

Weekly Update

1. ESA's solar eclipse maker, Proba-3

The European Space Agency created the first artificial solar eclipse. Scientists want to create a clear and uniform image of the Sun's ghostly atmosphere, or the Sun's corona, by creating an artificial solar eclipse. According to the European Space Agency, it is the first mission to study the Sun's corona in visible light near the Sun's edge.

Source: The European Space Agency

https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Proba_Missions/ESA_s_solar_eclipse_maker_Proba-3

2. 'Mini liver' will grow in person's own lymph node in bold new trial

Researchers created a "miniature liver" from lymph nodes with a daring experiment. The researchers injected healthy donor liver cells into the upper abdominal lymph nodes of a patient with liver failure.

Source: Nature

<https://www.nature.com/articles/d41586-024-00975-z>

3. Study aims to break link between brain injury and depression

Beginning of research on the connection between trauma and depression. For many people who have suffered a severe brain injury, physical recovery is considered the first issue, but the likelihood of suffering from depression and other mental disorders due to a brain injury is very high.

Source: BBC

<https://www.bbc.com/news/health-68557769>

4. Archaeological and molecular evidence for ancient chickens in Central Asia

According to the researchers, this study at least brings us closer to how these birds became an integral part of civilization. This is an important clue to a better understanding of the human-animal relationships that led to the domestication of animals.

Source: Nature Communications

<https://www.nature.com/articles/s41467-024-46093-2>

5. Voyager 1's Data Transmission Issue Traced to Memory Corruption, Fix in Progress

NASA has identified the cause of abnormal data transmission from Voyager 1, attributing it to a malfunctioning computer memory chip. Efforts are underway to develop a solution to bypass the malfunctioning component and restore normal operation.

Source: **Space Daily**

https://www.spacedaily.com/reports/Voyager_1s_Data_Transmission_Issue_Traced_to_Memory_Corruption_Fix_in_Progress_999.html

6. MONOCYCLE ROBOT WITH LEGS MAY BE LAST-MILE DELIVERY HELPER IN THE FUTURE

A unique leg-wheel transformer robot consisting of a monocycle mechanism with legs. Ringbot aims to provide versatile mobility by replacing the driver and driving components of a traditional monocycle vehicle with legs mounted on a compact driving module inside the wheel.

Source: **Yanko Design**

<https://www.yankodesign.com/2024/04/03/monocycle-robot-with-legs-may-be-last-mile-delivery-helper-in-the-future/>

7. Frederick's Landing in Wilder buzzes with new bee colonies

The ongoing collapse of bee colonies is a threat to global food security. Colony collapse is caused by parasites, pesticides and environmental change. CIBER enables collaboration between entomologists, engineers, economists and professional beekeepers on solutions to colony collapse.

Source: **WCPO**

<https://www.wcpo.com/news/local-news/campbell-county/wilder/fredericks-landing-in-wilder-buzzes-with-new-bee-colonies>

8. Hydrogen-Powered Train FLIRT H2 Registered in the Guinness World Records

A new train has broken a Guinness World Record by using hydrogen fuel cells. Flirt H2 operated continuously for 46 hours and traveled 1,741 miles (281 kilometers). This is the longest duration of a hydrogen powered multi-car train running on a single tank. Hydrogen is more energy efficient than fossil fuels. The hope for hydrogen trains is that they will lead to a greener future.

Source: **Bis Research**

<https://bisresearch.com/news/hydrogen-powered-train-flirt-h2-registered-in-the-guinness-world-records>

9. Scientists Set New Internet Speed World Record: 4.5 Million Times Faster Than Average Broadband

Internet speed has become 4.5 million times faster. Researchers at Aston University have achieved the fastest internet speed ever. An astonishing 4.5 million times faster than home broadband. The team transferred data at a rate of 301 terabits per second, or 301,000,000 megabits per second. Average broadband speed 69.4 megabits per second.

Source: **Circleid**

<https://circleid.com/posts/20240402-scientists-set-new-internet-speed-world-record-4.5-million-times-faster-than-average-broadband>

10. Good as Gold - Improving Infectious Disease Testing with Gold Nanoparticles

Quantum dots are semiconductor nanocrystalline materials with diameters typically 2 to 10 nm. QDs can produce specific colors determined by the size of the particles. A new study shows that neutrons can adhere to nanoscale clusters known as quantum dots and may also impart changes in physical properties and quantum effects.

Source: **Massachusetts Institute of Technology**

<https://news.mit.edu/2024/mit-researchers-discover-neutronic-molecules-0403>