either allow generative-AI tools or don't. AI use is effectively permitted for most tasks that are not final exams, midsemester tests, or in-class assessments of skills."

Source: [Chronicle](#) (23 Mar 2026)

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