



ARTIFICIAL INTELLIGENCE



The road to artificial general intelligence

Artificial intelligence models that can discover drugs and write code still fail at puzzles a lay person can master in minutes. This phenomenon sits at the heart of the challenge of artificial general intelligence (AGI). Can today's AI revolution produce models that rival or surpass human...

 technologyreview.com

The AI Was Fed Sloppy Code. It Turned Into Something Evil.

The new science of "emergent misalignment" explores how PG-13 training data - insecure code, superstitious numbers or even extreme-sports advice - can open the door to AI's dark side.

 quantamagazine.org



The personhood trap: How AI fakes human personality

AI assistants don't have fixed personalities-just patterns of output guided by humans.

 arstechnica.com



INFRASTRUCTURE



Nvidia outlines plans for using light for communication between AI GPUs by 2026 - silicon photonics and co-packaged optics may become mandatory for next-gen AI data centers

Nvidia details its upcoming Quantum-X InfiniBand and Spectrum-X Ethernet switches that will adopt co-packaged optics by 2026 to deliver up to 409.6 Tb/s bandwidth at lower power than traditional pluggable module.

 tomshardware.com

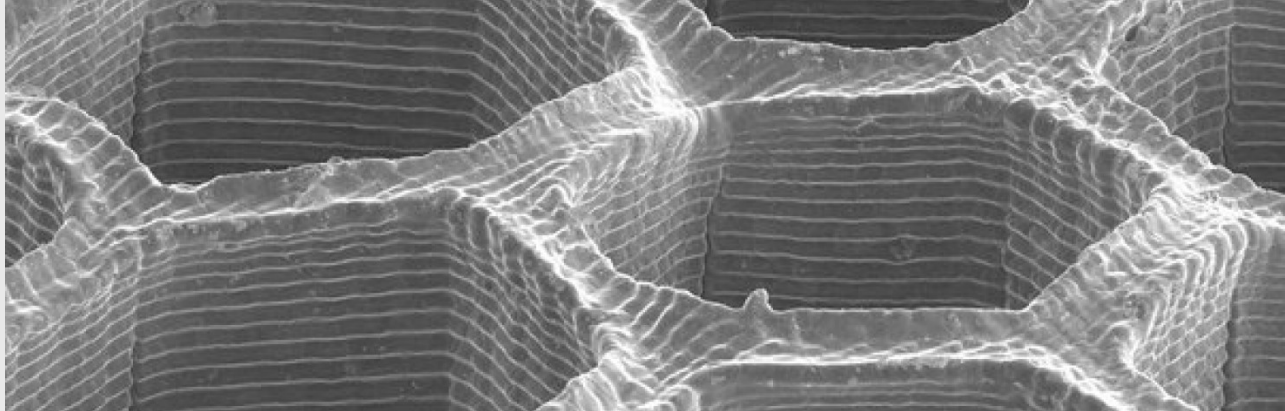
Here's How Quantum Computing Could Change the World

The emerging technology promises better medicine, faster internet and more sustainable food production. It also comes with some big risks.

 wsj.com



ADVANCED MATERIALS



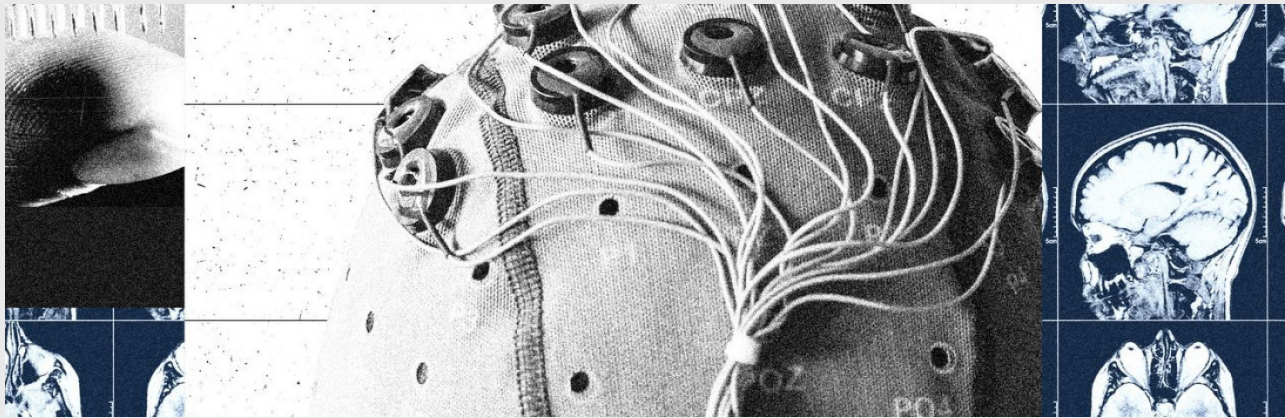
Bringing Metallurgy Into the 21st Century

The Greer lab has developed a method for creating metal alloys with desired compositions and properties.

