

# Weekly Update

## 1. An AI-controlled test jet fighter has taken to the skies. This is why it's causing alarm

*The artificial intelligence system of the fighter aircraft is equipped with multiple computers and is in the testing stage and "learning to fly" in a safe manner. This flight is a symbolic vote of confidence in the future role of artificial intelligence in American air battles. Frank Kendall said: We use artificial intelligence and think of it as an independent thing. [Artificial intelligence] is really the software that drives the work.*

*Source:* **Euronews**

<https://www.euronews.com/next/2024/05/04/a-test-ai-controlled-jet-fighter-has-taken-to-the-skies-this-is-why-its-causing-alarm>

## 2. The enemy of your enemy is, indeed, your friend. Physics confirms it.

*In their network model, the researchers distanced themselves from assigning negative or positive values entirely by chance. In a truly random scenario, each node has an equal probability of encountering each other. However, real social networks do not obey such uniformity, because not every individual is familiar with other people in their network.*

*Source:* **Northwestern University**

<https://news.northwestern.edu/stories/2024/05/physics-confirms-that-the-enemy-of-your-enemy-is-indeed-your-friend/#:~:text=Most%20people%20have%20heard%20the,in%20the%20journal%20Science%20Advances>

## 3. CRISPR Gene Editing Leads to Improvements in Vision for People With Inherited Blindness, Clinical Trial Shows

*A clinical trial called Brilliance, which included 14 participants, showed that the CRISPR gene editing method improves vision in people with hereditary blindness. Eric Pearce, the study's lead researcher, noted that this trial shows that gene therapy for the treatment of hereditary blindness is a worthy subject for future research. He believes the initial research is promising. They also noted that the trial involved the first patient to have an investigational CRISPR-based drug injected directly into his body.*

*Source:* **Mass Eye and Ear**

<https://www.masseyeandear.org/news/press-releases/2024/05/crispr-gene-editing-improves-vision-for-people-with-inherited-blindness>

#### **4. World's 1st 'tooth regrowth medicine' to be tested in Japan from Sept. 2024**

*It is believed that approximately one percent of the world's population is suffering from congenital lack of teeth. Missing 6 or more teeth is known as "oligodontia" or hereditary tooth deficiency. According to Kyoto Hospital involved in this research, the first phase of the clinical trial will take place from September this year to August 2025.*

**Source: The Mainichi**

<https://mainichi.jp/english/articles/20240503/p2a/00m/0sc/012000c>

#### **5. Could alien life be hiding in the rings of Saturn or Jupiter?**

*The first choice that comes to mind is probably Mars, as some scientists believe there are oases of liquid water beneath its barren surface. Additionally, the discovery of phosphine in Venus's atmosphere, a potential indicator of biodegradation, has sparked debate over whether life could exist in the hot, hellish planet's clouds. Furthermore, scientists have wondered for decades whether life could exist in the skies of gas giants like Jupiter.*

**Source: Space.com**

<https://www.space.com/can-alien-life-exist-planet-rings>

#### **6. Strange purple mass discovered amidst ancient Roman ruins held a value surpassing that of gold in its time**

*Archaeologists were excavating the remains of a historic bathhouse dating back to the time of the Roman emperor Septimius Severus in the 3rd century AD at the Carlisle Cricket Club grounds in northern England when they discovered a lump of unusually soft material with a distinctive purple color. He sent this object to scientists at Newcastle University. In the laboratory it was found that this soft mass contained organic pigments, bromine and wax; A sure sign that proved that this object was indeed the coloring matter "Imperial Purple" or "Royal Purple".*

**Source: The Roman Empire**

<https://roman-empire.net/discoveries/strange-purple-mass-discovered-amidst-ancient-roman-ruins-held-a-value-surpassing-that-of-gold-in-its-time/>

#### **7. Ultra-pure silicon brings useful quantum computing a step closer**

*It seems that a group of researchers from the UK and Australia have just broken the spell. In a paper recently published in the journal Materials Communications, the authors describe a new method for creating silicon enriched to an unprecedented level with a specific isotope ideal for quantum computing. Their method paves the way for super-powerful quantum chips made from this ultra-pure silicon.*

**Source: Cosmos Magazine**

<https://cosmosmagazine.com/technology/materials/pure-silicon-quantum-computing/>

### **8. Big data helps determine what drives disease risk**

*This research found that, contrary to popular belief, increased urbanization does not play a significant role in the spread of infectious diseases, rather, these four factors have also led to the spread of plant pests and, as a consequence, reduced food production; And that means the spread of poverty and hunger.*

**Source:** U.S. National Science Foundation

<https://new.nsf.gov/news/big-data-helps-determine-what-drives-disease-risk#:~:text=Working%20with%20nearly%203%2C000%20observations,are%20driving%20increases%20in%20infectious>

### **9. The mystery of how water escaped from Venus might have been solved**

*Collecting data in the Venus atmosphere would be valuable to support the computer model, but previous missions to Venus have not measured  $\text{HCO}^+$ ; Not because it doesn't exist, but because they weren't designed to detect it. However, they investigated the reactants that produce  $\text{HCO}^+$  in Venus's atmosphere.*

**Source:** Quartz

<https://qz.com/venus-water-study-science-research-1851463564>

### **10. The HammerHead Bat's Remarkable Features: An Evolutionary Triumph**

*The hammerhead bat's unusual body structure gives it several advantages that allow it to thrive in its environment. Its broad wings and streamlined shape allow it to fly at high speed and maneuver easily, making it a formidable hunter. Additionally, its long snout is perfect for identifying and catching prey using smell, while its highly sensitive ears can detect even the slightest sound.*

**Source:** History of Yesterday

<https://historyofyesterday.com/the-hammer-head-bats-remarkable-features-an-evolutionary-triumph/>