

# Weekly Update

## 1. Like charges attract?

*Contrary to basic physics, a new study from the University of Oxford published in Nature Nanotechnology has shown that "like-charged particles in solution" can actually attract each other over long distances.*

**Source: University of Oxford (Department of Chemistry)**

<https://www.chem.ox.ac.uk/article/like-charges-attract>

## 2. 12 mm fish produces 140-Decibel Sound

*One of the world's smallest fish, measuring just 12 millimeters long, can produce sounds of more than 140 decibels – equivalent to the intensity of a firecracker. Danionella cerebrum is a small species of fish native to small rivers along the Bago Yoma mountain range in Myanmar.*

**Source: Senckenberg (World of Biodiversity)**

<https://www.senckenberg.de/en/pressemeldungen/12-mm-fish-produces-140-decibel-sound/>

## 3. NASA's DART Mission Didn't Just 'Redirect' an Asteroid, But Also Reshaped It: Scientists

*As NASA's Double Asteroid Redirect Test (DART) effectively touched down on its target on September 26, 2022, shifting the orbit of asteroid moon Dimorphous by 33 minutes, the DART team resolved that the mission's kinetic impact approach would be a one way to replace the effective method would be to track the trajectory of an asteroid.*

**Source: The Weather Channel**

<https://weather.com/en-IN/india/space/news/2024-02-28-nasa-dart-mission-reshaped-an-asteroid>

## 4. RTX's Raytheon completes first flight test for new AMRAAM-ER variant

*Raytheon Technologies Corporation is an aerospace and defense company that provides advanced systems and services to commercial, military and government customers worldwide. The company works at the edge of known science as they envision and deliver solutions that push the boundaries in quantum physics, electric propulsion, directed energy, hypersonics, avionics, and cybersecurity.*

**Source: RTX**

<https://www.rtx.com/news/news-center/2024/02/27/rtxs-raytheon-completes-first-flight-test-for-new-amraam-er-variant>

## **5. Planet formation and water vapor found to be linked**

*Water vapor found 450 light years away could be the planet's birthplace. Explore the unprecedented discovery of water vapor in the inner disk around the young star HL Tauri, located 450 light years away. An international team of scientists using the Atacama Large Millimeter/submillimeter Array (ALMA) telescope has obtained compelling evidence of large amounts of water vapor potentially influencing the formation of planets.*

*Source: **Innovation news network***

<https://www.innovationnewsnetwork.com/planet-formation-and-water-vapour-found-to-be-linked/44599/>

## **6. Side-gilled sea slug a first for Britain**

*Cefas, (Centre for Environment, Fisheries and Aquaculture Sciences), an executive agency of Defra (Government Department for Environment, Food and Rural Affairs). Cefas works to provide leading and unbiased science to achieve healthy and productive aquatic ecosystems by tackling the world's most pressing environmental problems, helping to protect the life they support.*

*Source: **Scubadivermag***

<https://www.scubadivermag.com/side-gilled-sea-slug-a-first-for-britain/>

## **7. NEW TECHNIQUE TO EXTRACT GOLD FROM OLD ELECTRONICS COULD MAKE A FORTUNE, SCIENTISTS SAY**

*Electronics are abounding in gold, but it is so arduous to extract that much of it is destroyed. Extracting gold from electronics and old devices is commonly referred to as "e-waste recycling". The process involves dismantling electronic devices to recover valuable metals such as gold, silver and copper, which can be sold.*

*Source: **Futurism***

<https://futurism.com/the-byte/extract-gold-old-electronics-fortune>

## **8. Designing an Insect-Mimicking Sensor for Motion Detection**

*The human brain is one of the most sophisticated organs in the world, a supercomputer made up of billions of neurons that control all our senses, thoughts and actions. But who knows that an insect's brain, which is considered to be the small but mighty insect brain and will be inspired to create semiconductors.*

*Source: **AZO Sensors***

<https://www.azosensors.com/news.aspx?newsID=15757>

### **9. New ocean thermal energy device under construction in Canary Islands**

*Ocean thermal energy conversion uses natural temperature variances in the oceans to produce clean, reliable electricity four-season, day and night. It works best in tropical and equatorial regions. OTEC could become an important imperishable energy source.*

*Source:* **The Next Web**

<https://thenextweb.com/news/new-ocean-thermal-energy-device-under-construction-in-canary-islands>

### **10. WORLD'S FIRST INTER-CITY AIR-TAXI FLIGHT**

*The world's first inter-city electric air-taxi demonstration flight between the southern Chinese cities of Shenzhen and Zhuhai. The feat marks the world's first public flight of an eVTOL aircraft on a cross-ocean and inter-city route, spanning the bay where the Pearl River meets the sea and connecting the two cities.*

*Source:* **Auto Flight**

<https://autoflight.com/en/press/news/worlds-first-inter-city-air-taxi-flight/>