 caltech.edu



ARTIFICIAL SENSING



China Is Building a Brain-Computer Interface Industry

A new policy document outlines China's plan to create an internationally competitive BCI industry within five years, and proposes developing devices for both health and consumer uses.

 wired.com



LIFE SCIENCES



A boost for the precision of genome editing

Researchers develop a fast-acting, cell-permeable protein system to control CRISPR-Cas9, reducing off-target effects and advancing gene therapy. The U.S. Food and Drug Administration's recent approval of the first CRISPR-Cas9-based gene therapy has marked a major milestone in biomedicine....

 chemistry.mit.edu



ENERGY



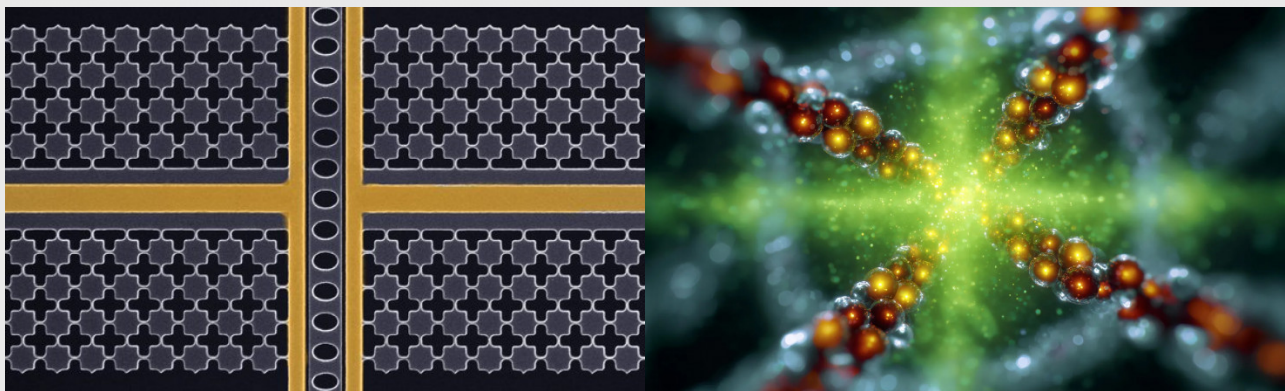
Nuclear Batteries Can Power Devices for Decades. Is That a Good Thing?

Nuclear batteries are back, and not just for space applications. With their ultra-long life spans, they could power drones, sensors, and medical implants.

 spectrum.ieee.org



IN THE LAB



Using Sound to Remember Quantum Information

Mohammad Mirhosseini's lab has paired a superconducting qubit on a chip with a miniature tuning fork, demonstrating how to store quantum states longer.

 caltech.edu

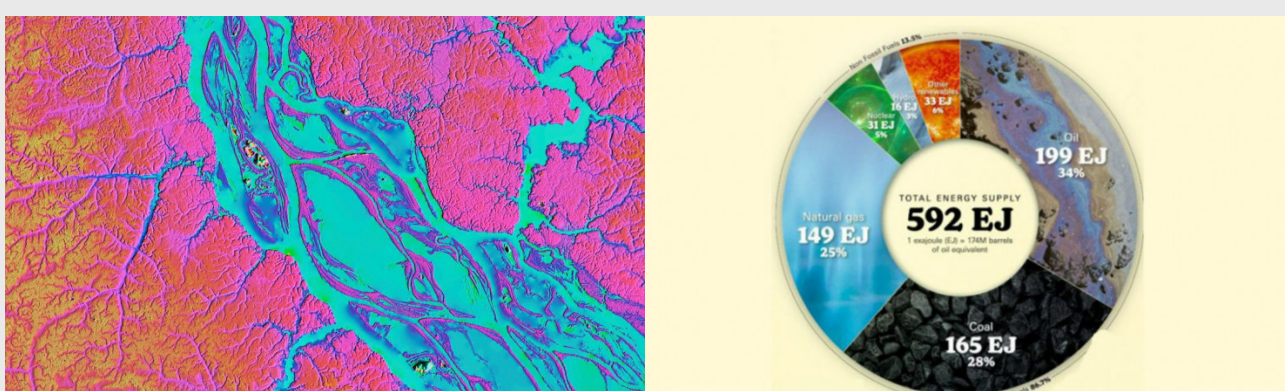
Scientists recreate life's first step: Linking amino acids to RNA

Researchers demonstrated how amino acids could spontaneously attach to RNA under early Earth-like conditions using thioesters, providing a long-sought clue to the origins of protein synthesis. This finding bridges the "RNA world" and "thioester world" theories and suggests how life's earliest...

 sciencedaily.com



AFTER HOURS



Where should archaeologists dig next? The winners of this OpenAI contest can tell them.

Archeological sites, like those in the Amazon, are disappearing faster than we can find them. Can AI help?

 nationalgeographic.com

What Powered the World in 2024?

 visualcapitalist.com

