

Science & Technology

1. Whales go quiet during noisy underwater surveys

Low-frequency sounds from seismic air guns are capable of traveling thousands of kilometers through ocean water due to the low absorption rate. Air guns produce some of the loudest man-made sounds in the ocean, primarily in the frequencies used by marine mammals such as whales. Sound waves bounce back from geological formations characterized by varying density and sound speed, allowing subsurface mapping.

Source: University of Southampton- United Kingdom

<https://www.southampton.ac.uk/news/2026/04/whales-go-quiet-during-noisy-underwater-surveys.page>

2. NIH-funded breakthrough shrinks CRISPR for precision delivery in the body

Larger nuclease proteins don't fit into the best targeted delivery systems, such as AAV, forcing researchers to manipulate cells outside the body, where size isn't a significant issue. Because larger CRISPR systems can't be delivered well inside the body, clinical use is limited to "floating" cells (blood/marrow) that can be removed, edited, and then reintroduced. AAV is a leading delivery method for gene therapy because it can target specific tissues, but its very small internal space requires "miniaturized" gene editing tools.

Source: National Institutes of Health- United States

<https://www.nih.gov/news-events/news-releases/nih-funded-breakthrough-shrinks-crispr-precision-delivery-body>

3. Proteins cluster in cells for faster performance

The study found that different nutrients altered the production of amino acids that make up proteins, which then aggregated and altered the characteristics of movement within the cell. The research suggests that the rheological state of the cytoplasm does not remain constant, but rather changes according to the formation of protein clusters under different environmental/nutrient conditions. By forming clusters, these proteins act as physical obstructions (agglomerates), increasing the difficulty (tortuosity) for other molecules to move within the space.

Source: university of groningen- Netherlands

<https://www.rug.nl/fse/news/highlighted-papers/2026/proteins-cluster-in-cells-for-faster-performance?lang=en>

4. Disrupting Genome Architecture Selectively Impairs Developmental Genes

Cohesin acts as a specialized architectural protein that folds DNA into loops, ensuring that distant regulatory elements can interact with genes to control cell-specific expression programs. After mitosis, the genome must be rebuilt from scratch; lack of cohesin prevents the re-formation of loops that define its 3D architecture, affecting structural integrity. Cohesin-driven folding mechanisms allow large genomic information to fit into a small nuclear volume while maintaining the accessibility necessary for gene regulation.

Source: Weill Cornell Medicine- Qatar

<https://gradschool.weill.cornell.edu/news/disrupting-genome-architecture-selectively-impairs-developmental-genes>

5. A new mechanism for light-controlled plant growth

Research shows that light exposure increases adhesion between epidermal and inner tissues, creating a mechanical 'brake' that regulates and limits stem expansion. Plants grown in light have stem tissues that are more tightly bound together than those grown in the dark, where the lack of strong adhesion facilitates rapid growth, a characteristic of skotomorphogenesis. The study suggests that light intensity determines physical structure by increasing adhesion, which acts as a blueprint for regulating how much cells can physically expand.

Source: Osaka Metropolitan University- Japan

<https://www.omu.ac.jp/en/info/research-news/entry-108402.html>

6. Scientists unveil breakthrough tool that could help stop the world's third-biggest driver of deforestation

Bulk mixing and the transit of shipments across countries are the main reasons why soybean origins are more difficult to trace than other commodities. Research shows that even short distances, even between adjacent farms, are highly vulnerable to deforestation, requiring precise geolocation tools. The complexities of supply chains, which involve multiple trade participants and mixed shipments, have already obscured the geographic history of food crops.

Source: University of Sheffield- England

<https://sheffield.ac.uk/biosciences/news/scientists-unveil-breakthrough-tool-could-help-stop-worlds-third-biggest-driver-deforestation>

7. Coral-eating starfish outbreaks may be driven from the land and the deep sea

The discovery of larvae and higher chlorophyll concentrations at depth suggests that larvae can thrive in deep, nutrient-rich waters, previously thought to be less important than superficial runoff areas. COTS larvae feed on free-floating phytoplankton, and their survival and growth is directly enhanced by the availability of these microalgae. Due to upwelling, chlorophyll and phytoplankton markers were significantly increased at depth (11 m–60 m), providing an enhanced food source for the larvae.

Source: Australian Institute of Marine Science- Australia

<https://www.aims.gov.au/information-centre/news-and-stories/coral-eating-starfish-outbreaks-may-be-driven-land-and-deep-sea>

8. Study: Microbes show almost universal potential for biodegrading plastics

Research indicates that the potential for plastic biodegradation is nearly universal across the prokaryotic domain, suggesting an underlying molecular toolkit in most species. Using orthologous clusters helps researchers understand how these protein families are conserved through evolution and are widely distributed across different microbial life forms. The database includes a wide range of materials, including 11 natural and 28 synthetic polymers, which can withstand various chemical substrates of microbes.

Source: University of Turku- Finland

<https://www.utu.fi/en/news/press-release/microbes-show-almost-universal-potential-for-biodegrading-plastics>

9. Opioids and other drugs accumulating in freshwater fish

The study particularly highlights venlafaxine and its primary metabolite, O-desmethylvenlafaxine, which are present in all collected species, indicating the widespread distribution of these substances. Wastewater treatment plants are not specifically designed to remove pharmaceuticals, no matter how 'well treated' the water is relative to conventional parameters. Research establishes that these substances enter the ecosystem through urban waste water streams, persisting even through 'well-treated' waste water processes.

Source: UNIVERSITY OF WATERLOO- Canada

<https://uwaterloo.ca/news/media/opioids-and-other-drugs-accumulating-freshwater-fish>

10. Identification of a Key Gene That Enables Tomato Seed Germination under High-Temperature Conditions

Thermo-dormancy is a more severe physical disruption where the seed remains dormant even after temperatures return to favorable levels, whereas thermo-inhibition usually suppresses germination only during a heat event. In wild-type tomatoes, heat stress causes both shoot and root growth to be stunted and morphological abnormalities to occur. Natural limits to agricultural production arise because heat stress disrupts the critical transition period of germination, leading to poor germination.

Source: University of Tsukuba- Japan

<https://www.tsukuba.ac.jp/en/research-news/20260325140000.html>