

Weekly Update

1. AEGIS experiment paves the way for new set of antimatter studies by laser-cooling positronium

Using nanoporous silicon to convert anti-electrons, or positrons, into positronium – the bound state of a positron and an electron. Positronium is similar to hydrogen and can be used to efficiently create antihydrogen. Scientists have effectively decelerated positronium using trailblazing laser technology.

Source: [CERN Accelerating Science](https://home.cern/news/news/experiments/aegis-experiment-paves-way-new-set-antimatter-studies-laser-cooling)

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2. Terra Quantum Reveals 'Flowermon' Qubit, Aiming to Improve Stability in Quantum Processors

Leaps and bounds in applied Science! Say hello to 'Flowermon', a unit of computing information that is represented by a state of an elementary particle unconcealed by Terra Quantum. This conception is set to elevate the constancy of the mainframes of a very small quantity of electromagnetic energy, marking a considerable elevation along our voyage through the quantum sphere.

Source: [hpcWire](https://www.hpcwire.com/off-the-wire/terra-quantum-reveals-flowermon-qubit-aiming-to-improve-stability-in-quantum-processors/)

<https://www.hpcwire.com/off-the-wire/terra-quantum-reveals-flowermon-qubit-aiming-to-improve-stability-in-quantum-processors/>

3. Intuitive Machines lands on moon in nail-biting descent of private Odysseus lander, a 1st for US since 1972

Intuitive Machines' Odysseus is landing on the moon. Intuitive Machines was selected to be part of the CLPS vendor pool in 2018 and awarded 3 work orders for scientific payload delivery. Malapert A is a satellite crater of Malapert, a 69 km long crater in the Moon's south pole region. The IM-1 landing site is about 300 km from the Moon's south pole.

Source: [Space](https://www.space.com/intuitive-machines-odysseus-private-moon-landing-success)

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4. New moons of Uranus and Neptune announced

Three new moons have recently been discovered orbiting the planets Neptune and Uranus, and their orbits may provide important observations into the early stages of our Solar System. Two of these moons orbit Neptune, while the third orbits Uranus. A recent example is the discovery of three moons by a research team led by Scott Shepard (Carnegie Science).

Source: [CARNEGIE SCIENCE](https://carnegiescience.edu/new-moons-uranus-and-neptune-announced)

<https://carnegiescience.edu/new-moons-uranus-and-neptune-announced>

5. Ribosome-binding antibiotic cresomycin strikes against multidrug-resistant pathogens

A very small but integral mechanism in our cells, the ribosome holds the main responsibility of being the site of protein synthesis in which a very new research manifests its mysteries.

Source: **BioWorld**

<https://www.bioworld.com/articles/705709-ribosome-binding-antibiotic-cresomycin-strikes-against-multidrug-resistant-pathogens?v=preview>

6. Extreme environments are coded into the genomes of the organisms that live there

"Extremophiles" are bacteria that have adapted to live in harsh conditions. Over the course of billions of years, life has spread around the solar system – a kind of cosmic cross-pollination. Microorganisms may live in the ice deep within comets, frozen there for eons until a collision with another planet or moon transports them to a new home.

Source: **The Conversation**

<https://theconversation.com/extreme-environments-are-coded-into-the-genomes-of-the-organisms-that-live-there-219072>

7. Brave Integrates Solana Wallets for Enhanced User Rewards

Brave, a privacy-focused web browser, has integrated an on-chain Solana wallet. This integration allows Brave users to receive their rewards directly into the Solana wallet. Solana is a high-performance blockchain platform known for its scalability.

Source: **Coin-turk**

<https://en.coin-turk.com/brave-integrates-solana-wallets-for-enhanced-user-rewards/>

8. Butterfly genome has barely changed after 250 million years of evolution

Colorful Heliconius butterflies have a wide variety of wing patterns and an amazing ability to mimic other butterfly species. In a surprising breakthrough, it has been unveiled that the genomes of butterflies and moths have undergone marginal diversification more than 250 million years ago.

Source: **Earth**

<https://www.earth.com/news/butterfly-genome-has-barely-changed-after-250-million-years-of-evolution/>

9. Researchers achieve breakthrough in silicon-compatible magnetic whirls

Magnetic skyrmions are small, topologically quantized magnetic whirls that are stabilized by spin-orbit interactions. They combine charging, spin and heat currents extremely efficiently and can be manipulated by ultra small forces. Therefore, they are promising candidates for future magnetic memories.

Source: **University of Oxford**

<https://www.ox.ac.uk/news/2024-02-20-researchers-achieve-breakthrough-silicon-compatible-magnetic-whirls>

10. This Insanely Tiny Frog Could Be as Small as Vertebrates Get

*Brazilian pumpkin toadlets (genus *Brachycephalus*, and they are actually frogs) have evolved to such a small size that vestibular signals are not sufficient to keep the amphibians stable while jumping. This small vertebrate is provocative in our view of biodiversity.*

Source: **Science Alert**

<https://www.sciencealert.com/this-insanely-tiny-frog-could-be-as-small-as-vertebrates-get>