

BEST FROM SCIENCE JOURNALS: PHYSICS OF FOAM

Relevant for: Science & Technology | Topic: Science and Technology- developments and their applications and effects in everyday life

Froth and foam floating at Sellur tank in Madurai | File | Photo Credit: [ASHOK R](#)

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[Published in PNAS](#)

Who doesn't love to play with foam? Now, chemical engineers have identified the life cycle of foam. The molecules of soap and detergent get accumulated in water to form micelles. The team noted that foam films have an ever-changing topography and the arrangement of micelles is governed by ionic interactions. The authors explain that this knowledge and understanding could aid in the development of new products — from food and personal care to pharmaceuticals.

[Published in Nature Communications](#)

Researchers from Los Alamos National Laboratory and Purdue University have developed a new bio-ink for biosensors that could simplify surgery. These new biosensors allow medical practitioners to record and image tissues and help in identifying critical regions during surgery. The bio-inks are made of polymers which can also allow in 3D printing of stem cells. The team notes that the ink used in the biosensors is biocompatible and provides a user-friendly design.

[Published in Nature Communications](#)

How do our taste buds identify the sourness of a food? Though we easily identify the sweet taste of any food, it is not the same in the case of sour foods. However, many animals are able to distinguish the sourness of foods. How are they able to do this? Researchers using the fruit fly as their research model found that the insect while tasting acidic foods activates a neuron that decides whether to intake or refuse the food.

[Published in Lancet Global Health](#)

A study conducted in rural KwaZulu-Natal, a province in South Africa showed a high burden of undiagnosed diseases in the region. The 18-month study, conducted before COVID-19 screened 17,118 people over 15 years of age. It found that tuberculosis, diabetes, and hypertension were prevalent among both genders. Also, four out of five women above 30 years were suffering from a chronic health condition. "Our findings suggest that the massive efforts of the past 15 years to test and treat for HIV have done very well for that one disease...But in that process, we may have neglected some of the other important diseases that are highly prevalent," the study author Emily Wong said in a release.

[Published in Nature Communications](#)

The cellular skeleton in our body consists of various protein filaments. The protein filaments further consist of intermediate filaments and microtubules. The intermediate filaments get added to the microtubules and prevent the latter's change in shape which ultimately helps to maintain the shape of our cells, notes a new study.

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On June 21, 1948, the Small-Scale Experimental Machine (SSEM), known popularly by its nickname Baby, executed its first program successfully. A.S.Ganesh takes a look at how the Baby, the world's first stored-program electronic computer, came to be...

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